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IMPLEMENTATION COMPLETION REPORT  
(IDA-28620)

ON A

CREDIT

IN THE AMOUNT OF US\$52.51 MILLION

TO

INDIA

FOR A

COAL SECTOR ENVIRONMENTAL AND SOCIAL MITIGATION PROJECT

APRIL 10, 2003

**SASES**  
**South Asia Region**

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## CURRENCY EQUIVALENTS

(Exchange Rate Effective June30, 2002)

Currency Unit = Rupee (Rs)  
Rs. 1.00 = US\$ 0.020  
US\$ 1.00 = Rs. 48.86

## FISCAL YEAR

April 1 March 31

## ABBREVIATIONS AND ACRONYMS

CASS	Chotanagpur Adivasi Sewa Samiti
CCL	Central Coalfields Ltd.
CD/R&R	Community Development/Resettlement and Rehabilitation Officer
CGM	Chief General Manager
CIL	Coal India Ltd.
CMC	Coordination and Monitoring Committee
CMD	Chairman cum Managing Director
CSESMP	Coal Sector Environmental and Social Mitigation Project
CSR	Coal Sector Rehabilitation Project
DEA	Department of Economic Affairs, Ministry of Finance
EMP	Environmental Management Plan
EPAP	Project-Affected Person Entitled to Economic Rehabilitation Assistance
GM	General Manager
GOI	Government of India
INTACH	Indian National Trust of Art and Cultural Heritage
IPDP	Indigenous Peoples Development Plan
JBIC	Japan Bank for International Cooperation
JEXIM	Export-Import Bank of Japan
MCL	Mahanadi Coalfields Ltd.
MoC	Ministry of Coal
MoEF	Ministry of Environment and Forests
NCL	Northern Coalfields Ltd.
NDO	World Bank New Delhi Office
NGO	Non-Governmental Organization
OBC	Other Backward Castes
PAF	Project-Affected Family
PAP	Project-Affected Person
PIC	Public Information Center
R&R	Resettlement and Rehabilitation
RAP	Resettlement Action Plan
SAR	Staff Appraisal Report
SC	Scheduled Caste
SECL	South Eastern Coalfields Ltd.
ST	Scheduled Tribe
TISCO	Tata Iron and Steel Company
TOR	Terms of Reference
VWG	Village Working Group
WCL	Western Coalfields Limited

Vice President: Praful Patel

Country Director:	Michael F. Carter
Sector Director:	Jeffrey Racki
Task Team Leader/Task Manager:	David Marsden

**INDIA**  
**COAL SECTOR ENVIRONMENTAL AND SOCIAL MITIGATION PROJECT**

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<i>Project ID:</i> P043310	<i>Project Name:</i> COAL ENV & SOCIAL MITIGATION
<i>Team Leader:</i> David J. Marsden	<i>TL Unit:</i> SASES
<i>ICR Type:</i> Core ICR	<i>Report Date:</i> June 11, 2004

## 1. Project Data

*Name:* COAL ENV & SOCIAL MITIGATION      *L/C/TF Number:* IDA-28620  
*Country/Department:* INDIA      *Region:* South Asia Regional Office

*Sector/subsector:* Mining and other extractive (87%); Other social services (13%)  
*Theme:* Pollution management and environmental health (P); Environmental policies and institutions (P); Other social development (P); Indigenous peoples (P)

KEY DATES	<i>Original</i>	<i>Revised/Actual</i>
<i>PCD:</i> 09/26/1995	<i>Effective:</i>	07/23/1996
<i>Appraisal:</i> 11/01/1995	<i>MTR:</i> 12/31/1998	02/12/1999
<i>Approval:</i> 05/16/1996	<i>Closing:</i> 06/30/2001	06/30/2002

*Borrower/Implementing Agency:* GOI/COAL INDIA  
*Other Partners:*

STAFF	Current	At Appraisal
<i>Vice President:</i>	Praful C. Patel	Joseph Wood
<i>Country Director:</i>	Michael F. Carter	Heinz Vergin
<i>Sector Director:</i>	Jeffrey Racki	Jean-Francois Bauer
<i>Team Leader at ICR:</i>	Asger Christensen	Peter K. Pollak
<i>ICR Primary Author:</i>	Asger Christensen; Samantha Forusz; Sati Achath; David J. Marsden; Mohammad Hasan	

## 2. Principal Performance Ratings

(HS=Highly Satisfactory, S=Satisfactory, U=Unsatisfactory, HL=Highly Likely, L=Likely, UN=Unlikely, HUN=Highly Unlikely, HU=Highly Unsatisfactory, H=High, SU=Substantial, M=Modest, N=Negligible)

*Outcome:* U  
*Sustainability:* UN  
*Institutional Development Impact:* M  
*Bank Performance:* U  
*Borrower Performance:* U

*Quality at Entry:* QAG (if available) ICR  
U  
*Project at Risk at Any Time:* Yes

### 3. Assessment of Development Objective and Design, and of Quality at Entry

#### 3.1 Original Objective:

The Coal Sector Environmental and Social Mitigation Project (CSESMP) was designed as a free-standing project to mitigate impacts deriving from the investment component of the Coal Sector Rehabilitation Project (CSR). It was separated from the CSR on an experimental basis in order to give greater independent attention and adequate funding to social and environmental issues. With hindsight this possibly reduced the leverage that might have been available if it had been supervised with the main investment program. Once Coal India Ltd. had received the proceedings from the main investment loan there was less incentive to prioritize social issues. The development objective of CSESMP (project) was to assist Coal India Ltd. (CIL) in making coal production more environmentally and socially sustainable. This objective was to be achieved by: (i) enhancing Coal India's capacity to deal more effectively with environmental and social issues; (ii) implementing appropriate policies for environmental mitigation and resettlement and rehabilitation of people affected by coal projects and providing support to communities, in particular tribals, living in coal mining areas; and (iii) testing the effectiveness of these policies in the 25 coal mines that were slated to receive financial support under the CSR.

The project objectives were reasonably clear, provided a timely response to India's reliance on coal as the most feasible energy source in the medium and long term, and were consistent with the needs of the coal sector to deal with the negative impacts arising from increased coal production. However, the client's uneven commitment during project implementation meant, that the goal of enhanced institutional capacity leading to environmentally and socially sustainable coal production turned out not to be very realistic.

The project was consistent with the Bank's India Country Assistance Strategy (CAS), discussed by the Board on June 20, 1995. This strategy emphasized continued Bank support for India on: (i) reform of policies in key sectors of its economy; (ii) rationalization of its energy policy, in particular the pricing policies for various energy resources; (iii) reform of public sector enterprises; (iv) enhancement of the social and environmental sustainability of the government's investment program; (v) improvement of environmental protection by strengthening of the capacity of various entities to deal more effectively with environmental issues and enforcing environmental legislation in India; (vi) increase of the role of beneficiaries and NGOs in resettlement and rehabilitation of project affected persons, and (vii) broad-based implementation of consultation and participation so as to enable affected people, in particular women, to participate more fully in the development process.

In addition to the support for capacity building and institutional change within CIL, the project gave the Bank an opportunity to assist CIL in the drafting of its policies on resettlement and rehabilitation, community development, and environmental management<sup>1</sup>. These policies reflected the requirements of the Bank Group's Operational Directives on Environmental Assessments (OD 4.01), Involuntary Resettlement (OD 4.30) and Indigenous Peoples (OD 4.20).

The project envisioned the following social and environmental benefits that justified the implementation of this project on its own merits:

- *Social benefits:* The project covered 25 open cast coal mines, and of these, 14 had Resettlement Action Plans (RAPs) while 24 had Indigenous Peoples Development Plans (IPDPs). The RAPs comprised (i) resettlement accompanied by compensation and relocation benefits of an estimated 10,500 project affected persons (PAPs), and (ii) economic rehabilitation assistance to achieve income restoration for 9,260 people. The IPDPs aimed to improve the lives of about 186,000 people, of which around 56,900 were members of Scheduled Tribes, living in villages not affected

by land acquisition within a one kilometer radius around the project mines.

- *Environmental benefits:* Implementation of the Environmental Action Plans (EAPs) was envisioned to have a significant impact on Coal India's management of land and water resources, as well as its control of air and noise pollution. These benefits included an upgrading of the general ecology of the mine areas and their surroundings through revegetation of degraded land, reclamation of external overburden dumps, use of overburden to backfill and reclaim mined out quarries, together with reductions in noise and dust levels, and reductions in the release of polluted effluents into rivers, water bodies, and aquifers.

The project also recognized and took into account the following three risk factors which could affect project implementation, namely:

- *Coal India's commitment to the project.* The main risk the project faced was a waning of Coal India's commitment to its implementation, in case Bank support for the CSRP failed to materialize within a reasonable time horizon. Attempts to mitigate this risk involved significant attention to working closely with the client throughout project implementation.
- *Implementation of Coal India's resettlement and rehabilitation policy.* Coal India's revised policy for resettlement and rehabilitation placed greater emphasis on assisting project-affected people in developing opportunities for self-employment. This was a significant change from previous approaches and the Bank worked closely with CIL, offering advice on implementation and providing support through an intensive supervision effort.
- *Maintenance of infrastructure in communities.* Experience had shown that the people who were to benefit from facilities such as schools, clinics, roads, wells, tanks, piped water, and street lighting made no efforts to maintain them, and as a result, many of these facilities fell quickly into disrepair. To safeguard against this risk, Coal India provided support to Village Working Groups (under its Community Development Policy) to build up the commitment and capacity in the affected communities to maintain these facilities. Bank supervision missions paid close attention to ensuring that communities contributed to the initial construction so that a greater sense of ownership would result in systematic maintenance.

The project was complex and very demanding on Coal India Ltd. both in terms of scale and activities. The 25 open-cast mines under the project were spread over five subsidiary companies<sup>2</sup> in five (currently six) states and consisted of a whole range of social and environmental mitigation activities. The relative independence of the separate subsidiaries, together with the relatively weak capacity of the project management unit did not help the development of coordinated implementation arrangements.

### *3.2 Revised Objective:*

Not applicable

### *3.3 Original Components:*

The project consisted of: (A) a capacity building component, (B) an investment component, and (C) a social remedial action component. The two first components were directly related to and crucial for achievement of the project objectives, whereas the third involved retrofit social mitigation activities for previous Bank supported projects. The capacity of the implementing agency – CIL - was at the start of the

project very low regarding social and environmental mitigation activities, and support was provided to enhance its capacity during the implementation period with the help of a number of facilitating NGOs, staff training, and technical assistance from consultants. CIL, however, had sufficient administrative and financial management capacity for project implementation.

(A) *Capacity Building component* (US\$7.3 million equivalent; 8.7% of the project cost):

This component provided funding for studies and training aimed at strengthening CIL's capacity at corporate headquarters, subsidiary headquarters, area, and mine levels to deal effectively with environmental and social issues, as well as for support by locally contracted NGOs for implementation of RAPs and IPDPs. Training was provided for both environmental and social mitigation staff, and the social staff received repeated basic training on aspects of social mitigation and data management. In addition, workshops for both environmental and social mitigation staff were held to exchange lessons learned. A study on *Strengthening of CIL's Environmental & Social Management Capacities* formed the basis for an Institutional Strengthening Action Plan, which comprised development of technical manuals, training courses, and provision of staff training. The findings of six technical studies linked to specific environmental mitigation activities were used to inform the design of these activities.

(B) *Investment Component* (US\$76.4 million equivalent; 90.9% of the project cost).

Implementation of Environmental Action Plans (EAPs) involved the bulk of the investment component budget, and comprised a range of activities to improve environmental management. These included improved environmental monitoring, measures to bring environmental parameters for air, noise, and water in compliance with Indian environmental regulations, and measures to reduce hazard and risk from overburden (OB) dumps. Social mitigation activities involved about 7% of the investment component budget, and comprised implementation of RAPs and IPDPs. The RAPs comprised (i) resettlement accompanied by compensation and relocation benefits, and (ii) economic rehabilitation assistance to achieve income restoration. The IPDPs were implemented in villages located within a one kilometer radius of the mines, but not affected by land acquisition. Activities in particular villages were implemented as community development projects involving participatory planning by villagers, who also contributed towards the capital costs of community assets and were involved in arrangements for operation and maintenance.

(C) *Social Remedial Action Component* (US\$0.3 million equivalent; 0.4% of the project cost).

This component provided funds for the preparation and implementation of social remedial action programs for follow-up income restoration assistance to below-poverty-line PAPs affected under three coal mining projects that had received Bank support in the past.<sup>3</sup>

### *3.4 Revised Components:*

Not applicable.

### *3.5 Quality at Entry:*

Unsatisfactory. The project design predates the existence of the Quality Assurance Group (QAG), so there is no official assessment of the project's quality at entry. However, the project design was reviewed with regard to applicable environmental and social safeguard policies by the environment and social divisions of the Asia Technical Department (ASTEN & ASTHR) and found to be in compliance. The project objectives were consistent with the CAS and the government's priorities and met the critical needs of India's energy

sector. In terms of particular project components, preparation of Resettlement Action Plans (RAPs) and Indigenous Peoples' Development Plans (IPDPs) was unsatisfactory. Because the emphasis was placed on 'learning by doing', preparation focused on generic plans and failed to come to terms with the specifics of each location. Certain critical issues that should have been dealt with during preparation were left for implementation. This ultimately made implementation difficult. During preparation there was an under-estimation of the complexities of undertaking resettlement and rehabilitation in a changed environment. The Coal India Policy on Resettlement and Rehabilitation was agreed in 1994 and involved a radical departure from previous policies that provided guaranteed jobs for those resettled. Following the cancellation of the investment project the Bank's leverage over the environmental and social agenda was considerably reduced. This might have been more effectively taken account of during preparation.

Given the experimental nature of the project and the initial lack of institutional capacity within Coal India institutional strengthening and capacity building was to be part of project implementation. With hindsight the project design might have been strengthened by (i) an institutional assessment to inform the identification of measures to enhance CIL's environmental and social capacity, (ii) the introduction in CIL's R&R Policy of other economic rehabilitation options as alternatives to mine jobs besides that of self-employment (e.g. land based income generation on reclaimed or unused mine land), and (iii) a description in more detail of the rehabilitation measures, so that support for self-employment would define an entitlement to a package comprising skills training, investment assistance, and assistance to establish market linkages. However, whether a strengthening in either of these areas would have improved achievement of outcomes in a situation characterized by uneven client commitment, and limited managerial authority by CIL headquarters over the subsidiaries, is debatable.

During preparation of the project, the benefits, major risk factors, and lessons learned from other earlier projects in India were considered and incorporated into the project design. The project was classified as a category A project for purposes of OD 4.01, and accordingly CIL prepared an Environmental Impact Assessment which identified adverse impacts and the measures to mitigate these through Environmental Action Plans for the 25 mines under the project. The quality of project design on environmental mitigation activities has been adequate to meet India's environmental regulation standards. The quality of design for social mitigation activities constituted best practice with regard to the community development approach to IPDP implementation<sup>4</sup>. While the R&R Policy represented the state-of-the-art within the Bank at the time it was developed, its lack of specificity on economic rehabilitation measures reflected a compromise between CIL and Bank positions, where detailed measures were expected to be developed during project implementation.

With hindsight Management might have given more attention during preparation to the complexities associated with the implementation of the R&R activities under the project. The early/mid 1990s was a time when the Bank's attention to participatory processes was only just emerging. The processes associated with the involvement of local communities were new and untested for both CIL and the Bank. The particular interests of specific communities were not therefore adequately incorporated into RAPs and IPDPs. This resulted in the production of rather indicative IPDPs to be further elaborated during implementation through consultation processes associated with the production of yearly plans. The IPDPs did contain a balance between physical infrastructural provision, training opportunities and community activities. Attention given to the priorities expressed by the beneficiaries meant a concentration on physical infrastructural provision. The social scientists working on preparation noted the inadequacy of efforts to encourage meaningful participation, and the need to ensure feasible and workable income generation schemes. With hindsight assumptions about the efforts required to shift institutional cultures were made by both Coal India and Management who had other overriding priorities at that time, as they focused on the

much larger Coal Sector Reform Project from which the CSESMP had been delinked.

Consultation and participation with a variety of stakeholders did take place during project preparation to address both social and environmental mitigation activities. With hindsight this was not sufficient to understand the complexities of local conditions or to build effective alliances with local organizations that might have helped in diffusing tensions between the coal companies and local civil society. It relied too much on the limited expertise that was available in the different subsidiaries, and on the interpretations by the officers in those subsidiaries of the situation on the ground. Based on the mine specific general Resettlement Action Plans from 1994 and the Indigenous Peoples Development Plans from 1995, annual RAP and IPDP action plans were developed with some consultation with the target population. In addition, the Bank interacted with a number of local and international NGOs interested in the CSR and CSESMP during the course of project preparation and implementation.

In order to provide time for CIL to establish the required capacity for environmental and social mitigation, and to enable the Bank to assess the implementation progress prior to the negotiations for the CSR, the CSESMP became effective in July 1996, nearly two years earlier than the CSR. To reinforce CIL's performance on environmental and social mitigation, the progress on mitigation activities was linked to the CSR through a series of covenants (cross-conditionalities) in the CSR Loan Agreement. However, insufficient attention was given by Management to ensuring that CIL and its subsidiaries had adequate resources to deal with social and environmental issues during preparation. Management overestimated or did not properly assess the implications of the complex design (25 geographically separated mine), the resistance of the institutional culture within the coalfields, and the political and social resistance to wider coal sector reforms.

During project preparation, alternative project designs were considered: The option to implement environmental and social mitigating action programs through a separate Environmental and Social Mitigation Fund for the coal industry was rejected, since it would have deprived Coal India of the incentive to build up its own capacity for dealing with environmental and social issues. More specifically with regard to social mitigating actions, alternative designs were considered in the context of consultations during the preparation of CIL's R&R Policy and its Community Development Plan. The design of the Environmental Action Plans was dictated by the need to meet the requirements of Indian laws and regulations as well as the Bank Group's Operational Directives in the most cost effective way. The eventual separation of social and environment from the main investment project was done on an experimental basis.

## **4. Achievement of Objective and Outputs**

### *4.1 Outcome/achievement of objective:*

*Unsatisfactory.* The major outcomes and achievements of the project are as follows:

*Enhancing CIL's capacity to deal more effectively with environmental and social issues.*

While the capacity of CIL to deal with environmental issues has improved, the enhancement of its capacity to deal with social issues has been less successful. Capacity has been created within the project mines and subsidiaries with respect to environmental mitigation, the social mitigation capacity remains uneven and limited overall. This is also the case at CIL's headquarters, where the environmental mitigation capacity has been enhanced, whereas capacity on social mitigation is inadequate to provide supervision and support for activities at the mine and subsidiary level as well as oversight of technical assistance (TA) activities. While CIL did adopt an action plan for institutional strengthening with considerable delay, and

implementation of agreed TA to support implementation of this action plan has started, the action plan does not include a defined institutional structure for the corporation which will mainstream social mitigation. Without such a structure that provides career prospects comparable to the rest of the corporation, the staff that have acquired experience regarding social mitigation are likely to seek transfers to other branches of CIL, and the capacity established during the project will be dissipated.

*Implementing appropriate policies for environmental mitigation and resettlement and rehabilitation of people affected by coal projects and providing support to communities , in particular tribals, living in the coal mine areas.*

As mentioned above, CIL has adopted the following corporate policies: an Environmental Policy, a Resettlement & Rehabilitation Policy, and a Community Development Plan for support to communities in the vicinity of the mines. Policy reviews during implementation found that the Environmental Policy needed further strengthening regarding compliance monitoring through internal audits. CIL's action plan for institutional strengthening includes staff training on such audits, but it remains unclear whether they will become an effective instrument to enhance compliance with environmental regulations. The Community Development Plan has been found to be an effective policy framework for participatory community development activities, but has not been continued beyond project closure. A corporate Community Development policy remains to be finalized. The Resettlement & Rehabilitation (R&R) Policy has provided economic rehabilitation assistance as an entitlement for all adult Project Affected Persons (PAPs), and Resettlement Action Plans (RAPs) and an electronic PAP database has been introduced as a new planning and monitoring instrument. While these elements represent an improvement upon earlier policies, implementation of economic rehabilitation assistance has been inadequate, the PAP database has not been maintained and used adequately, and the RAPs have not been used as a planning instrument in project mines after project closure.

*Testing the effectiveness of these policies in the 25 coal mines that have been slated to receive financial support under the proposed CSR.*

With regard to the testing of the three policies, CIL has, with some delays, achieved positive results with regard to the implementation of Environmental Action Plans (EAPs) based on the Environmental Policy. Under the capacity building component, six TA funded studies linked to specific environmental mitigation activities have been completed, and their findings used to inform the design of the activities. Positive results have also been achieved with regard to implementation of IPDPs in 24 mines as community driven development projects. The Indigenous Peoples Development Plans (IPDPs) have created a capacity among villagers to plan and implement joint community activities, have given voice to women and other vulnerable sections in village affairs, and have improved the relations between the project mines and the surrounding population. The Resettlement Action Plans (RAPs) have been implemented in 14 mines with land acquisition of which ten have involved resettlement, and all 14 have involved economic rehabilitation assistance. Coal India has completed relocation of the people affected by land acquisition for the mine expansion that has taken place during the project period. However, it is not clear whether all the PAPs that have been relocated have also received the compensation and relocation benefits to which they are entitled. Until it is established that these entitlements have been delivered, resettlement cannot be considered completed. According to overall information given to the November 2003 supervision mission by CIL, resettlement **under the project** has been completed in all but one of the 10 affected mines. The one mine site where resettlement is outstanding is Belpahar in Mahanadi Coalfields Ltd. (MCL), where 29 families (or 12% of an estimated 374 families) remain to be resettled. Figures for numbers of PAFs have fluctuated slightly over time, as additional entitlements have been identified, and as mine expansion plans have changed. This has resulted in both reductions and increases in different mine sites and to problems of

definitively identifying those affected before and after the project. According to CIL figures from the end of October 2003 approximately 406 families in MCL and 116 families in Central Coalfields Ltd. (CCL) remain to be relocated but it is not clear how many of these are families affected under the project, or are subsequent additions. The final status of delivery of compensation and relocation benefits will be determined following the supervision mission in June 2004. With regard to economic rehabilitation, the RAPs were intended to introduce alternative instruments to that of mine jobs as additional compensation for loss of land, since this practice had contributed to an excessive labor force and economic losses. However, following pressure from PAPs, mine jobs were provided in excess of the SAR target by 227%. At the same time, implementation of the alternative economic rehabilitation instrument, namely income restoration through self-employment, has been based on a narrow interpretation of CIL's R&R Policy, which has restricted the attractiveness to the PAPs of the assistance offered and produced limited contributions to income restoration. A determination of the final status of economic rehabilitation awaits verification from studies to be undertaken in the first half of 2004 of the 363 PAPs who reportedly suffered declines in their incomes over the project period.

#### *4.2 Outputs by components:*

### **(A) Capacity Building Component.(Output Rating: Unsatisfactory)**

#### **A1. Studies (Output Rating: Unsatisfactory)**

*Study of Strengthening of CIL's Environmental and Social Management Capacities.* The study was scheduled to start within six months of project effectiveness, but was delayed by about three years, and a workshop on the draft final report on *Strengthening of CIL's Environmental and Social Management Capability* was held in October 2000. While many of the recommendations on environment were taken up there was less progress on the social side. A dispute remains between CIL and the consultants over payment for this study. The main recommendations of the detailed study concerned environmental management together with environmental performance auditing and evaluation, mine planning and mine closure, social impact assessments, land acquisition and resettlement, and use of geographical information systems. The issue of the institutional set-up for social mitigation activities covering both the 25 project mines and CIL at large was left vague in the consultant's report. CIL drafted an Institutional Strengthening Action Plan by November 2000, which incorporated the key recommendations of the report, but left the issue of an institutional set-up for social and environmental mitigation activities unresolved. A total of 25 environmental auditors, 100 environmental officers, and 75 social mitigation officers (resettlement and rehabilitation) will be trained under the TA. Manuals and training modules have been developed for (i) Environmental management (ii) land acquisition and resettlement, (iii) mine planning; (iv) mine closure, (v) social impact assessments, (vi) Geographical Information System, and (vii) environmental performance auditing and evaluation, but it is not clear whether these are being used by the subsidiaries.

The ICR mission reviewed manuals and training modules for impact assessments and resettlement & rehabilitation prepared by the TA consultant and found them inadequate. Guidance has been provided to the WBPD on the requirements that the consultant need to fulfill to produce adequate manuals and training modules on social issues. At the wrap-up meeting with the Chairman, CIL, the mission was informed, that CIL will engage a qualified social scientist, who will work with mine staff to prepare new manuals and training materials. The environmental manuals and training modules will be reviewed separately by the Bank.

*Standardization of environmental monitoring:* The study was submitted on time by September 1998. The recommendations of the study are being implemented by external contracted agencies (the different State Pollution Control Boards), which undertake monitoring of air, noise, and water quality at the different

subsidiaries.

*Ash disposal study:* TOR for the study were revised so that it covered not only the 25 project mines, but all CIL mines within a 50 km radius of thermal power plants. The study comprised 62 open cast mines, and was completed in April 2000. Further assessments by CIL identified 14 of these mines as suitable for ash disposal, and two are currently used for ash disposal, while the suitability of five other mines are being further assessed. CCL has offered voids in the Amlo and Bokaro open caste project to Bokaro Thermal Power Station. Mahanadi Coalfields Ltd. (MCL) has entered into an MOU with Hindustan Aluminium Company (HINDALCO) for disposal of fly ash in a disused quarry of Bharatpur South Project. Northern Coalfields Ltd. (NCL) is in discussion with Vindychal Super Thermal Power Station (VSTPS) for disposal of fly ash in the abandoned Gorbi mine. The process of identifying further mines for fly ash disposal continues.

*Study of disposal of oil/grease and water from workshop effluent:* The study was completed in September 1997. Its findings were accepted by the Bank but not by CIL. In September 1998 it was agreed that a consultant would by end November, 1998, review the design and performance of all existing disposal units and suggest modifications where required to ensure adherence to Indian effluent standards. The Workshop Effluent Treatment Plants (ETPs) and oil and grease traps are working satisfactorily in all the projects. In most of the installations the treated water is fully reused for vehicle washing, fire fighting or filling of mobile water sprinklers. However, in some of the projects the siting of the ETP has made the installation of a reuse system difficult or very expensive. Only in such projects the reuse percentage has continued to be nil or very low. The sludge from the ETP is considered hazardous and treated by land farming method in most of the installations. The Orissa State Pollution Control Board, however, has asked for a more sophisticated impervious lined system for disposal of the oily sludge and other oily used material such as oil filters. Such an elaborate sludge disposal system has been installed in Ananta Project of MCL. With some delays all planned 25 effluent treatment plants have been completed.

*Study of bio-contamination of subsoil water from domestic effluent:* The study was submitted on the due date of June 30, 1998. It recommended the replacement of the existing septic tank/soak pit systems, which caused pollution of ground water, with centralized sewage treatment plants (STPs). All STPs were completed and commissioned by March 2001

*Study of overburden dump safety and stability:* The study was completed in November 1996. It was reviewed by a panel composed of Indian and international experts, and its findings were rejected. Eventually a revised study was produced, and an *Overall Action Plan for OB Dump Safety and Stability* was submitted in September 1998 and approved by the panel of experts and the Bank. Implementation was completed by the project closing date.

*Study to determine the suitability of top soils for use in overburden dump reclamation:* A draft report was submitted to CIL in November 1997 and reviewed by a consultant. The final report was submitted on time in May 1998 and approved by the Bank. The study recommended that top soil should be stored separately and spread on reclaimed dumps to promote re-vegetation. This is being carried out to varying degrees in different mines.

*Study on lessons learned from implementation of IPDPs and RAPs:* The study was submitted by the due date, and following Bank comments, the section on income restoration was revised, but found unsatisfactory. The assessment of IPDP and RAP implementation was envisaged as a recurrent yearly activity in the SAR. However, since the reports furnished by the consultant did not add any insights to those gained through regular supervision missions, it was agreed between CIL and the Bank to discontinue

this activity.

*Midterm review of environmental policies:* The study, which reviewed the progress in implementation of the Environmental Action Plans together with CIL's environmental policy, was available by the midterm review in February-March 1999. Based on the findings of the study, the Bank suggested that CIL should update its environmental policies to include self-policing of environmental regulations and consider the creation of an internal audit unit. While CIL's updated environmental policy formulated after the mid term review did not include these recommendations, CIL has subsequently introduced training of staff for environmental auditing as part of its Institutional Strengthening Action Plan.

*Other studies* included: (i) a strategy for income restoration drafted in 1998, (ii) market surveys which were conducted in 1998 in MCL, Central Coalfields Ltd. (CCL) and South Eastern Coalfields Ltd. (SECL) to form a basis for planning of income restoration activities through self employment, (iii) a diagnostic study in 1998 of income restoration in MCL of PAPs who had settled on land bought outside resettlement sites, (iv) a study in 2000 funded by a Dutch Trust Fund on the impact of mining on tiger and elephant habitats around project mines in Bihar (now Jharkand), (v) a hydro geological study in 2001 in NCL to assess the impact of coal mining on ground water in and around NCL<sup>5</sup>, and (vi) a sample survey in May 2002 to verify the census of PAP incomes conducted in March 2002 by CIL to form the basis for an assessment of income restoration. A study of the 363 PAPs who reported decreases in income levels between 1997 and 2002 is to be undertaken in the first half of 2004 and will be the basis for possible follow up work to restore incomes.

## **A2. Training (Output Rating: Unsatisfactory)**

*Workshops:* A two-day workshop which included the participation of CIL and subsidiary management in addition to mine level mitigation officers, was held in Ranchi in Bihar in October 1997 to introduce the novel approaches to environmental and social mitigation introduced by the project. At the closure of the project, a workshop to discuss lessons learned was held in June 2002 involving social and environmental mitigation staff together with the facilitating NGOs.

*Environmental training:* Training modules were developed in June 1998 and training was provided between 1998 and 2000 by a consultant to a total of 218 environmental staff. 180 executives received training in 2002 and 2003 at 5 different training events. Two of these one week events were held at the Indian Institute of Coal Management in Dhanbad after project closure. They involved 66 executives being trained on Environmental issues. Three further training events were held following project closure at the Indian School of Mines; a 2 week training program on environmental issues involving 62 participants; a one week training program on Environmental Audit involving 23 participants; an R&R training program over a two week period involving 29 participants.

*Training for social mitigation staff:* With assistance from the World Bank Institute, CIL developed in 1997 four training modules covering CIL's social mitigation policies, income restoration, participation, and computerized information management to build capacity among CIL and NGO staff assigned to the planning and implementation of IPDPs and RAPs. The training was conducted between September 1997 and August 1998, and a second round of training was undertaken during 1999-2000 for newly assigned staff. Additional follow-up training was provided on computerized information management to establish capacity to update and use the database on PAPs. Moreover, workshops were held to discuss lessons learned among social mitigation staff from different mines within particular subsidiaries and among staff from all the subsidiaries.

As part of CIL's Institutional Strengthening Action Plan (ISAP), the Indian School of Mines has from April 2002 developed manuals and training modules on environmental mitigation and auditing for staff from all CIL mines. A workshop to discuss and disseminate lessons learned was held in February 2002 for environmental personnel. The training program was completed by January 2003. Since the closure of the project there has been minimal training for social mitigation/CD/R&R staff, nor opportunities to discuss experiences across subsidiaries and learn from best practices. In April 2004 a workshop was held at Western Coalfields Ltd. (WCL) to discuss experiences across subsidiaries on best practices in implementing R&R activities. According to Coal India, manuals for dealing with R&R were finally distributed to all subsidiaries in June 2003. The Bank was not asked to review them, and it is not clear to what extent they are being used by the subsidiaries.

An R&R training program over a two week period was conducted following project closure and involved 29 participants.

### **A3. Facilitating NGOs (Output Rating: Satisfactory)**

In April 1997, 11 local NGOs were engaged by CIL to assist the mine level social mitigation staff with the planning and implementation of annual IPDPs and RAPs. The number was subsequently reduced to ten, when CIL with the consent of the Bank terminated the contract of one of the facilitating NGOs in SECL. After an initial learning period, which involved the sorting out of problems related to payments, collaboration between CIL and the facilitating NGOs improved substantially. Most of the NGOs have performed well, and their involvement has been crucial for the implementation of the IPDPs, income restoration activities, and PAP censuses. CIL terminated the contracts with all facilitating NGOs on the project closing date of June 30, 2002. The Bank anticipates that some of the facilitating NGOs will be engaged in subsidiaries such as CCL where follow up work is required and where new socio-economic surveys are anticipated.

### **A4. Monitoring (Output Rating: Unsatisfactory)**

The project has employed four different monitoring mechanism in addition to Bank supervision. CIL has submitted quarterly progress reports throughout the project period. From April 1997 to the closure of the project, a Project Implementation Supervision and Monitoring Consultant has been undertaking supervision of all project mines on a quarterly basis as a supplement to that by the Bank supervision team. The team deployed by the consulting firm comprises two environmentalists and two social scientists, who conducted field visits as part of the preparation for their quarterly reporting. Over time, as the consultant developed its capacity, the reporting became a useful tool for Bank missions. A Social and Environmental Review Panel comprising two Indian and two international experts provided an independent assessment of CIL's policies and performance regarding environmental and social mitigation. Between November 1997 and February 2001, the staff of the Review Panel conducted a total of seven field visits to project mines and submitted four reports on their findings<sup>6</sup>. The findings of the Panel as recorded in its four reports have corresponded to and confirmed those of Bank supervision missions.

An electronic PAP database was planned as the primary monitoring tool for assessing RAP implementation progress, and the extent to which the PAPs have been able to restore their previous income levels. To prepare for the ICR, a census of PAP income levels was conducted by CIL and the facilitating NGOs in April 2002. An external consultant undertook a verification of this data on a sample basis during May 2002. In order to support CIL in establishing the PAP database at the mine, subsidiary, and headquarters

level, extensive assistance has been provided by the Bank throughout the project period. However, despite this support and the repeated training, CIL has not been able to fully utilize or maintain the PAP database. Lack of verification of the data in the electronic database against original census data has meant, that the data in the PAP database have been corrupted to such an extent that an analysis on the status of economic rehabilitation could not be completed during the ICR mission as planned. Verification and reconciliation of the data was carried out after project closure and is being used as a basis for a study of those who reported decreased incomes over the project period. The results of this study will be used as a basis for determining any additional activities that will need to be undertaken to restore economic livelihoods of the 363 PAPs identified and complete economic rehabilitation under the project. The results are expected by June 2004.

**(B) Investment Component. (Output Rating: Unsatisfactory)**

**B1. Resettlement Action Plans (Output Rating: Unsatisfactory)**

For the 14 mines with land acquisition, CIL submitted annual mine-specific RAPs for every calendar year from 1998 onwards. Following Bank reviews, the revised annual RAPs were implemented by mine level CIL staff assisted by the facilitating NGOs.

*Resettlement:* By the project closing date, 82% of the Staff Appraisal Report (SAR) target PAFs had relocated. The supervision mission in November 2003 received a further update on numbers of PAFs which indicates that 88% of that target had been reached. The status in relation to the SAR target is as follows (see Annex 11a for mine specific data). All resettlement has been completed for those PAFs whose land was acquired during the project period.

Subsidiary	PAFs to be resettled	Relocation status by Nov. 1999 (PAFs)	Relocation status by Nov 2000 (PAFs)	Relocation status by Jan 2002 (PAFs)	Relocation status by June 30, 2002 (PAFs)	Relocation status by Oct 2003 (PAFs)
NCL	57	42	42	57	57	57
MCL	1,290	617	758	861	938	986
SECL	852	366	544	852	852	852
CCL	342 (+115)	73	128	201	282	341
Total	<b>2,541</b>	1,098	1,472	1971	<b>2072 (+58)</b>	<b>2236</b>

In late 1999, CIL introduced as part of its R&R Policy a cash grant of Rs.50,000 in lieu of a plot in a resettlement site, providing the PAPs with the option of choosing to resettle in a place of their own choice<sup>7</sup>. The cash grant is provided in addition to the compensation for the house and house plot. The cash grant has helped to reduce PAP resistance to resettlement, and since its introduction, 72% of the resettled PAFs have chosen this option instead of a plot in a resettlement site.

In the Parej East mine under CCL, the remaining caseload to be resettled is 117 PAFs of the original 290 PAFs. However, a follow-up census of PAFs in 2002 identified an additional 115 PAFs (in the villages of Muslim Tola and Duru), increasing the total caseload to 405 PAFs. Of the newly identified PAFs, 57 have already relocated with the cash grant of Rs 50,000 in addition to their house compensation. The mine expansion plans would require the balance of the additional caseload (58 PAFs) to be relocated by March 2005<sup>8</sup>. Resettlement required by the mine expansion undertaken until the project closing date has already been completed.

For the MCL mines of Jagannath, Bharatpur, Belpahar and Lakhanpur, contingency mine plans were developed in 1998 to cope with possible delays in resettlement of PAPs due to disputes mainly involving demands by the PAPs for additional mine jobs. The contingency plans involved having mining operations bypass villages resisting resettlement, leaving a 300 meter gap between the quarry and the nearest habitation. A joint CSRP/CSESMP mission reviewed these plans, and were satisfied that they would permit the continuation of orderly mine advances over at least the next 5 to 7 years, thus permitting additional time, as and if required, to resolve outstanding disputes raised by the PAPs. Since then, provision of additional mine jobs and the introduction of the cash grant of Rs. 50,000 have contributed towards overcoming the resistance in all the MCL mines except Belpahar.

The obligations relating to resettlement and rehabilitation as defined in the SAR comprise the projected caseload of PAPs created by land acquisition for mine expansion during the project period. At the start of the project, most land required for mine expansion had already been acquired, but not yet taken into possession for the actual mine expansion. Since the process of taking land already acquired into possession for mine expansion will continue for years beyond the project closing date in most of the mines, the SAR (p.112) defined CIL's obligations relating to resettlement on the basis of an estimate of the PAFs that would be affected by the estimated amount of land acquired and/or physically taken into possession to enable the projected mine expansion during the project period. However, the actual mine expansion till June 30, 2002, and the amount of land taken into possession for this expansion has turned out to be lower than projected during project preparation. The total number of PAFs affected by the land acquired and/or taken into possession due to mine expansion within the project period is 1,989 PAFs. For this caseload of PAFs, resettlement is completed. The remaining 527 PAFs, comprising 469 PAFs from the SAR caseload plus the balance of 58 PAFs from the additional caseload identified in Parej East, have not been displaced by mine expansion during the project period.

*Income restoration:* As mentioned earlier in the section on monitoring of RAP implementation, an analysis of the extent to which economic rehabilitation for PAPs has taken place during the project period could not be completed during the ICR mission of October 2002 as planned. A partial and preliminary income restoration analysis was conducted during the October 2002 supervision mission for three of the four subsidiaries (CCL, NCL, and SECL) comprising seven mines with RAPs and approximately 29% of all PAPs (see Annex 11b). The analysis was completed in May 2003, and the results from MCL were incorporated into the database (see Annex 11). Identification of CIL's remaining obligations and required follow-up measures will be determined once an analysis of the 363 PAPs who reported decreases in income over the project period is completed. This expected by June 2004.

CIL's R&R Policy contains three instruments to support income restoration for PAPs, namely provision of (i) mine jobs to PAPs losing land above a defined threshold<sup>9</sup>, (ii) jobs with contractors, and (iii) assistance regarding non-land based self-employment through the provision of infrastructure, petty contracts and formation of cooperatives. Of the total caseload of PAPs entitled to assistance for income restoration (9,183)<sup>10</sup>, a total of 4,152 (45%) are earning an income as a result of the assistance provided. The number earning from mine jobs provided as compensation for land loss is 2,693 (28%), while 450 (4.5%) have jobs with contractors, and 1,006 (10%) have incomes deriving from self-employment assistance.

Mine jobs have been provided in excess of the SAR target by 227%, primarily in MCL. CIL's R&R Policy was intended to furnish alternative economic rehabilitation instruments to that of provision of mine jobs, since this practice had contributed to build up an excessive labor force and heavy economic losses<sup>11</sup>. However, in MCL, demands by PAPs for mine jobs as a condition for resettling led to concessions by the subsidiary, so that a total of 1,996 mine jobs were provided instead of the projected 493 jobs (a excess of

407%). While this practice has undoubtedly contributed to overall economic rehabilitation and household income security in MCL, it has also undermined the attractiveness of the assistance offered to PAPs for self-employment.

4,829 PAPs provided income information in 1997 and in 2002. Average individual incomes in 1997 were Rs. 1,371. In 2002 they were Rs. 2,806. The average individual increase in income was Rs. 1,079 after adjusting for inflation. The highest inflation adjusted increase in average individual income was Rs. 2,256 in Samaleswari, and the lowest was Rs. 337 in Kusmunda. Of the 4,829 PAPs for whom both 1997 and 2002 income was available, 4,467 or 92.5% were able to maintain or increase their incomes, while 363 (7.5%) reported a decrease in income. Of those who reported decreasing incomes, 125 (34%) were over 50 years of age, and 38 (10%) were women. The average age of those who reported decreased incomes was 43, and the average inflation adjusted decreases was Rs. 1,316. The smallest reported loss was Rps. 12. Overall, the Parej East mine had the highest number of PAPs (73) who reported decreased incomes and NCL's Jhingurda, the least (4).

According to the data available, 1,345 PAPs enrolled in training and 1,220 completed training. 984 PAPs reported earnings related to the self-employment training (SE) they received. The average income from this self-employment was Rs. 747. A decent secondary income, but not really sufficient for a primary income. PAPs on Parej East reported the lowest SE incomes (Rs. 330), while PAPs in Jagannath reported the highest (Rs. 1,235). Proportionately, Jhingurda had the highest number of PAPs reporting earnings from SE (42%) while Gevra had the lowest (8%).

The follow-up assistance planned in the 2002 annual RAPs, which comprised investment support and/or supplementary skills training plus support to establish market linkages for PAPs, who had received training but were not earning from the training received, has been largely ineffective. The limited interest shown by PAPs in this follow-up assistance offered by the 2002 annual RAPs may be due to more attractive income opportunities established by the PAPs themselves independently of the project. However, it also indicates that if self-employment is to be an effective means of income restoration, it has to be furnished as a package comprising skills training, investment support, and assistance to establish the required market linkages for raw materials and sales. The provision of self-employment assistance as an integrated package has not been implemented consistently across project mines from the start, nor for all the different types of skills training provided.

With regard to overall income restoration, the results of the analysis of data on CCL, NCL, MCL and SECL from the PAP database indicate that during the project period, average monthly incomes of individual PAPs have increased by Rs. 1,079, after adjusting for inflation. However, the extent to which this increase in average incomes is related to the training for self-employment carried out under the project, or to the general economic growth of the mining area is not clear.

*Status of Economic Rehabilitation for NCL, MCL, CCL and SECL: 1997 – 2002*

Subsidiary	Total Number of EPAPs <sup>12</sup>		No. of EPAPs Reporting Income <sup>13</sup>		No. of EPAPs Reporting Income in 1997 & 2002	Avg. Individual Income Rs./month		Avg. Increase 1997 - 2002 Rs./month <sup>14</sup>
	1997	2002	1997	2002		1997	2002	
<b>NCL</b>	256	245	256	245	245	824	2,128	1,105
<b>CCL</b>	745	653	715	648	648	947	2,010	836
<b>SECL</b>	1,983	1,658	1,768	1,620	1,620	1,257	2,388	721
<b>MCL</b>	7,230	6,627	4,109	2,316	2,316	2,454	4,699	1,656
<b>All Projects</b>	<b>10,214</b>	<b>9,183</b>	<b>6,848</b>	<b>4,829</b>	<b>4,829</b>	<b>1,371</b>	<b>2,806</b>	<b>1,079</b>

Note: IA = Inflation Adjusted

For the four subsidiaries of NCL, MCL, CCL, and SECL, a total of 9,183 PAPs were identified in the updated 1997 census as eligible to receive assistance for economic rehabilitation under the project. Among this group, the analysis of the 4,829 PAPs with income data for both 1997 and 2002, indicates that 92.5% have been able to maintain or increase their incomes during the project period (after adjusting for inflation), and 7% are recorded as having experienced a decrease in the level of their pre-project incomes<sup>15</sup>.

An analysis was also conducted of the status of economic rehabilitation for women in NCL, MCL, CCL, and SECL, and for tribal populations<sup>16</sup>. 1,497 women provided income information in 1997 and in 2002. The average individual income for female PAPs was Rs. 141 in 1997 and Rs. 599 in 2002. This indicates that, adjusting for inflation, the average individual increase in income was Rs. 424. The highest increases were reported in MCL (Rs. 761) and the lowest in NCL (Rs. 247). For female PAPs who reported income information in both years, 1,459 (98.1%) reported that they were able to maintain or increase that income. Only 38 (1.9%) reported a decrease in income. 729 female PAPs enrolled in training and 586 (80%) of these reported Self-employed income.

1,456 tribal PAPs provided income information for both 1997 and 2002. The average individual income for tribal PAPs was Rs. 1,219 in 1997 and Rs. 2,610 in 2002. The average inflation adjusted increase was Rs. 1,098. The highest increase was recorded in MCL (Rs. 1,999) and the lowest in NCL (Rs. 555). Of the 1,456 tribal PAPs who provided information, 1,350 (92.7%) were able to maintain or increase their incomes, while 106 (7.3%) reported a decrease in income. 389 (27.1%) tribal PAPs reported income from self employment. The average reported income from self employment was Rs. 618, with the highest (Rs. 951) in SECL and the lowest (Rs.444) in CCL. In CCL, the tribal population has been able to increase average individual incomes by Rs. 732 per month. Among the 261 tribal PAPs in CCL with income data for both 1997 and 2002, 70% have been able to increase their incomes, 20% have maintained their pre-project incomes, and 10% have experienced a decrease in income.

For those PAPs who reported decreases in income during the project period, an analysis is being undertaken of the reason(s) for the decrease and how they are currently being supported. The results of this analysis, expected by June 2004, will determine what additional income restoration activities will need to be provided before economic rehabilitation under the project can be deemed to be completed.

2,831 PAP households (PAFs) provided income information in 1997 and 2,643 in 2002. Average household income in 1997 was Rs. 3,429, and in 2002 was Rs. 7,391. After adjusting for inflation this represents an average household increase of Rs. 3,139. The highest increase was Rs. 7,503 in Belpahar and the lowest was Rs. 888 in Dipka. In 1997 the highest average household income was reported for Samaleswari, and the lowest (Rs. 1,689 in Parej East. In 2002 the highest average household income was Rs. 13,864 in Belpahar and the lowest (Rs. 3,268) was in Parej East.

*Land based income restoration pilot:* As an alternative to the self employment schemes defined in CIL's R&R Policy as the instrument to promote income restoration for PAPs not entitled to mine jobs, it was agreed during the midterm review mission in February/March 1999, that CIL would engage consultants to develop approaches for land based income generation on unused and reclaimed mine land in five pilot projects to test the technical feasibility and PAP interest regarding this (in CCL, MCL, SECL, and NCL). If successful, this new approach would supplement the current assistance to self-employment mandated by CIL's R&R Policy, and could constitute an effective mechanism to achieve economic rehabilitation of PAPs, most of whom are small farmers. Eventually, CIL reduced the number of pilot projects, and only one was initiated in July 2001 in Dipka, SECL, with assistance from an NGO consultant. The pilot involves 93 PAPs from three villages, who are engaged in cultivation on 37 ha together with dairy and fishery. The results are encouraging, and the PAPs have formed a cooperative society, have managed to save Rs. 67,000 from the income of the 2001-02 crop on a joint account, and the reported individual monthly incomes deriving from the pilot project were Rs.814 in March 2002, and Rs.920 in September 2002. The efforts of the facilitating NGO helped to access funds from the Swiss Development Agency to start a dairy unit employing 5 EPAPs. The project was revisited during the November 2003 supervision mission and it remains an approach that CIL is considering for other subsidiaries. No precise updated income figures were collected but information obtained indicated that workers were receiving approximately Rs. 40 per day in wages.

*Review of CIL's R&R Policy:* During the midterm review, it was agreed between CIL and the Bank, that CIL would constitute a committee by April 1999 to review CIL's R&R Policy<sup>17</sup>. A joint CIL/Bank workshop to review and update the policy was scheduled for the November 1999 mission, then postponed till the March 2000 mission since the report from CIL's committee was not finalized, and eventually never held. Instead, CIL introduced a revised R&R Policy in March 2000, which furnished the PAPs with additional options as follows:

- A one time infrastructural development grant of Rs. 50,000 in lieu of a house plot in a resettlement site for displaced PAPs. This payment is in addition to the compensation for loss of homestead land and house, and is calculated as the average value of the resettlement plot, the resettlement site infrastructure, plus the transition allowance (comprising a 'shifting allowance' of Rs. 2,000 and a 'lump sum grant' of Rs. 5,000).
- Monetary compensation in lieu of a mine job for land losers whose loss of land entitled them to mine employment. The payment will be Rs. 100,000 for the first acre of land, or pro-rata payment subject to a minimum of Rs. 25,000. For the 2nd and 3rd acre, the compensation will be 75,000, and Rs. 50,000 on pro-rata basis for land above 3 acres. This payment is in addition to land compensation. The Bank had no objection to this strengthening of CIL's R&R Policy, but that changes and clarifications regarding entitlements and economic rehabilitation were required to make the policy consistent. Some, but not all of the recommended modifications were adopted in the revised policy. As a result, the revised R&R policy was not approved by the Bank. However, CIL has continued to provide the one time infrastructural development grant of Rs. 50,000 in lieu of a house plot in a resettlement, and the Bank has no objection to this measure, which provides the PAPs with an additional resettlement option.

## **B2. Indigenous Peoples Development Plans (Outout Rating: Satisfactory)**

For the 24 mines with neighboring villages that are not affected by land acquisition and located within a one kilometer radius of the leasehold of the mine, CIL submitted annual mine-specific IPDPs for every calendar year from 1998 onwards. Following Bank reviews, the revised annual IPDPs were implemented by mine level CIL staff assisted by the facilitating NGOs. A total of 172 villages have been covered by IPDP activities against an SAR target of 189 villages. This change in the number of IPDP target villages is primarily caused by a merging for operational and planning purposes of smaller hamlets originally identified as independent target villages.

While designed to establish compliance with the Bank's Operational Directive 4.20 on Indigenous Peoples, the IPDPs were not focused exclusively on the population from Scheduled Tribes in villages neighboring the project mines. Since these villages contained a mixed population comprising Scheduled Tribes (STs), Scheduled Castes (SCs), Other Backward Castes (OBCs), and caste Hindus, an exclusive targeting of the STs would have been divisive. Instead, the IPDPs were conceived as community development activities, which provided benefits to tribals and non-tribals alike.

The IPDPs developed during project preparation in 1995 were only considered indicative in terms of the actions described. Subsequent project implementation was based on participatory planning of annual action plans by Village Working Groups (VWGs) nominated by the villagers and representing different sections of the beneficiary communities, together with cost contribution towards capital costs and maintenance of joint community assets, and community responsibility for operation and maintenance of such assets. The VWGs had an average of 13 members. The composition of the VWGs has largely corresponded to the population composition of the beneficiary communities, with the exception of CCL, where the proportion of VWG members from Scheduled Tribes was considerably higher than their proportion of the target population. Although initially limited, women over time gained a stronger representation in the VWGs, and constituted around 30% of the members by the closure of the project. The composition and role of the VWGs have contributed noticeably to give both women and other marginal groups a stronger voice in village affairs (Annex 11c).

The IPDPs comprised three types of activities, namely (i) asset creation comprising joint village facilities including drinking water supply, public buildings such as school classrooms, and irrigation facilities, (ii) skills development such as book keeping, contract management, training for income generation, or adult literacy, and (iii) various community activities ranging from health awareness to plantation of wastelands. In the 172 villages with annual IPDP action plans, a total of 721 joint community assets were created (averaging four per village), 883 skills development activities (averaging five per village), and 1,575 community activities (averaging nine per village) (Annex 11d).

VWGs were involved as contractors in the civil works for community facilities. The capacity established with regard to contract management has enabled some VWGs to execute small contracts for the Panchayats and/or the mines. Income generation activities were undertaken in a total of 139 villages (81% of total). Altogether 4,545 persons were involved in this activity, with women constituting 49%. A total of 198 Self Help Groups were formed, mainly with women members, and 95% of these were functioning by project closure. Most of the Self Help Groups were organized around saving and credit schemes (93%).

The annual IPDPs for 2002 comprised an exit strategy with added emphasis on arrangements to ensure the sustainability of VWGs, Self Help Groups, and maintenance of community assets. In MCL, SECL, and WCL, the VWGs have agreed with the local Gram Panchayats that these would take over the community

assets for future maintenance. Whether the Panchayats will be able and willing to manage this responsibility over the long term remains to be seen. In Jharkand, where Panchayats do not exist, the VWGs formed in IPDP villages under CCL have established an apex organization to interact with local authorities regarding development assistance, but have not introduced any arrangements for collection of user charges or contributions towards maintenance costs from the beneficiaries. Only in the IPDP villages under NCL where assets have not been transferred to Panchayats, and in some of the IPDP villages in SECL, has a system of user charges to cover expenditures related to maintenance of community assets been established (comprising 34% of all IPDP villages). By project closure, maintenance of community assets had been undertaken in 27% of the IPDP villages, giving cause for some optimism regarding sustainability. (Annex 11e).

### **B3. Environmental Action Plans (Output Tating: Satisfactory)**

*Environmental monitoring* is being carried out at all project mines by external agencies. Data are collected on a fortnightly basis on (i) air quality at production sites, mine quarters, and surrounding villages, (ii) noise levels at production sites, mine quarters, and surrounding villages, (iii) water quality of treated effluent from workshop and mine effluent treatment facilities as well as sewage treatment plants, and (iv) drinking water quality at mine quarters and in neighboring villages. The monitoring information is communicated to the respective State Pollution Control Boards that issue the annual Environmental Consent Letters, which are required for a continuation of mining.

*Reclamation of over burden (OB) dumps:* Based on studies and expert reviews, the number of OB dumps requiring reclamation was reduced from the original SAR estimate of 150 to 119 following the preparation of the “*Overall Action Plan for OB dump Safety and Stability*”. The action plan was approved in August 1998 by a technical expert consultant from the Indian Institute of Technology (IIT), Kanpur and by the Bank. The table below reflects the status and distribution of the 119 OB dumps identified in this Action Plan by subsidiary:

<b>Subsidiary</b>	<b>Reclamation under CSESMP</b>	<b>Active Dumps</b>	<b>Already Reclaimed*</b>	<b>Ring Dumping</b>
NCL	9	4	10	1
MCL	23	-	-	-
WCL**	21	-	-	-
SECL	18	3	18	-
CCL***	4	-	8	-
<b>Total</b>	<b>75</b>	<b>7</b>	<b>36</b>	<b>1</b>

\*Not funded through the ESMP; \*\*Seven dumps done departmentally, \*\*\*One dump done departmentally

Implementation of reclamation works on the 75 overburden dumps selected for reclamation work with CSESMP funding began between September 1999 and January 2001, and civil works were completed by December 2001 followed by plantation activities completed by the 2002 monsoon period (Annex 11f).

*Use of top soil:* The recommendation by the study on the use of top soil in OB dump reclamation, that top soil be stored separately and then spread on reclaimed dumps, is not practiced in all mines. However, all mines make use of top soil to promote the growth of vegetation on reclaimed OB dumps (Annex 11f). Instead of separate top soil storage, many mines practice what is termed “concurrent application of top soil”. This practice involves that top soil when removed is immediately spread on OB dumps that have reached their planned height or on the portion of backfilled quarries (internal dumps) that are level with the surrounding area.

*Workshop and mine effluent treatment plants* have been established in all 25 project mines. In NCL and MCL, the mine and workshop effluent treatment facilities are integrated, while CCL, SECL, and NCL have separate treatment facilities for mine and workshop effluent (Annex 11g). Operation and maintenance is carried out by mine staff in all project mines. It is attempted to achieve zero discharge of treated effluent water for all effluent treatment plants. To date, this has only been fully achieved in 13 of the mines (see Annex 11g). The treated effluent water is primarily used for washing of vehicles, and spraying against dust on roads used for coal transport within the mine leasehold.

*Sewage Treatment Plants (STPs)*: The recommendation of the study of bio-contamination of sub-soil water from domestic effluent required construction of 21 STPs, all of which are completed and functioning (Annex 11h). The Ministry of Environment & Forest guidelines which require fortnightly sampling are being followed in all subsidiaries. Monitoring data on treated effluent water for July 2002 show that all STPs are within permissible limits, except one (Kusmunda, SECL, where Biochemical Oxygen Demands (BOD) values for May 2002 slightly exceeded the permissible limit, see Annex 11h). Operation and maintenance of all the STPs have been given on contract, with the exception of CCL where it is done departmentally. In June 2001, it was agreed between CIL and the Bank that planning and physical arrangements should be made by August, 2001 for emergency and scheduled shutdowns of the domestic effluent treatment plants (DETPs). These measures are described in Annex 11h. All mines are planning to use the treated effluent water for either spraying against dust within the mine area (as currently practiced in Samleswari, MCL), or to provide it for irrigation (as practiced in Jhingurda, NCL). Only in Parej East has the workforce objected to the use of treated effluent water for dust spraying since it is considered unclean.

*Dust suppression*: In response to the need for enhanced dust suppression measures in addition to those prescribed in the EMPs, a revised dust suppression plan was agreed between CIL and the Bank in August 1999. The range of dust suppression measures implemented by different mines are described in Annex 11i. While dust suppression has improved, monitoring data on Suspended Particulate Matter (SPM) continue to show values in excess of the permissible limit of 200 micro-gr/m<sup>3</sup> for habitations for some mines<sup>18</sup>. Significant contributing factors to excessive dust levels are coal transport by contractors using overloaded and uncovered trucks, badly maintained public and mine roads, and pay loader operated coal loading at rail sidings. Only one subsidiary -WCL - has enforced the use of weighing stations to prevent overloading and the use of tarpaulins on trucks transporting coal. However, the CIL mines are not the only source of dust pollution, and effective improvement of air quality will require a coordinated effort involving the Thermal Power Stations, local industries, non-CIL mines, and proper road maintenance by the relevant state authorities. The need for such coordination was emphasized in the SAR and has been raised by previous supervision missions, but no progress has been reported by CIL on this.

*Tree plantation*: A target of plantation of 2.68 million trees has been achieved, and in addition plantation of trees (and other vegetation including grasses) has been undertaken on reclaimed OB dumps (see Annex 11f and 11i).

*Impacts by mining on wildlife habitats*: To assess the validity of concerns raised by external advocacy NGOs, a study was undertaken in 2000 to assess the impact of mining on tiger and elephant habitats around the three project mines under CCL in Bihar. The study established that (a) the major changes involving a critical reduction in forest cover, wildlife habitats and migration routes took place long before the start of the Bank funded projects, and (b) by 1997, i.e. before the start of the CSRP, tiger sightings were no longer reported for the areas of the three Bank supported mines. On this background, the Bank (and CIL) did not find it necessary to undertake any further activities related to this issue. A stakeholder

workshop with participation by local environmental NGOs, the Forest Department, MoEF, CIL, and the Bank to discuss the methodology of the study was held in Delhi in March, 2000. A second stakeholder workshop to discuss the findings and recommendations of the study was held in Ranchi in October, 2000.

### **(C) Social Remedial Action Component. (Satisfactory)**

This component provided funds for the preparation and implementation of social remedial action programs for three coal mine projects that had received Bank support in the past: Dudhichua Coal Project in NCL, Jharia Coking Coal Project in BCCL, and the Coal Mining Quality Improvement Project which included Gevra mine in SECL. CIL conducted three tracer studies for Gevra, Dudhichua and Block II in Jharia through independent consultants in 1994 and 1995 to identify below-poverty-line PAPs residing within a 5 kilometer radius of the mines, who required remedial assistance to restore their incomes. In April 1997, at the request of the Bank, CIL had two of these studies verified (no below-poverty-line PAPs were identified for Block II in Jharia) by two independent NGO consultants. The studies identified 10 PAPs in Dudhichua, and 87 in Gevra. CIL has provided jobs with mine contractors to the 10 entitled PAPs in Dudhichua and to 7 in Gevra. Apart from this, the efforts regarding income restoration by CIL have been largely ineffectual. However, a census in 1998 by the Madhya Pradesh State authorities showed that all of the PAPs identified in the tracer study for Gevra now had incomes above the poverty line.

#### *4.3 Net Present Value/Economic rate of return:*

In view of the close linkage between CSESMP and CSR, quantification of the financial and economic benefits of the latter is used for this section and Section 4.4 as was the case in the SAR for the CSESMP.

The combined CSR/CSESMP project yielded a positive expected economic NPV of US\$593 million, at 16% discount rate. With the exception of CCL's KD. Hesalong mine for which benefits could not be quantified, the investments in all the remaining 23 mines included in the project yielded economic rates of return in excess of 16% per year.

#### *4.4 Financial rate of return:*

The overall financial rate of return (FRR) is estimated to be 55%. The project as a whole yielded positive expected financial NPV of US\$397 million, at 16% discount rate. Four observations are noted:

- (i) The economic and financial NPVs are estimated to be lower than the expected values estimated at appraisal. The main reasons are: less than anticipated increase in output and lower investments as a result of the cancellation of the uncommitted portion of the loan; higher than expected operating costs; and lower than anticipated grade of coal extracted in the case of a few mines e.g. Parej East.
- (ii) Even though the economic and financial NPVs are lower than those estimated at appraisal, NPVs are still positive. The reasons relate to the nature of the investment project: a large number of the mine sub-projects are characterized by investments with short gestation periods in profitable mines.
- (iii) The difference between the economic and financial NPVs has decreased. This is mainly due to the narrowing of the differential between the economic and the financial prices.
- (iv) While investments in the specific coal mines supported under CSR are financially and economically viable, the long-term sustainability of the Coal sector depends on factors well beyond

output increases such as: policy; regulatory and institutional reforms; , and a continued growth in the demand for coal in India.

The results of the financial and economic analysis of each of the 24 mine projects; and the underlying assumptions are presented in Annex 3.

#### *4.5 Institutional development impact:*

*Overall rating: Modest*

A World Bank Project Division (WBPD) was established at CIL headquarters to oversee preparation and implementation of the two Bank supported projects, and 25 officers responsible for RAP and IPDP implementation were posted at the project mines. After CSR approval, the WBPD was restructured into two separate units to improve project management. In March 1997, CIL established a new cadre for environmental mitigation staff, and another for staff involved in resettlement and rehabilitation.

The capacity of the WBPD regarding social mitigation activities has remained limited throughout the project period, whereas that on environmental mitigation has been stronger. The external consultants employed to provide support on socio-economic issues have not had the qualifications required to add value to implementation supervision or to review TA reports or annual RAPs and IPDPs, nor have they contributed to build the capacity of CIL staff in the WBPD. At the closure of the project, the socio-economic consultant was terminated, and the WBPD has minimal staff with capacity to deal with social mitigation issues.

The organizational structure of CIL, which provides the subsidiaries with a large measure of autonomy vis-à-vis its headquarters, has limited the ability of the WBPD to provide the required direction on implementation of its corporate policies. This has been particularly noticeable with regard to resettlement and rehabilitation, where implementation of actions agreed between CIL and the Bank to promote income restoration were subsequently left to the discretion of each subsidiary.

The establishment of the two new cadres during the project period did provide the expected organizational framework for an institutionalization of environmental and social mitigation capacity, which could furnish the basis for a utilization of lessons learned in project and non-project mines. Both of the two new cadres encountered problems in attracting staff, more so the R&R cadre compared to the environmental cadre. Few of the officers posted to the cadres have opted for permanent absorption into the cadre, since they did not view the new cadres as a career option equivalent to that of other cadres in CIL. The primary reason for this has been, that the new cadres were not established as corporate entities, and that the number of posts at different grade levels was not defined and staffed, so that career prospects within the cadres remained uncertain. CIL's Institutional Strengthening Action Plan from November 2000 does not resolve this issue. Without a structure that provides career prospects comparable to the rest of the corporation, the staff that have acquired experience are likely to seek transfers to other branches of CIL, and the capacity established during the project will be dissipated. Since the closure of the project a separate Environmental cadre has been established and more attention is being paid to these aspects of CIL's activities. There are no plans to develop a separate R&R cadre and currently officers dealing with such issues are largely drawn from their parent Personnel cadre.

## **5. Major Factors Affecting Implementation and Outcome**

### *5.1 Factors outside the control of government or implementing agency:*

(i) *Inspection Panel.* The project came under Inspection Panel investigation following a complaint letter regarding the Parej East mine in CCL from the Chotanagpur Adivasi Sewa Samiti (CASS) dated June 14, 2001. The concerns in the Request for Inspection dealt exclusively with actions carried out under the project. The Request alleged violations of Operational Directives 4.01 on Environmental Assessment, 4.20 on Indigenous Peoples, 4.30 on Involuntary Resettlement, and 13.05 on Project Supervision. The Request also alleged violations of OPN 11.03 on Management of Cultural Property in Bank-Financed Projects, and of BP 17.50 on Disclosure of Operational Information. A response from Bank Management was provided on July 19, 2002, and additional responses on follow-up questions from the Inspection Panel were provided in April and November 2002. Progress on the production of the ICR was halted during the period of the investigation. The final Inspection Panel report was submitted to the Board on November 25, 2002. The Management Report and Recommendation in response to the Inspection Panel Investigation Report (No.24000) was distributed on May 6, 2003. The Inspection Panel's Report together with Management's Report and Recommendation were considered by the Executive Directors at a meeting on July 22, 2003. Management proposed to continue supervising the project until June 2004. The supervision effort would focus on economic rehabilitation of PAPs who had suffered a decrease in income, the settlement of claims for PAPs cultivating land under customary tenure, the provision of long term leases for PAP house plots in the resettlement site, and the disbursement of a subsistence allowance to entitled PAPs in Parej East. (For details see Annex 8).

(ii) *Resettlement and issuing of ID cards* were both delayed or incomplete in MCL due to resistance from PAPs, who were involved in court cases regarding the compensation allotted to them. These PAPs had refused to receive ID cards, which listed their entitlements, since they believed that this would amount to an acceptance of the compensation they were challenging in court, and other PAPs not involved in the court cases had also adopted the same position. In addition to the incomplete issuing of ID cards, the court cases and PAP resistance also resulted in delays in resettlement. To cope with such delays, contingency mine plans were developed which meant that mining would bypass the villages resisting resettlement, leaving a 300 m gap between the quarry and the nearest habitation.

## *5.2 Factors generally subject to government control:*

(i) *Submission of disbursement claims:* Processing and submission by GOI of claims for reimbursement have been subject to significant delays.

(ii) *Long term leases for house plots in resettlement sites:* At the CSR negotiations in July 1997, Government of India (GOI) made a commitment to provide long term leases for house plots in resettlement sites (para 38 in Minutes of CSR Negotiations). However, even at project closure, land titles (Pattas) for house plots in resettlement sites on land acquired under the Coal Bearing Areas Act (CBAA) were not issued to PAPs by GOI. Similarly, although commitments were made during project implementation, GOI did not issue a lease agreement providing user rights and security of tenure to PAPs involved in the land-based income restoration pilot project under implementation in SECL. CIL was asked in November 2003 to again lobby the Ministry of Coal and the Law Ministry to seek resolution to this long-standing issue.

(ii) *Compensation for land held under customary tenure:* At the CSR negotiations, GOI also made a commitment to ensure compensation for acquisition of land held under customary tenure (para 39 in Minutes of CSR Negotiations). In the Parej East mine in CCL<sup>19</sup>, where PAPs have claimed rights in land held under customary tenure (*Ghair Mazurva Khas* (GMK) land), authentication of such claims and

provision of compensation has been substantially delayed, and was not completed by project closure. CIL/CCL were asked in November 2003 to further clarify and resolve any outstanding claims by PAFs in Parej East. Information from CIL/CCL provided to this latest mission indicated that in Borwa Tola (Parej village) 26 cases were referred to the State Authorities. GMK land has been authenticated and settled in favor of 13 PAFs, covering 27.21 acres. Authentication was rejected for 13 PAFs, covering 21.85 acres. 8 of these 13 PAFs have filed cases with the State Tribunal. Compensation for 2 of the 13 PAFs is expected to be completed soon. Compensation could not be paid to 2 PAFs because they did not turn up in payment camps and in the 1 remaining case there is a dispute over the name on the record. In Duru (Kasmar) village 15 cases have been referred to the State Authorities. GMK land has been authenticated and settled in favor of 9 PAFs covering 33.27 acres. Compensation for an additional 6 PAFs covering 10.85 acres is currently under review and is expected to be completed soon. An area of 28.52 acres is presently not required for mining and the occupants will therefore not be disturbed.

### *5.3 Factors generally subject to implementing agency control:*

(i) *Implementation.* Although the project became effective in July 1996, implementation began only in earnest towards the end of 1997. Despite the steady incremental overall implementation progress since then, progress has been uneven across project mines, and CIL's commitment has remained problematic especially with regard to the two key areas of economic rehabilitation of PAPs, and institutional reform to enhance CIL's social management capabilities, despite some progress with environmental management capacity building. Despite agreements between CIL headquarters and the individual subsidiaries, which linked adequate performance on environmental and social mitigation to continued investment funding from the CSR loan, the WBPD was only given limited scope for providing the subsidiaries with direction on implementation of CIL's corporate policies.

(ii) *Procurement:* Across subsidiaries, the status of procurement was considerably behind schedule, due primarily to delays in finalizing plans for domestic effluent treatment plants and overburden dump reclamation activities.

(iii) *Disbursement:* The disbursement status was poor during most of project implementation. Two factors that contributed to this have been CIL's late submission of Project/SOE audit reports for 1997 and 1998, which resulted in the suspension of disbursements in April 1999. CIL submitted both audit reports to the Bank in November, 1999 and the suspension of disbursements was lifted in December 1999. The second factor has been the procurement delays which continued to hinder disbursements.

(iv) *Strengthening of CIL's Social and Environmental Management Capability* has been curtailed by four factors:

- The study that should inform an institutional strengthening action plan was scheduled to start within six months of project effectiveness, but was delayed for about three years. Terms of reference for the study were agreed in July 1997, but in September 1998, CIL requested revision of the original TOR involving a separation of the TOR for the study and implementation phases. Selection of a consultant was delayed until February 1999. Due to CIL's reluctance to issue the work order, the start of work was delayed until March 2000, and the study was completed by October 2000. Based on the recommendations of the study, an Institutional Strengthening Action Plan was drafted by CIL by November 2000. However, a dispute regarding interpretation of the consultancy contract and final payment blocked the extension of the contract with the original consultant, and a replacement was only engaged in April 2002. This late start made it impossible to complete the TA activities related to the action plan by the project closing date<sup>20</sup>.

- The environmental and social cadres have not provided a viable organizational framework for an institutionalization of environmental and social mitigation capacity, and the Institutional Strengthening Action Plan does not address this issue nor does it provide an alternative organizational model likely to achieve this institutionalization and retain the capacity created during the project.

- The continuation of the social mitigation policies is problematical. The IPDP approach was discontinued at project closure, although elements of it may be revived with the new Corporate Community Development Policy currently under discussion. While RAPs may be used as a planning instrument in new mines, none of the 14 project mines with land acquisition have annual RAPs to deal with resettlement and rehabilitation beyond the project closing date.

- The socio-economic consultants contracted to assist the WBPD were too few and did not have the required qualifications. After project closure, the WBPD has discontinued hiring external socio-economic consultants, and currently has no in-house capacity in this area.

(v) *Financial issues:* A number of financial issues have slowed down project implementation: (a) whereas the agreed budget period for the annual IPDPs and RAPs was the calendar year, CIL initially approved IPDP and RAP budgets and released funds based on its own budget schedule from April 1 to March 31. The result was delays in the start-up of activities, often as long as nine months, since approval of budgets by subsidiaries normally took a couple of months, after which the monsoon delayed start-up of construction activities until around October. (b) Even though CIL increased the financial powers of Chief General Managers (up to Rs. 200,000) and Project Officers (up to Rs.100,000) in mid-1998, this strengthening of financial powers was in practice applied only to civil works, and not to other activities such as capacity building and training or community activities in IPDP villages. The result was delays in the start-up activities and the resultant frustration on the part of the villagers. (c) Both CCL and SECL experienced delays with regard to payments for work done and bills submitted by VWGs contracted to implement civil works because of the lack of timely flow of funds from subsidiary headquarters to the mines.

(vi) *Environmental mitigation activities* have often been completed behind schedule due to delays regarding (a) the TA studies intended to inform the mitigation activities, (b) the mitigation plans incorporating recommendations from the TA studies, and (c) bid evaluation and contractor selection. Thus, delayed finalization of mitigation plans meant, that implementation of workshop and mine effluent treatment plants were completed about eight months late. Delayed finalization of mitigation plans and lengthy contractor selection meant, that sewage treatment plants were completed about 21 months after the original target date. Delays in the finalization of an acceptable study and an agreed mitigation plan for OB dump reclamation resulted in 9 to 13 months delays in the start-up of implementation.

(vii) *Income restoration:* Despite the information and consultation undertaken by NGOs and mine staff, entitled PAPs were very reluctant to join the income restoration schemes since they were skeptical regarding the commitment and ability of the mines to provide sustainable alternatives to jobs in the mines, and at the same time believed that their participation would jeopardize future prospects of getting a mine job. CIL's implementation of income restoration through self-employment did not allay this skepticism, since the assistance for self-employment has not been consistently implemented as an integrated package (comprising skills training, investment support, and market linkages) in all project mines or for all the different types of skills training provided.

(viii) *Land-based income generation:* The agreement during the midterm review mission in

February/March 1999, that CIL would engage consultants to develop approaches for five pilot projects for land based income generation, constituted a positive step towards enhancing CIL's capacity to deal with economic rehabilitation of PAPs. However, CIL's decision, as communicated in its letter of December 10, 1999, that pilot projects would only be started in SECL and MCL represented a first retraction of the original commitment. Eventually, only one pilot project was started in SECL in July 2000. While this pilot project represents a significant step towards exploring a potentially promising alternative option for economic rehabilitation of PAPs, the reduction in the number of pilots from five to one and the delayed start-up of the pilot have limited the usefulness of the initiative and excluded the possibility of generating lessons regarding its replicability within the project period.

#### *5.4 Costs and financing:*

The total cost of the project was US\$ 52.51 million compared with the SAR estimate of US\$84.0 million. The lower cost was due to the devaluation of Indian Rupees against US\$, reduction in the volume of OB dump work, and a mathematical error in the SAR category for technical assistance. There was also a reduction to the total project cost of approx. \$0.9 million, resulting from a more realistic assessment of the cost of land acquisition. Likewise, there was reduction in the actual award of contracts on technical assistance.

## **6. Sustainability**

### *6.1 Rationale for sustainability rating:*

The assessment of project sustainability below is based on the overall project status by the project closing date. Since CIL's corporate structure provides its subsidiaries with a large measure of autonomy vis-à-vis its corporate headquarters, an assessment of the sustainability of different project components will have to be done at the corporate level and also, where relevant, at the level of the subsidiaries.

#### *Capacity Building Component*

This component comprised different technical studies and TA linked to specific sub-components and included a study on *Strengthening of CIL's Social and Environmental Management Capability* to enhance CIL's institutional effectiveness in these areas. As described above, initiation of the study and contracting of a consultant to provide the TA for implementation of CIL's Institutional Strengthening Action Plan was seriously delayed. Moreover, the WBPD at CIL headquarters lacked the required capacity on social mitigation to guide the TA consultant, and provide support and supervision for staff at the subsidiary and mine level. CIL has at present no defined institutional structure for officers working on social issues with clear staff roles, responsibilities, incentives and career prospects. This lack of capacity and institutional framework renders problematical the enhancement of CIL's capacity to deal more effectively with social issues in a sustainable manner. Since the end of the project period a separate cadre for staff dealing with Environmental issues has been established.

The absence of a defined guiding and oversight role for the WBPD vis-à-vis the subsidiaries and the very different social and political contexts in the different States has resulted in different strategies for individual subsidiaries with different implications regarding the sustainability of the environmental and social mitigation capacity established under the CSESMP. As shown in the table below, the planned or actual application of lessons learned by different subsidiaries involve almost exclusively environmental mitigation activities. The commitment to use lessons learned regarding social mitigation is low, and capacity has decreased since the contracts with the facilitating NGOs have been terminated at project closure.

	Non-CSE SMP mines	Non-CS ESMP mines		Application of lessons learned (number of mines)					
	Existing mines	Planned new mines	Total	Mine effluent treatment plants	Workshop effluent treatment plants	Sewage treatment plants	OB dump reclamation	RAPs	IPDPs
<b>CCL</b>	26	0	26	0	1	0	0	0	0
<b>MCL</b>	8	3	11	11	11	3	11	3	0
<b>NCL</b>	8	3	11	6 (integrated plants)	6 (integrated plants)	7	2	0	0
<b>SECL</b>	12	0	12	0	1	0	0	0	0
<b>WCL</b>	24	1	25	19	17	1	22	4	0
<b>Total</b>	78	7	85	30+6	30+6	11	35	7	0

The ICR mission's assessment of current capacity and the likelihood of this capacity being maintained or strengthened under existing conditions is provided below. The most recent supervision mission of November 2003 finds no reason for changing this categorization.

		NCL	MCL	CCL	SECL	WCL
Environmental	Capacity	Strong	Medium	Medium	Strong	Strong
	Sustainability	Highly Likely <sup>21</sup>	Likely	Unlikely	Likely	Highly Likely <sup>22</sup>
Social	Capacity	Weak	Weak	Weak	Weak	Medium
	Sustainability	Unlikely	Unlikely	Unlikely	Unlikely	Likely

#### *Investment Component*

On the investment side, CIL has achieved positive results with regard to the implementation of Environmental Action Plans and Indigenous Peoples Development Plans, whereas implementation of Resettlement Action Plans has been inadequate and may be incomplete. The results of the analysis of

income restoration to be completed by June 2004 will determine whether this has been completed.

Sustainability of the different investment components vary both with regard to the components themselves, and for specific components in different subsidiaries. With some variation across the subsidiaries, the different environmental mitigation sub-components are likely to be sustainable, as are most of the assets and self-help groups established through the IPDPs, whereas the resettlement site infrastructure, which is viewed by the PAPs as a CIL responsibility, and as a state responsibility by CIL, is already deteriorating. In the context provided by overall economic growth, it is likely that the assistance from CIL for income restoration, albeit limited in scope, will be sustainable, as will that achieved independently of CIL by many PAPs.

The sustainability of the corporate policies, on which the investment activities have been based vary. While the sustainability of the Environmental Policy appear likely, since it is recognized as a necessary means to achieve compliance with Indian environmental regulations, implementation of the two social mitigation policies is unlikely to be sustainable. Without the commitment to develop a well defined staff structure at both the corporate and subsidiary level, and without the capacity at the headquarter level to provide quality training and supervision, the sustainability of CIL's R&R Policy as an instrument for adequate planning and implementation of RAPs seems unlikely. Moreover, none of the 14 mines with RAPs have any follow-up planning in place to continue the annual RAPs implemented during the project period, and there are no plans to continue to use the electronic PAP database for monitoring of RAP implementation. Sustainability of the IPDP policy (Community Development Plan) is unlikely in all subsidiaries, since they plan to abandon the community driven development (CDD) approach defined by this policy in favor of the pre-project top-down approach through 'periferal development committees'. CIL's draft Community Development Policy currently under consideration does combine some of the elements of the former IPDP policy but is unlikely to be as effective unless significant additional human resources are applied to its implementation.

#### *Social Remedial Action Component*

An action plan was agreed between CIL and the Bank in June, 1997, regarding remedial income restoration assistance for below-poverty-line PAPs affected under previous Bank supported projects in Gevra, SECL, and Dudhichua, NCL. Its implementation provided employment for the limited caseload in Dudhichua and for part of that in Gevra. Since a census in 1998 by the Madhya Pradesh State authorities showed that all of the PAPs identified in the original tracer study for Gevra now had incomes above the poverty line, the component is likely to be sustainable.

#### *Overall project sustainability*

*Unlikely.* Despite the progress that has taken place particularly with regard to environmental mitigation, overall sustainability with regard to project outputs, policies and instruments (IPDPs, RAPs, and the PAP database), and capacity has not been achieved. In the absence of a defined institutional structure for social mitigation, a commitment to continue to use the two social mitigation policies and the associated instruments, and capacity at the headquarter level to manage the social implementation dimensions of CIL's Institutional Strengthening Action Plan and provide the required supervision and guidance to staff at the mine and subsidiary levels, the capacity created and lessons learned during the project are unlikely to be sustainable.

#### *6.2 Transition arrangement to regular operations:*

Same as in Sec. 6.1

## **7. Bank and Borrower Performance**

### **Bank**

#### *7.1 Lending:*

*Unsatisfactory.* The Bank's performance in the identification, preparation, and appraisal stages of the project was unsatisfactory. The Bank did take into account the project's consistency with the government's development priorities and the Bank's CAS and had a team with a good skills mix. The Bank had a consistently good working relationship with the client, Coal India Limited (CIL), during all stages of the project. During preparation the Bank did not adequately assess the degree of political and social resistance to reforms and relied too much on government and CIL assurances of ability to implement and on their interpretations of ground realities. The Bank also underestimated the difficulties of shifting the institutional culture of CIL given the complexities of actors and locations that the project was expected to reach. Greater attention might have been given to securing changes in national legislation governing the transfer and ownership of land and rights governing compensation for those losing access to land held under customary tenure arrangements. Greater attention might also have been given to securing 'buy in' at higher management levels to the different ways of doing business that the project was being designed to achieve. With hindsight, the delinking of the Coal Sector Reform Project from the CSESMP created structural impediments to successful implementation that the supervision team had to grapple with throughout implementation.

During preparation and appraisal, the Bank did take into account for the project design the major relevant aspects such as technical, financial, economic, institutional issues relating to procurement and financial management, environmental, and consistency with the Bank's safeguard policies, but it overestimated the ability of CIL and its subsidiaries to build meaningful participatory processes that responded to the needs of diverse population groups and communities. During appraisal, the Bank also assessed the project's risks and benefits. Project design might have been strengthened by a comprehensive institutional assessment to identify measures to enhance CIL's environmental and social capacity, greater attention to issues surrounding rights to customary land, closer attention to the issue of long-term leases in houseplots in resettlement sites, the introduction of other economic rehabilitation options besides that of self-employment, and a detailed description of the selected economic rehabilitation measures.

Consultation and participation with a wide variety of stakeholders under the project for both social and environmental mitigation activities was a continuous process, and improved over time. During the preparation phase consultations were limited and much was left to be worked out during the implementation phase. With hindsight more attention might have been given to ensuring that the instruments for ensuring stakeholder involvement were in place prior to implementation. There was some debate within the Bank about the need to advance project preparation quickly and the amount of time required to undertake meaningful consultations. The participation of stakeholders in decision making processes was novel and experimental, both for the Bank and CIL at that time. Arrangements for ensuring greater involvement by stakeholders was a theme emphasised by all Bank supervision missions to ensure that benefits reached PAPs and that their interests were taken into account. At the beginning of implementation, in March 1995, a two day workshop was held in Kolkata, on 'Income Restoration and Self Employment Alternatives' which included representatives from the project affected people. In addition, a number of state government officials and a total of 41 NGOs participated. Subsequent workshops were organized at the subsidiary level involving representatives from both the PAPs and NGOs. One of the outcomes of these consultations was that PAPs were able to choose their plot in the resettlement site and the self-employment training

option which appealed to them.

## *7.2 Supervision:*

*Satisfactory.* The Bank's performance during the implementation of the project was satisfactory. Over the six years of project implementation, there were 26 supervision missions, with an average of more than four missions per year. The Bank-Client relationship was cordial and productive. Supervision teams included specialists in social development, environment, mining engineering, soil mechanics, financial analysis, resettlement and rehabilitation, energy economics, legal, procurement, and Bank operations.

Bank supervision of project implementation often included provision of technical assistance to the client. Aide-Memoires were presented and discussed at the end of each mission at CIL headquarters in Kolkata, and in Delhi at MoC and DEA. This alerted both CIL and the government to problems with project execution and suggested remedies in a timely manner. The Form 590s and PSRs provided a realistic rating of the performance of the project both in terms of achievement of development objectives and project implementation. The project supervision strived for a realistic assessment of the problems faced by the project, and tried to facilitate solutions that promoted improved implementation, achievement of project outcomes, and compliance with Bank policies. Whenever delays in implementation occurred, the Bank assisted the client in defining concrete steps and a timetable for putting the program back on track. External consultants were used for specific aspects of certain project components (see Section 4.2).

Over the life of the project, the Bank allocated sufficient resources to undertake the intense supervision required by the scale and complexity of the project's physical and institutional activities. The resources allocated for project supervision were considerably above the average for the South Asia Region. To ensure the autonomy of CSESMP supervision in relation to the CSR, which was managed by the Energy Unit, the Bank placed the responsibility for task management and the associated supervision budget with the Social Development Unit. There was continuity in membership of the supervision missions over the implementation period and the team displayed considerable professionalism and dedication to the achievement of success under complex and evolving circumstances.

As described above in the sub-section on Monitoring under Section 4.2(A), from April 1997 till project closure a Project Implementation Supervision and Monitoring Consultant supplemented the supervision by the Bank team. In addition, A Social and Environmental Review Panel comprising Indian and international experts provided an independent assessment of CIL's policies and performance regarding environmental and social mitigation.

In response to the Inspection Panel investigation and to complete activities identified during the ICR mission, the Bank has committed to continue monitoring of the project until at least June 2004. The latest supervision mission took place in November 2003. A further supervision mission is planned for early June 2004.

## *7.3 Overall Bank performance:*

*Unsatisfactory.* Bank performance for Quality of Entry and for Development Outcomes is rated unsatisfactory. Quality of supervision has been rated satisfactory. Overall Bank performance is rated unsatisfactory.

## *Borrower*

#### *7.4 Preparation:*

*Unsatisfactory.* Coal India's performance in the preparation of the project was satisfactory in terms of its practical support for project preparation. However, Coal India did not display an adequate level of commitment to the objectives of the project, as evidenced by reluctance to include in CIL's R&R Policy a description in sufficient detail of economic rehabilitation measures, which could provide a clear guide to effective income restoration during implementation.

#### *7.5 Government implementation performance:*

*Unsatisfactory.* The government did not provide enough support for the success of the project. It did not effect a solution regarding the commitments made during the CSR negotiations to provide long term leases for house plots in resettlement sites and compensation for land held under customary tenure. Nor did the government effect a solution to a commitment made during project implementation to establish security of tenure for the PAPs involved in the land based income generation pilot on reclaimed and unused mine land.

#### *7.6 Implementing Agency:*

*Unsatisfactory.* CIL's performance has been lacking in several respects. (a) The staffing of the WBPD has been inadequate to provide the required supervision and guidance of social mitigation implementation at the subsidiary and mine level, maintain and use the PAP database for monitoring and planning of economic rehabilitation, and review consultant reports as well as the annual RAPs and IPDPs. (b) The establishment of the environmental and social cadres was not followed up, during project implementation, by measures to mainstream these throughout the company. At the same time, an alternative institutional framework that will ensure the retention of the capacity and lessons learned during the project did not exist at the end of the project period. Subsequent steps to develop an Environment cadre have gone some way to addressing environmental concerns. (c) Implementation of both environmental mitigation activities (e.g. workshop and mine effluent treatment plants, sewage treatment plants, and OB dump reclamation) and social mitigation activities related to resettlement and rehabilitation have suffered significant delays, as did procurement and disbursement. (d) Implementation of economic rehabilitation has been uneven across project mines, falling short of the letter and spirit of CIL's R&R Policy. Agreements reached between CIL and the Bank during implementation to strengthen economic rehabilitation measures have not been consistently executed. With the cancellation of the main investment project the Bank lost some leverage in persuading CIL to take concerted action or improve its implementation (e) The continuation of the social mitigation policies is problematical as indicated by the abandoning by project closure of the IPDP approach, and the failure to develop RAPs to deal with resettlement and rehabilitation beyond the project period in the 14 project mines with land acquisition.

#### *7.7 Overall Borrower performance:*

*Unsatisfactory.* The overall performance of Coal India Limited was unsatisfactory.

### **8. Lessons Learned**

- The achievement of sustainable change in an organization with limited commitment and the size and complexity of Coal India Ltd. cannot be expected within the standard project period of five years. At the project design stage both the Bank and CIL were looking forward to a long term relationship and did not anticipate the eventual cancellation of the main investment loan for the Coal Sector Rehabilitation Project (CSR). While the different subsidiaries agreed to the provisions outlined in schedule 9 of the Loan Agreement, the independence of the different subsidiaries mitigated against the

development of a strong central authority to implement and supervise changes. In future agreements should be made directly with the implementing agencies, not simply with their parent holding companies.

- Mitigation activities that are implemented to establish compliance with national laws, and which are monitored by state agencies (such as those relating to environmental mitigation) have a higher likelihood of success than mitigation activities that are not subject to similar compliance requirements. The Bank should be actively involved in improving the policy framework in key borrower countries.
- The planning and targets for organizational change need to be informed by a comprehensive and realistic institutional assessment undertaken as part of project preparation, which includes analysis of decision making (on planning, staffing, and release of funds), flows of information, incentives, and staff promotion criteria and avenues. A more deliberate phasing of activities and more systematic learning from those activities as the project progresses should be built into project design.
- Issues requiring decisions by ministries other than those responsible for project implementation (e.g. the Law Ministry regarding decisions on security of tenure for plots in resettlement sites and mine land allocated for land based income generation) should be made conditions of appraisal, and not left to be resolved during project implementation.
- Safeguard policy frameworks agreed with the borrower need to be specific and detailed on the obligations of the Borrower regarding assistance and entitlements. Determination of Borrower obligations cannot be left to decisions during project implementation. Thus, CIL's R&R Policy would have benefited from more detailed description of the entitlements of PAPs for self-employment (i.e. effective self-employment assistance cannot consist only of skills training, but need to include investment assistance, and assistance to establish market linkages).
- Effective income restoration for PAPs with a background as small farmers or landless laborers cannot be achieved by using as the primary instrument, assistance for self-employment as artisans, small businessmen and other non-land based activities. In the case of the CSESMP, other instruments (besides the provision of mine jobs to land losers above a certain threshold) were required, and the success of the piloting of land based income generation on unused and reclaimed mine land provides one model for an alternative instrument. The resettlement policy framework should offer as many options for income restoration as are feasible in a given context.
- Alternative resettlement options, which provided PAPs with a choice between a plot in a resettlement site and a cash grant enabling resettlement in a location selected by the PAPs, were introduced during project implementation, and have had a positive impact on overcoming PAP resistance to resettlement. Such options should be part of the entitlements provided by a Resettlement Policy Framework at project design and should include as many options for income restoration as are feasible in a given context.
- Community development activities such as the IPDPs need to incorporate a clear time-bound exit strategy for external support, which enables an assessment of the performance of organizational arrangements to promote sustainability (e.g. collection of funds for maintenance of joint assets, management of joint assets by village working groups or transfer of assets to Panchayats, viability of self-help groups) at a stage, which still leaves time during the project period for follow-up actions where problems exist.

- Effective improvement of air quality in a context with several polluting actors cannot be achieved solely by dust suppression measures implemented by the CIL mines, but will require a coordinated effort involving the Thermal Power Stations, local industries, non-CIL mines, together with proper road maintenance by the relevant state authorities.
- Clearer parameters at the outset for commissioned studies might have resulted in fewer delays in procurement, particularly for the effluent treatment study and the overburden dump study the results of which were initially rejected by respectively Coal India Ltd. and the Bank.
- The separation of environmental and social issues from the main investment loan reduced the leverage that the Bank was able to exert over CIL to take action to change policy or improve implementation, particularly following the cancellation of the main investment loan. In future, managing the safeguard risks of an investment should not be separated from the investments causing those risks; agreements should be made directly with the implementing agencies, not simply their parent holding companies.
- The development of an environmental awareness and of an environmental cadre in Coal India Ltd., was easier than the development of a social cadre. Attention to social issues requires a gradual evolutionary approach aligned more generally to shifts in overall institutional culture and future operations might wish to combine general training and capacity development in social issues for all senior management with the development of a particular cadre. Care should be taken to ensure that such a cadre is offered the same sorts of career opportunities as others in the company.
- For future operations of this nature, the use of an external monitoring and review panel should be factored into investment lending. This should be an integral part of country-wide safeguard capacity building and reflected in general policies and principles dealing with extractive industries.
- Project implementation units need to be strengthened, in particular with regard to skills required for the implementation of environmental and social action programs; Project Affected People (PAPs) must be informed about a project as soon as it is contemplated. Staff trained in community relations need to keep the affected people fully informed about a project and ensure full participation of all socio-economic strata of affected communities; if resettlement is involved, the process of consultation with regard to rehabilitation options and the choice of resettlement sites needs to be substantially completed before start-up of a project; and environmental management needs to be built into the design of the coal mine (e.g. plans for backfilling of overburden and reclamation of land).

## **9. Partner Comments**

### *(a) Borrower/implementing agency:*

#### *Coal India's comments*

*(i) Assessment of the Borrower:* Coal India, through implementation of CSESMP, was able to create an organization in a structured manner, capable of taking up mitigation measures of the environmental and social impacts arising out of coal mining activities. It is now in a position to implement the environmental laws of the country in a better manner. The R&R issues are also being taken care of in a better manner. Monitoring of environmental parameters in a standardized manner has been extended to the mines beyond CSESMP project mines. Based on the experience in the CSESMP mines, CIL is now in a better position to extend similar activities to other mines. Overall supervision of implementation and monitoring of environmental and social activities has also improved.

(ii) *Operational Experience:* Overall implementation progress was initially slow and uneven and CIL's commitment remained problematic especially with regard to key areas of economic rehabilitation of PAPs, and institutional reform to enhance CIL's environmental and social management capabilities due to lack of experience in the field of social management. Procedural delay in engaging facilitating NGOs also contributed to slow progress of the project at the initial stage. Significant progress throughout 25 project mines began only in the first half of 2000. Since then, CIL has demonstrated increasing commitment regarding both environmental and social mitigation and there was noticeable implementation progress thereafter.

Ranking the old external OB dumps, on the basis of hazard and risk involved and then formulating reclamation action plans for their safety and stability on a large scale, has been a new experience for Coal India.

While implementing the RAPs, in connection with resettlement and economic rehabilitation issues of the PAPs, Coal India encountered a lot of rough weather in the beginning. It was a unique experience to identify training trades for the PAPs, who are basically tribal and/or depend solely on agriculture. Further, organizing self-employment schemes for the PAPs was also a difficult task in the beginning. The on-going land based income generating scheme taken up by Coal India in SECL on a pilot basis is a novel idea for economic rehabilitation of the PAPs, who are primarily familiar with agriculture.

Similarly, although Coal India has experience in doing Community Development activities, IPDP in the form it has been included in the CSESMP, is a new experience. The response from the villagers and facilitation by the NGOs equipped Coal India with a unique experience. Implementation of IPDPs has caused less interruption of the mining activities by the people around than normally experienced.

(iii) *Project sustainability:* The project was implemented successfully. The sustainability of the system installed can be assessed from a number of observations:

- *Social:* The processes associated with the involvement of local communities were new and untested for both CIL and the Bank. Therefore it took substantial time in the start up. But subsequently, with the regular interaction with the local communities, it has taken proper shape. The IPDP activities taken up in the villages are being pursued by the village working groups and the self-help groups in the IPDP villages even after the closure of the CSESMP. This concept is being extended to other mines of WCL. RAPs are being prepared for the new mines in compliance of the R&R policy of the company. Facilitating NGOs are being engaged in subsidiaries for mitigation measures.
- *Environment:* Environmental monitoring is undertaken in a standardized manner with regard to the parameters, frequency of monitoring, and methods of testing in all the mines of Coal India. The dust suppression arrangements made and effluent treatment plants commissioned in the mines are working satisfactorily, and are being replicated in other mines beyond the ESMP project mines. The environmental management division set in the company is functioning to carry on the systems established during CSESMP. The three year action plan for institutional strengthening of Coal India is proving successful in enhancing its strength through training, implementing the Environment Management System (EMS) of ISO 14001, and installation of geographical information systems.

(iv) *Lessons Learned:*

1. Resettlement and rehabilitation of the PAPs has to be done keeping in view the customs, habits and culture of the people. The resettlement sites need to be identified with participation of the PAPs. It has been found that PAPs are more interested in getting the lump sum monetary compensation payment in lieu of plots in the resettlement sites.
2. It is necessary to have a permanent strength of personnel to deal with the environmental and social mitigation measures. For inducing people to remain in this category of activities, some attraction is required to be generated in the form of career development.
3. Technical assistance greatly helped in formulating the action plans, particularly the involvement of a soil technologist in the area of OB dump reclamation, and of NGOs in case of implementation of RAPs and IPDPs.
4. Transparency regarding the mining project construction to the PAPs is very much necessary for getting full cooperation for physical acquisition of legally acquired land.
5. The PAPs dealt with in the project were mainly agricultural workers and mostly tribal. To train them in other trades and then develop entrepreneurship to make them capable of self-earning was a tough job, particularly when they always dream of a comparatively high salaried mine job. Thus, it was not possible to address the vast and complicated issues on social mitigation with complete success in the 25 geographically scattered open cast coal mines in such a short effective *project* period of three years time. However, it was a very good objective which was started in a planned manner.
6. While organizing training for the PAPs on skill development, the trainee PAPs should be prioritized, so that only people interested in potential self employment are trained and not the people who are interested only for the stipend during the training days.
7. Success of self-employment schemes highly depends on arranging seed money for the people from banks, government schemes, etc.
8. Land based income generation schemes for the PAPs has huge scope in use of the reclaimed mine lands and utilization of the effluent from the sewage treatment plants for irrigation.
9. Community driven development program under IPDP is very useful and its sustainability depends on handing over the assets for operation and maintenance under proper supervision of the Panchayats.
10. Certain aspects like mine closure planning, and Social Impact Assessment should be properly built in the Environment Management Plan itself, including the cost estimate.
11. Creation of external OB dumps should be restricted to minimum as far as possible, and only during initial phase of box cutting in the opencast mines. Then onwards, only back filling of over burden should be practiced for concurrent land reclamation. A thought is required to be given in the EMP regarding the land use plan of the reclaimed land with further improvement for land based income generation activities.

*(v) Evaluation of the Bank:* The Bank rendered highly professional and competent advice and assistance from time to time in implementation of the project. The Bank missions visited all the project mines in the subsidiaries adequate number of times to review the progress of implementation and gave necessary advice to address the weak areas. During each visit, the World Bank officials held detailed discussions with the consultants and the staff at corporate, area and project mine levels. Their suggestions and guidance during deliberation on mitigation of the environmental and specially the complex issues on social aspect helped the project achieve the objective largely. Assistance of the Bank in helping Coal India to develop an organizational set up for environmental and social mitigation, and firming up different policies, and thus enhancing the capability of the company in dealing with the management of environmental and social issues, is highly appreciated.

The frequency of the Bank's supervision mission visit was quite high (average four per year). Beside Bank mission visit there were visits of (i) Supervision and Monitoring consultant and (ii) Social and Environment review panel. High frequency of such visits affects the normal progress of activities, as gestation time for implementation as per supervision advice is very less.

At times the approach of the Bank was bureaucratic in nature, lacking proper appreciation of the ground realities. The difficulty in achieving the targeted income restoration figure on the background of Indian culture and habits needs to be understood and appreciated in a comprehensive manner.

*(b) Cofinanciers:*

*(c) Other partners (NGOs/private sector):*

## **10. Additional Information**

### ***A. Coal India obligations beyond the project closing date***

Not all CIL's commitments under the project were completed by project closure, and completion of these remaining activities beyond the project closing date constitutes an obligation on the part of Coal India Ltd. The remaining activities are listed as follows:

- Complete economic rehabilitation activities to achieve income restoration for project affected persons (PAPs) found to have suffered an income decline;
- Complete delivery of compensation and relocation entitlements to all PAPs resettled under the project;
- Settle claims regarding land under customary tenure in Parej East mine, CCL;
- Finalize the PAP database as an instrument for analysis of income restoration;
- Provide PAPs in resettlement sites with long term leases to their house plots;
- Complete implementation of the Institutional Strengthening Action Plan.

While the list above identifies these obligations, a final determination of the precise requirements for completion of particular activities (e.g. economic rehabilitation, and delivery of resettlement entitlements) is dependent on additional information. Subsequent supervision efforts following the closure of the project and Management's response to the Inspection Panel Report are aimed at ensuring the delivery of these commitments

### ***B. ICR Team:***

Asger Christensen (Task Team Leader)  
Mohammad Hasan (Senior Social Development Specialist)  
Samanta Forusz (Social Development Specialist)  
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### ***C. Endnotes***

1. These policies are the Resettlement and Rehabilitation Policy of Coal India, Coal India's Community Development Plan (for planning and implementation of Indigenous Peoples Development Plans), and Coal India's Corporate Environmental Policy.
2. Northern Coalfields Ltd (NCL) in Madhya Pradesh and Uttar Pradesh, Mahanadi Coalfields Ltd (MCL) in Orissa, Western Coalfields Ltd (WCL) in Maharashtra, Southeastern Coalfields Ltd (SECL) in Chattisgarh, and Central Coalfields Ltd (CCL) in Jharkhand.
3. The three mines were Dudhichua Coal Project in NCL, Jharia Coking Coal Project in Bharat Coking Coal Ltd, and the Coal Mining Quality Improvement Project which included Gevra mine in SECL.
4. CIL's Community Development Plan.
5. The study concluded that there was no significant impact on the ground water table by coal mining in NCL.

6. The Review Panel has submitted four reports as follows: (1) October/November 1997; (2) June/July 1998; (3) May and August 1999, and (4) May 2000
7. This grant is calculated as the average value of the resettlement plot, the resettlement site infrastructure, plus the transition allowance (comprising a 'shifting allowance' of Rs. 2,000 and a 'lump sum grant' of Rs. 5,000).
8. CCL has no plan in place as a follow-up to the annual RAPs used during the project period regarding the resettlement envisaged by March 2003
9. The threshold is two acres of irrigated land or three acres of non-irrigated land.
10. The SAR figure was 10,214. The current figure represents the total number of PAPs entitled for income restoration assistance, minus those that have died since the 1997 PAP census (276)
11. SAR, Annex 2.4: Resettlement and Rehabilitation Policy of Coal India, p 59, para 2.
12. Excludes EPAPs who have died or migrated.13. Reported income was considered any amount which is equal to or greater than zero.14. After adjusting for Inflation.
15. All figures have been adjusted for inflation.
16. All figures have been adjusted for inflation.
17. The committee consisted of the CMDs of SECL, MCL and NCL with the CGM, CSESMP as member secretary.
18. Thus, monitoring data from the period between October 2000 to April 2001 show excess dust levels in 30 colonies and villages in 11 mines, data from October to December 2001 show 15 habitations with excess levels in 8 mines, and data from May to July 2002 show excess levels in 21 habitations in 11 mines. The problem of excessive dust levels is found most consistently in all the three project mines in CCL, and in some MCL and WCL mines.
19. *Ghair Mazurwa Khas* (GMK) land was previously held by large landowners (zamindars), but was after independence either transferred to the cultivators or to the state.
20. A total of 25 environmental auditors, 100 environmental officers, and 75 social mitigation officers (resettlement and rehabilitation) will be trained under the TA. Manuals and training modules will be developed for (i) Environmental management (ii) land acquisition and resettlement, (iii) mine planning; (iv) mine closure, (v) social impact assessments, (vi) Geographical Information System, and (vii) environmental performance auditing and evaluation. It has been agreed between CIL and the Bank, that the components of the TA implemented before the project closing date would be funded under the CSESMP Credit, and TA activities extending beyond the closing date by CIL.
21. NCL has obtained an ISO 14001 certification on environmental management, and its environmental mitigation activities are being monitored by the State Pollution Control Board.
22. WCL has created an environmental cell at the subsidiary headquarters to coordinate and monitor planning of environmental mitigation activities in all mines under the subsidiary. A budget is allocated for environmental mitigation, and a handbook on environmental management has been prepared. WCL is also seeking an ISO 14001 certification for the Padmapur and Durgapur mines.

## Annex 1. Key Performance Indicators/Log Frame Matrix

### Outcome / Impact Indicators:

Indicator/Matrix	Projected in last PSR <sup>1</sup>	Actual/Latest Estimate
(a) Adoption of corporate policy in CIL for environmental and social aspects.	Continuation of policies in project mines and replication in non-project mines	Environmental Policy likely to be continued in both project and non-project mines. Community Development Plan (= IPDP Policy) will be discontinued. Plans to apply the R&R Policy in 7 new non-project mines, but not in project mines.
Creation of separate environmental and CD/R&R and environmental cadres in CIL.	Fully staffed and mainstreamed environmental and social mitigation cadres	Only the Environment cadre has been established as a corporate entity, the number of posts at different grade levels are not defined or fully staffed, and career prospects within the cadres remain uncertain.
Training of mines managers and CD/R&R staff	Mine, subsidiary, and HQ level staff fully trained in regarding CIL policies, income restoration, participation, and computerized information management (PAP database)	Despite repeated training, limited capacity at mine and subsidiary levels, and absence of capacity at HQ level to manage social dimensions of CIL's Inst. Strengthening Action Plan and provide guidance to field staff.
Villages participating in IPDPs	Revised target of 172 villages and hamlets (merging of hamlets for planning and implementation purposes).	172 villages and hamlets assisted
PAPs incomes restored	Improvement or at least restoration of pre-project incomes for PAPs	Analysis of income restoration status ongoing
Installation of dust suppression system.	Dust levels within permissible limits in all 25 project mines	Revised dust suppression plan implemented, but dust levels still excessive in 21 habitations in 11 mines
Construction of catch and garland drains, drains to catch mine water, and settling ponds.	Completed as part of mine and integrated effluent treatment plants	100%
Construction of sewage treatment plants	21 operational sewage treatment plants	100% completion between Sept. 2000 and March 2001
Reshaping overburden dumps for stability and safety.	Completion of civil works and plantation activities by 03/31/2001	Civil works and plantation activities on 75 OB dumps completed by 06/30/2002
Tree plantation for noise and dust suppression.	2.68 million trees planted	100%
Vegetation of overburden dumps and mined-out areas.	Plantation on 75 OB dumps scheduled for reclamation	Plantation undertaken on 75 reclaimed OB dumps of 2.6 million trees
Consultation with representatives of project-affected people, local communities and NGOs		Continued consultation with project affected people by CD/R&R officers on regular basis. No longer systematized as in processes for annual RAPs and IPDPs. Consultations with local and international NGOs on issues raised by these.
Implementation of RAPs and IPDPs.	IPDPs implemented in 172 target villages in 25 mines. RAPs implemented in 14 mines ensuring provision of resettlement entitlements and assistance for income restoration.	IPDPs implemented in 172 target villages. RAP implementation requires verification on provision of resettlement entitlements and outcome of income restoration
(i) Verification of the list of project-affected people.	Continued updating of list of entitled PAPs in PAP database	Updating of list of entitled PAPs in PAP database (March 02: 9,938
(j) Photo ID cards issued in 14 mines.	All interested entitled PAPs	ID cards issued to 8,376 PAPs
Development of income-restoration strategy	Self-employment assistance delivered as a package comprising training and assistance for investments and market linkages. Land based income generation tested as supplementary instrument in 5 mines	Uneven delivery of assistance for self-employment as integrated package. Land based income generation piloted in one mine

Training and support for income restoration.	Effective self-employment assistance provided as a package to interested PAPs who are not entitled to a mine job	At project closure, of 9,938 entitled PAPs, 2,693 PAPs received mine jobs, 450 have jobs with contractors, and 1,006 have incomes deriving from self-employment assistance
Development of community infrastructure	172 villages and hamlets provided with IPDP assistance including community infrastructure	829 community infrastructure activities completed (average of 4.8 activities per IPDP village)
(k) Carrying out of information campaign in 25 mines.		

**Output Indicators:**

<b>Indicator/Matrix</b>	<b>Projected in last PSR<sup>1</sup></b>	<b>Actual/Latest Estimate</b>
Installation of dust suppression system.	100%	100%
Construction of sewage treatment plants (STP)	100% completion of 21 STPs	100% completion of 21 STPs
Reshaping overburden dumps for stability and safety.	100% completion of civil works and plantation activities on 75 OB dumps	100% completion of civil works and plantation activities on 75 OB dumps
Tree plantation for noise and dust suppression.	2.68 million trees planted	100%
Vegetation of overburden dumps and mined out areas	Plantation of 2.6 million trees on 75 OB dumps	100%
Consultation with representatives of project affected people, local communities and NGOs		Conducted with PAPs for annual RAPs and IPDPs, and with NGOs on issues raised by these

<sup>1</sup> End of project

## Annex 2. Project Costs and Financing

### Project Cost by Component (in US\$ million equivalent)

Component	Appraisal Estimate US\$ million	Actual/Latest Estimate US\$ million	Percentage of Appraisal
Land	2.70	0.22	8.21
Civil Works	41.70	35.63	85.45
Equipment, Materials and Vehicles	13.00	9.64	74.16
Technical Assistance	6.60	4.43	67.1
Miscellaneous	9.60	2.58	26.91
<b>Total Baseline Cost</b>	73.60	52.50	
<b>Physical Contingencies</b>	6.80		
<b>Price Contingencies</b>	3.60		
<b>Total Project Costs</b>	84.00	52.50	
<b>Total Financing Required</b>	84.00	52.50	

### Project Costs by Procurement Arrangements (Appraisal Estimate) (US\$ million equivalent)

Expenditure Category	ICB	Procurement Method <sup>1</sup>		N.B.F.	Total Cost
		NCB	Other <sup>2</sup>		
<b>1. Works</b>	0.00 (0.00)	47.23 (42.48)	1.40 (1.12)	2.94 (0.00)	51.57 (43.60)
<b>2. Goods</b>	10.12 (8.02)	4.42 (3.50)	0.33 (0.27)	0.00 (0.00)	14.87 (11.79)
<b>3. Services</b>	0.00 (0.00)	0.00 (0.00)	7.34 (7.34)	0.00 (0.00)	7.34 (7.34)
<b>4. Miscellaneous</b>	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	9.95 (0.00)	9.95 (0.00)
<b>5. Miscellaneous</b>	0.00 (0.00)	0.00 (0.00)	0.27 (0.27)	0.00 (0.00)	0.27 (0.27)
<b>6. Miscellaneous</b>	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)
<b>Total</b>	10.12 (8.02)	51.65 (45.98)	9.34 (9.00)	12.89 (0.00)	84.00 (63.00)

### Project Costs by Procurement Arrangements (Actual/Latest Estimate) (US\$ million equivalent)

Expenditure Category	ICB	Procurement Method <sup>1</sup>		N.B.F.	Total Cost
		NCB	Other <sup>2</sup>		
<b>1. Works</b>	0.00 (0.00)	23.39 (20.86)	11.02 (7.26)	1.21 (0.00)	35.62 (28.12)
<b>2. Goods</b>	6.85 (5.60)	1.88 (1.75)	0.00 (0.00)	0.95 (0.00)	9.68 (7.34)
<b>3. Services</b>	0.82 (0.00)	2.67 (1.03)	0.00 (0.00)	0.93 (0.00)	4.42 (1.03)

<b>4. Miscellaneous</b>	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	2.78 (2.78)	2.78 (2.78)
<b>5. Miscellaneous</b>	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)
<b>6. Miscellaneous</b>	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)
<b>Total</b>	7.67 (5.60)	27.94 (23.64)	11.02 (7.26)	5.87 (2.78)	52.50 (39.27)

<sup>1/</sup> Figures in parenthesis are the amounts to be financed by the Bank Loan. All costs include contingencies.

<sup>2/</sup> Includes civil works and goods to be procured through national shopping, consulting services, services of contracted staff of the project management office, training, technical assistance services, and incremental operating costs related to (i) managing the project, and (ii) re-lending project funds to local government units.

#### Project Financing by Component (in US\$ million equivalent)

Component	Appraisal Estimate			Actual/Latest Estimate			Percentage of Appraisal		
	Bank	Govt.	CoF.	Bank	Govt.	CoF.	Bank	Govt.	CoF.
<b>Land</b>		2.94			0.22			7.5	
<b>Civil Works</b>	43.60			28.12	7.53		64.5		
<b>Equipment &amp; Materials</b>	11.52			7.51	1.81		65.2		
<b>Vehicles</b>	0.27			0.28	0.04		103.7		
<b>Technical Assistance:</b>	6.60			3.36	1.07		50.9		
<b>Miscellaneous:</b>		9.60			2.58			26.9	

### Annex 3. Economic Costs and Benefits

**Economic and Financial Analysis of CSRP**  
Present value of flows (USD million)

	Economic Analysis		Financial Analysis	
	Appraisal	Latest	Appraisal	Latest
Total (For 23 projects)		Estimates		Estimates
Cost (PV)	1,129.97	658.27	1351.57	712.19
Benefit (PV)	2,692.18	1,252.73	2,260.54	1,109.48
Net Benefit (NVP)	1,562.21	593.46	908.97	397.28
Internal Rate of Return (IRR)			57.61%	55.57%

Source: Coal India Limited

**Economic and Financial Analysis of  
Coal Sector Rehabilitation Project ( 24 Sub Projects)**  
(US\$ million)

Company/mine	Economic Analysis		Financial Analysis	
	Appraisal NPV at 16%	Latest Estimates NPV at 16%	Appraisal NPV at 16%	Latest Estimates NPV at 16%
<b>CCL</b>				
KD Hesalong	87.7	n/a	36.2	n/a
Parej East	65.58	19.10	32.6	6.24
Rajrappa	116.05	6.72	81.2	1.26
<b>MCL</b>				
Ananta	64.2	36.82	49.63	31.72
Belpahar	9.9	3.66	6.94	2.40
Bharatpur	104.6	63.6	80.65	57.65
Jagannath	31.8	10.85	27.05	9.64
Lakhanpur	81.8	23.36	52.04	19.16
Samleswari	41.5	11.45	28.90	8.31
<b>NCL</b>				
Bina	28.1	4.91	7.60	2.35
Dudhichua	166.8	50.41	65.90	7.67
Jayant	102.6	57.41	41.20	22.86
Jhingurda	470.	16.22	23.20	10.77
Nigahi	122.1	25.31	43.40	3.91
<b>SECL</b>				
Dhanpuri	5.70	1.07	2.10	1.31
Dipka	204.70	120.58	107.10	103.21
Gevra	51.70	31.33	34.50	26.16
Kusmunda	70.05	41.72	45.50	31.48
Manikpur	13.80	9.67	8.30	8.06

WCL				
Durgapur	50.20	26.26	44.00	22.22
Niljai	51.20	8.44	34.10	4.36
Padmapur	38.10	8.55	33.60	6.46
Sasti	28.60	9.33	17.10	5.27
Umrer	65.90	6.70	41.80	4.81
<b>Total</b>	<b>1,649.95</b>	<b>593.47</b>	<b>944.97</b>	<b>397.28</b>

Source : Coal India Ltd.

### *Assumptions underlying the financial and economic analysis*

	<i>Financial analysis</i>	<i>Economic analysis</i>
Capital cost	<p><b>SAR</b> The capital cost is based on Coal India's and the mission's estimates of cost components in sub-projects. The capital costs include the investments envisaged in Coal Sector Environmental And Social Mitigation Projects. The cost estimates of equipment are based on the standard price list published by CMPDI every year. This list is a compilation of information based on the latest purchases by Coal India. However, in cases where no such purchases were made, budgeted prices from the suppliers formed the basis of estimates. The base month for the estimate is July 1996. The capital cost of individual sub-projects includes applicable taxes and duties and 10% physical contingency. All costs have been converted to their equivalent in 1996 US dollars.</p> <p><b>ICR</b> The capital costs from the beginning of the project in 1998 till March 2001 are based on actual expenditure incurred. The investment beyond March 2001 is estimated either on the basis of actual contract prices or the current standard price list published by CMPDI. The capital costs also include the investments envisaged in Coal Sector Environmental And Social Mitigation Projects. The estimates of capital cost for individual subproject include applicable taxes and duties. All costs have been converted to their equivalent in 2002 US Dollars.</p>	<p><b>SAR</b> The financial costs were converted to economic costs by netting out duties and taxes, expressing the input content at c.i.f. prices and adjusting local cost components by applying the standard conversion factor of 0.8.</p> <p><b>ICR</b> The financial costs were converted to economic costs by netting out duties and taxes, expressing the input content at c.i.f. prices and adjusting local cost components by applying the standard conversion factor of 0.9.</p>
Operating cost	<p><b>SAR</b> The operating costs are based on Coal India's estimates of the operating costs for each subproject. These have been derived from the schedule of additional coal production, overburden removal, and deployment of the machines and take into account fixed and variable components of unit operating cost. The unit operating cost estimates, i.e. cost/m<sup>3</sup> are comparable with mines of similar nature currently in production in Coal India. For replacement projects, however, the variable cost/incremental operating cost is company specific and are based on actual results of 1995-96. These costs reflect the variable costs per m<sup>3</sup> in opencast mines of Coal India. Interest on working capital is based on historical levels of working capital requirements equivalent to 4 months operating cash expenses.</p> <p><b>ICR</b> The operating costs till 2001 are actual and the unit cost estimates for future years are based on the actual cost prevailing in 2001.</p>	<p><b>SAR</b> The cost was derived from the financial cost by excluding all taxes and duties and a standard conversion factor of 0.8 was applied to the local cost component.</p>
Coal production	<p><b>SAR</b> For mines under construction and expansion mines, the expected increase of coal output was taken as the major benefit from the subprojects. For projects where replacement equipment is proposed to be financed, the likely shortfall in coal output that would occur if equipment were not replaced was taken as the major benefit. The assessment of the shortfall in production was based on the prevailing average annual productivity of each type of equipment in Coal India.</p>	<p><b>SAR</b> For mines under construction and expansion mines, the expected increase of coal output was taken as the major benefit from the subprojects. For projects where replacement equipment is proposed to be financed, the likely shortfall in coal output that would occur if equipment were not replaced was taken as the major benefit. The assessment of the shortfall in production was based on the recent average annual productivity of each type of equipment in Coal India.</p> <p><b>ICR</b></p>

	<p><b>ICR</b> The coal production till 2001 is actual. The estimates of incremental production beyond 2001 are based on the technical assessment of the planned deployment of equipment and the geo-mining characteristics of the mines. The methodology adopted for the assessment of incremental production is the same as the SAR.</p>	<p>The coal production till 2001 is actual. The estimates of incremental production beyond 2001 are based on the technical assessment of the planned deployment of equipment and the geo-mining characteristics of the mines. The methodology adopted for the assessment of incremental production is the same as the SAR.</p>
Coal price	<p><b>SAR</b> Expected revenues are based on ex-mine selling prices authorized as of March 1997 and additional coal production attributable to the investment in the project. Revenues for Nigahi are based on the price negotiated with NTPC.</p> <p><b>ICR</b> Actual selling prices till 2001 have been adopted. The present coal prices have been used in the estimates of cash inflow for each sub project</p>	<p><b>SAR</b> Benefits were calculated on the basis of additional coal production, valued in two ways. First, at c.i.f. import prices of coal at selected Indian ports plus inland freight costs to consumers and adjusted for equivalent heat values, less freight charges for delivery of coal from mine mouth to the same consumers. Second, on the basis of long-run marginal cost, appropriately adjusted for quality, to reflect consumer's willingness to pay. With the exception of two coking coal mines (Parej East and Rajrappa) and one non-coking coal mine (Umrer) producing high grade coal, incremental output of all other mines was valued at prices based on the long run marginal cost (LRMC). The methodology adapted is consistent with the one applied at appraisal.</p> <p><b>ICR</b> Same as above</p>

Source: Coal India Ltd.

## Annex 4. Bank Inputs

(a) Missions:

Stage of Project Cycle	No. of Persons and Specialty (e.g. 2 Economists, 1 FMS, etc.)		Performance Rating		
	Month/Year	Count	Specialty	Implementation Progress	Development Objective
<b>Identification/Preparation</b>					
	02/22/94	4	MISSION LEADER (1); SOCIALSCIENTIST (I); R&R SPECIALIST (2)		
	12/01/94	5	MISSION LEADER (1); R&R SPECIALIST (1); MINING ENGINEER (I); COUNTRY OFFICER (I); FINANCIAL ANALYST (I)		
	06/12/95	3	MISSION LEADER (1); MINING ENGINEER (I); OPERATION ANALYST (I)		
<b>Appraisal/Negotiation</b>					
	11/01/95	4	MISSION LEADER (1); SOCIAL SCIENTIST (1); MINING ENGINEER (I); FINANCIAL ANALYST (I)		
<b>Supervision</b>					
	08/26/96	9	MISSION LEADER (1);MININGENGINEER (I); PROCUREMENT (1); FINANCIALANALYST (I); ENVIRONMENTAL SPECIALIST (1); URBAN RESETTLEMENT SPECIALIST (I); OPRATIONSOFFICER (I); CONSULTANT (2)	S	S
	02/11/1997	6	PROCUREMENT (1); ENVIRONMENTAL SPL. (1); MISSION LEADER (1); NGO SPECIALIST (1); ANTHROPOLOGIST (2)	S	S
	03/19/1997	3	SOCIAL DEV. SPECIALISTS (2) CONSULTANT (I)		
	05/1/1997	3	SOCIAL DEV. SPECIALISTS (1)		
	07/5/1997		ENVIRONMENTAL SPECIALIST (1); ANTHROPOLOGIST (1)		
	10/03/1997	4	PROCUREMENT (1); TASK MANAGER (1); ANTHROPOLOGIST (1);	U	S

			PLANNING (1)		
11/15/1997	8		PLANNING SPECIALIST(1); PROCUREMENT (1); ANTHROPOLOGY (1); PLANNING (1); TRAINING/ENVIRONMENT (1); SOCIAL DEVELOPMENT (1); COMMUNITY DEVELOPMENT (1); URBAN PLANNER (1)		
12/17/1997	8		RECONSTRUCTN./PLANNING (1); PROCUREMENT (1); ANTHROPOLOGY (1); PLANNING (1); TRAINING/ENVIRONMENT (1); SOCIAL DEVELOPMENT (1); COMMUNITY DEVELOPMENT (1); ENVIRONMENT (1)	U	U
02/28/1998	3		TEAM LEADER (1); SOCIAL DEVELOPMENT (1); ENVIRONMENT (1)	U	U
06/07/1998	3		TASK LEADER (1); SOCIAL DEVELOPMENT (1); ENVIRONMENT (1)	U	S
09/25/1998	5		TASK LEADER (1); SOCIAL DEVELOPMENT (2); ENVIRONMENT (1); SOIL SPECIALIST (1)	S	S
12/12/1998	2		SOCIAL DEVELOPMENT (2)	U	U
03/05/1999	5		ANTHROPOLOGIST (1); SOCIAL DEVELOPMENT SPECIALIST (2); (1); ENVIRONMENT (1); OPERATIONS OFFICER (1)		
06/07/1999	3		TASK LEADER (1); ENVIRONMENTALIST (1); SOC. DEV. SPECIALIST (1)	U	S
11/21/1999	8		TASK LEADER (1); ENVIRONMENTALIST (1); OPERATIONS OFFICER (1); SOC. DEVEL. SPECIALIST (2); JBIC REPRESENTATIVE (1); MINING ENGINEER (1); PROCUREMENT SPECIALIST (1)	U	U
01/21/00	2		SOCIAL DEV. SPECIALIST (1) CONSULTANT (1)		

	03/15/2000	8	TASK LEADER (1); OPERATIONS OFFICER (1); SOCIAL DEVEL. OFFICER (1); ENVIRONMENTALIST (1); JBIC CONSULTANT (2); JBIC REPRESENTATIVE (2)	U	U
	06/15/2000	1	OPERATIONS OFFICER (1)	U	U
	11/01/2000	3	TASK LEADER (1); OPERATIONS OFFICER (1); SR. SOCIAL DEVL. SPEC. (1)	S	S
	03/09/2001	2	TASK LEADER (1); SOC. DEVEL. SPECIALIST (1)	S	S
	06/15/2001	4	TASK LEADER (1); OPERATIONS OFFICER (1); SR. SOCIAL SPECIALIST (1); ENVIRONMENTALIST (1)	S	S
	12/06/2001	2	TEAM LEADER (1); SOCIAL DEVELOPMENT SPE (1)	S	U
<b>ICR</b>	02/15/2002	4	TEAM LEADER (1); OPERATIONS OFFICER (1); SR. SOCIAL SCIENTIST (1); CONSULTANT (1)		

(b) Staff:

Stage of Project Cycle	Actual/Latest Estimate	
	No. Staff weeks	US\$ ('000)
Identification/Preparation	19.1	60.5
Appraisal/Negotiation	26.5	104.0
Supervision	401.48	1409.8
ICR	18.0	75.0
Total	465.08	1649.3

## Annex 5. Ratings for Achievement of Objectives/Outputs of Components

(H=High, SU=Substantial, M=Modest, N=Negligible, NA=Not Applicable)

	<u>Rating</u>				
<input checked="" type="checkbox"/> <i>Macro policies</i>	<input type="radio"/> H	<input type="radio"/> SU	<input type="radio"/> M	<input type="radio"/> N	<input checked="" type="radio"/> NA
<input checked="" type="checkbox"/> <i>Sector Policies</i>	<input type="radio"/> H	<input type="radio"/> SU	<input checked="" type="radio"/> M	<input type="radio"/> N	<input type="radio"/> NA
<input checked="" type="checkbox"/> <i>Physical</i>	<input type="radio"/> H	<input checked="" type="radio"/> SU	<input type="radio"/> M	<input type="radio"/> N	<input type="radio"/> NA
<input checked="" type="checkbox"/> <i>Financial</i>	<input type="radio"/> H	<input type="radio"/> SU	<input type="radio"/> M	<input type="radio"/> N	<input checked="" type="radio"/> NA
<input checked="" type="checkbox"/> <i>Institutional Development</i>	<input type="radio"/> H	<input type="radio"/> SU	<input checked="" type="radio"/> M	<input type="radio"/> N	<input type="radio"/> NA
<input checked="" type="checkbox"/> <i>Environmental</i>	<input type="radio"/> H	<input checked="" type="radio"/> SU	<input type="radio"/> M	<input type="radio"/> N	<input type="radio"/> NA

### Social

<input type="checkbox"/> <i>Poverty Reduction</i>	<input type="radio"/> H	<input type="radio"/> SU	<input type="radio"/> M	<input type="radio"/> N	<input checked="" type="radio"/> NA
<input type="checkbox"/> <i>Gender</i>	<input type="radio"/> H	<input type="radio"/> SU	<input type="radio"/> M	<input type="radio"/> N	<input checked="" type="radio"/> NA
<input checked="" type="checkbox"/> <i>Other (Please specify)</i>	<input type="radio"/> H	<input type="radio"/> SU	<input checked="" type="radio"/> M	<input type="radio"/> N	<input type="radio"/> NA
<i>Social Safeguard Policies</i>					
<input type="checkbox"/> <i>Private sector development</i>	<input type="radio"/> H	<input type="radio"/> SU	<input type="radio"/> M	<input type="radio"/> N	<input checked="" type="radio"/> NA
<input type="checkbox"/> <i>Public sector management</i>	<input type="radio"/> H	<input type="radio"/> SU	<input type="radio"/> M	<input type="radio"/> N	<input checked="" type="radio"/> NA
<input type="checkbox"/> <i>Other (Please specify)</i>	<input type="radio"/> H	<input type="radio"/> SU	<input type="radio"/> M	<input type="radio"/> N	<input checked="" type="radio"/> NA

## Annex 6. Ratings of Bank and Borrower Performance

(HS=Highly Satisfactory, S=Satisfactory, U=Unsatisfactory, HU=Highly Unsatisfactory)

### 6.1 Bank performance

#### Rating

- |                                      |                          |                                    |                                    |                          |
|--------------------------------------|--------------------------|------------------------------------|------------------------------------|--------------------------|
| <input type="checkbox"/> Lending     | <input type="radio"/> HS | <input type="radio"/> S            | <input checked="" type="radio"/> U | <input type="radio"/> HU |
| <input type="checkbox"/> Supervision | <input type="radio"/> HS | <input checked="" type="radio"/> S | <input type="radio"/> U            | <input type="radio"/> HU |
| <input type="checkbox"/> Overall     | <input type="radio"/> HS | <input type="radio"/> S            | <input checked="" type="radio"/> U | <input type="radio"/> HU |

### 6.2 Borrower performance

#### Rating

- |  |                          |                         |                                    |                          |
|--|--------------------------|-------------------------|------------------------------------|--------------------------|
| <input type="checkbox"/> Preparation                           | <input type="radio"/> HS | <input type="radio"/> S | <input checked="" type="radio"/> U | <input type="radio"/> HU |
| <input type="checkbox"/> Government implementation performance | <input type="radio"/> HS | <input type="radio"/> S | <input checked="" type="radio"/> U | <input type="radio"/> HU |
| <input type="checkbox"/> Implementation agency performance     | <input type="radio"/> HS | <input type="radio"/> S | <input checked="" type="radio"/> U | <input type="radio"/> HU |
| <input type="checkbox"/> Overall                               | <input type="radio"/> HS | <input type="radio"/> S | <input checked="" type="radio"/> U | <input type="radio"/> HU |

## **Annex 7. List of Supporting Documents**

1. Aide Memoires, Back-to-Office Reports, and Project Status Reports;
2. Project Progress Reports;
3. Consultant Study Reports financed under the Project;
4. Borrower's Evaluation Report dated November 22, 2002; and
5. Staff Appraisal Report for Coal sector Environmental and Social Mitigation Project, dated April 24, 1996 (Report No. 15405-IN)

## **Additional Annex 8. Details of Inspection Panel**

The project came under Inspection Panel investigation following a complaint letter regarding the Parej East mine in CCL from the Chotanagpur Adivasi Sewa Samiti (CASS) dated June 14, 2001. The concerns in the Request for Inspection dealt exclusively with actions carried out under the project. The Request alleged violations of Operational Directives 4.01 on Environmental Assessment, 4.20 on Indigenous Peoples, 4.30 on Involuntary Resettlement, and 13.05 on Project Supervision. The Request also alleged violations of OPN 11.03 on Management of Cultural Property in Bank-Financed Projects, and of BP 17.50 on Disclosure of Operational Information. A response from Bank Management was provided on July 19, 2002, and additional responses on follow-up questions from the Inspection Panel were provided in April and November 2002. The final Inspection Panel report was distributed on December 3, 2002. Management Report and Recommendation in response to the Inspection Panel Investigation Report (No.24000) was distributed on May 6, 2003. The Inspection Panel's Report together with Management's Report and Recommendation were considered by the Executive Directors at a meeting on July 22, 2003. Management proposed to continue supervising the project until June 2004. The supervision effort focuses on economic rehabilitation of PAFs who had suffered a decrease in income, the settlement of claims for PAPs cultivating land under customary tenure, the provision of long term leases for PAP house plots in the resettlement site, and the disbursement of subsistence allowances in Parej East (CCL). (for further details see the Inspection Panel web page: [www.inspectionpanel.org](http://www.inspectionpanel.org)).

## **Additional Annex 9. Borrower's Evaluation Report**

### **Coal India's Comments**

#### **Formulation of policies**

*Environmental Policy:* Based on the experience in environmental management, Coal India felt the need to lay down policy guidelines for attaining a sustainable development. Accordingly an Environmental Policy was formulated in July 1995 to be operative in all the subsidiaries of Coal India. The Environmental Policy was subsequently reviewed during the mid-term review of the ESMP in 1999.

*R&R Policy:* Although a specific policy or law/Act on Social Mitigation and R&R issues is yet to be firmed up at the national level, Coal India with the assistance of World Bank experts prepared a corporate R&R policy after reviewing the existing policy in 1995. The policy has been implemented in the ESMP mines and is in the process of implementation in other mines of the company.

*Community Development Plan:* Even though CIL already had a community development program for the benefit of the people living in the areas where the coal mines are established, in 1995 a more systematic Community Development Policy was formulated. The IPDP was a new introduction in the existing Community Development plan with the aim to bring in an institutional framework and strategy for implementation of activities that would help the communities around the mines to improve their living standards. The villagers were involved in identifying the IPDP activities within the budget allocated, and were also involves in the implementation of the activities and the subsequent operation and maintenance.

*Organizational arrangements:* A World Bank Project Division (WBPD) was established in 1996 at CIL headquarters to ensure implementation of the Bank supported projects. Subsequently, the WBPD was restructured into two separate units to deal with CSRP and ESMP, each unit headed by a Chief General Manager (CGM). In the ESMP unit, the CGM was assisted by one General Manager (Environment), one General Manager (R&R) and other Environmental and CD/R&R Officers at the corporate level. Similarly, at subsidiary level World Bank Project Divisions were also organized with one CGM assisted by GM (Env), GM (R&R) and other environment and R&R officers at corporate, Area and mine levels. CIL introduced in 1999 measures to strengthen the financial powers of the Area and mine management to facilitate timely implementation.

#### **Technical Assistance**

Technical Assistance consisted of several studies, which were used as a basis for the design of environmental and social mitigation activities, such as: (i) environmental monitoring at all project mines, (ii) improvement of air quality at production sites, mine quarters, and surrounding villages; (iii) reduction of noise levels at production sites, mine quarters, and surrounding villages; (iv) improvement of water quality of through establishment of facilities for treatment of effluent from workshops and mines as well as domestic effluents *in* sewage treatment plants; (v) monitoring of drinking water quality at mine quarters and in neighboring villages; and (vi) reclamation of 75 OB dumps, use of top soil to promote the growth of vegetation on reclaimed OB dumps, and plantation of 2.68 million trees and other vegetation including grasses.

#### **RAP Activities**

*Resettlement:* Based on studies on assessment of resettlement & rehabilitation annual RAPs were prepared from 1998 and onwards with the help of the facilitating NGOs for 14 mines with land acquisition. Relocation of land oustees was involved in 11 project mines (1 in NCL, 4 in MCL, 4 in SECL and 2 in CCL). Out of these, resettlement is completed in 7 mines as targeted in SAR. In other four mines namely, Bharatpur, Lakhanpur & Belpahar in MCL and Parej East in CCL, relocation as targeted in SAR was not necessary since the mining did not progress as forecast, and fewer than anticipated had to be relocated. By end of August 2003, 83% of the SAR PAF estimate were relocated, and per the mine expansion plans, 106% of the PAFs were relocated.

*Issuing of ID cards:* Issuing of ID cards with a specification of individual entitlements is complete except for some of the PAPs in MCL who refused to accept the cards due to on-going court cases regarding compensation. Total number of ID cards issued in 14 mines were 8,416 (against the SAR estimated figure of 9,260 and EPAPs verified figure of 10,214) excluding the people out migrated, court cases and resistance to be photographed (due to demand for mine jobs).

*Rehabilitation:* For economic rehabilitation of the EPAPs, a number of rehabilitation efforts were made. Besides providing mine job to around 27% and jobs with contractors to 5% of the EPAPs, self-employment training was given to around 17%. About 58% of the EPAPs trained for self employment have started earning on their own. Some of the remaining EPAPs are either not interested in taking self employment training and start earning on their own (mostly women folks - housewives), or are old and not interested in earning and instead depend on income of other members of the family. It has been experienced that it is a very tough job to develop entrepreneurship in the PAPs and to induce them for self-earning. [lessons learned on this item is given at the end]

*Land based income generation (LBIG):* A pilot project on LBIG was started in SECL in July 2000, where around 60 EPAPs are participating till date. The scheme included training of the EPAPs, formation of Self Help Groups (SHG), making arrangement for water management and irrigation including soil and water conservation activities, use of green manure on OB dump reclaimed land, and construction of a site office. The crops produced were paddy/wheat/vegetables, castor and gram, soybean and medicinal plants. The scheme is proving to be a success in generating earning for the EPAPs. [lessons learned on this item is given at the end]

*IPDP activities:* IPDPs involving community development assistance were undertaken in 24 mines, and comprised villages not affected by land acquisition and located within a one kilometer radius around the mines. The target groups under the IPDPs comprised the population of 172 villages. About a third of the IPDP target group belonged to scheduled tribes who were generally settled in mixed villages among caste Hindus and scheduled caste Hindus. The IPDPs were aimed at the community as a whole with particular emphasis on the poor and women. The IPDPs were prepared with active participation of the VWGs and then reviewed by a Community Development Committee (CDC). The VWGs were being involved as contractors for the civil works that were taken up under IPDPs. This, in fact, enhanced the capacity of the villagers to plan and implement community works and generated income during construction without compromising the construction quality. Besides, this also brought in a sense of ownership of the assets created and help in taking up subsequent O&M of the assets. [lessons learned on this item is given at the end]

*Engagement of facilitating NGOs:* To help implement the RAPs and IPDPs, 10 facilitating NGOs were engaged in all the subprojects to work shoulder to shoulder along with the Coal India officials who did not have much of exposure on the subject. [lessons learned on this item is given at the end]

## **Training**

*Environmental training:* In June 1998, Indian School of Mines (ISM), Dhanbad developed three modules on environmental training, covering 21 programs for providing training to senior management and executive officers. The participants belonged to environmental as well as other cadres. Total 218 officers attended the training, which was completed in July 2000. In the second phase under the capacity building program, training was conducted for 200 executives under the Institutional Strengthening Action Plan (ISAP). The outputs of the contract comprised preparation of manuals, training modules, and training which will continue beyond the project closing date.

*R&R training:* CIL introduced from 1997 a four module training course for its social mitigation staff and for the staff of the facilitating NGOs. The four training modules were (i) R&R and Community Development policies and implementation issues, (ii) income generation for PAPs, (iii) information management, and (iv) participatory management.

*Workshops:* Several workshops were conducted, which included a management retreat to discuss the pros and cons of the project; workshops in all the subsidiaries for inter-area interaction and dissemination of knowledge and experience; and on lessons learnt.

*Engagement of Supervision Consultant and Environmental & Social Review Panel:* A consultant was engaged as Supervision Consultant, for supervising implementation of the project to help support the Bank's supervision missions. In addition, an expatriate Consultant group in collaboration with an Indian counterpart formed a Environment & Social Review Panel to review the total implementation guided by OD 4.30 and OD 4.20 for the social aspects and OD 4.01 for the environmental aspects up to the end of the project.

## **Cross conditionality linkages between ESMP & CSRP**

Under the CSRP agreement, the Bank had included a list of cross-conditionalities between CSRP & CSESMP. All the cross-conditionalities were complied with under CSESMP.

## **Extension of the project closing date**

The project's closing date was extended by one year from June 30, 2001 to June 30, 2002 to enable CIL to progress towards the achievement of project outputs and objectives. During the extended period, the following activities were taken up: (i) implementation of an innovative land based income restoration pilot project at SECL (Dipka OCP); (ii) relocation of the balance PAPs based on land acquired for mine expansion; (iii) implementation of the ISAP; and (iv) completion of the balance activities on OB dump reclamation and dust suppression.

## **Assessment of the Borrower**

Coal India, through implementation of ESMP, was able to create an organization in a structured manner, capable of taking up mitigation measures of the environmental and social impacts arising out of coal mining activities. It is now in a position to implement the environmental laws of the country in a better manner. The R&R issues are also being taken care of in a better manner. Monitoring of environmental parameters in a standardized manner has been extended to the mines beyond ESMP project mines. Based on the experience in the ESMP mines, CIL is now in a better position to extend similar activities to other mines. Overall supervision of implementation and monitoring of environmental and social activities has

also improved.

### **Operational Experience**

Overall implementation progress was initially slow and uneven and CIL's commitment remained problematic especially with regard to key areas of economic rehabilitation of PAPs, and institutional reform to enhance CIL's environmental and social management capabilities due to lack of experience in the field of social management. Procedural delay in engaging facilitating NGOs also contributed to slow progress of the project at the initial stage. Significantly, progress throughout 25 project mines began only in the first half of 2000. Since then CIL has demonstrated increasing commitment regarding both environmental and social mitigation and there was noticeable implementation progress thereafter.

Ranking the old external OB dumps, on the basis of hazard and risk involved in it and then formulating reclamation action plan for their safety and stability in a large scale, has been a new experience for Coal India.

While implementing the RAPs, in connection with resettlement and economic rehabilitation issues of the PAPs, Coal India encountered a lot of rough weather in the beginning. It was a unique experience to identify training trades for the PAPs, who are basically tribal and/or depend solely on agriculture. Further, organizing self-employment schemes for the PAPs was also a difficult task in the beginning. The on-going LBIGS taken up by Coal India in SECL on pilot basis is a novel idea for economic rehabilitation of the PAPs who are familiar with agriculture.

Similarly, although Coal India has experience in doing Community Development activities, IPDP in the form it has been included in ESMP, is a new experience. The response from the villagers and facilitation by the NGOs equipped Coal India with a unique experience. Implementation of IPDPs has caused less interruption of the mining activities by the people around than normally experienced.

### **Project sustainability**

The project was implemented successfully. The sustainability of the system installed can be assessed from a number of observations:

*Social:* The IPDP activities taken up in the villages are being pursued by the VWGs and the SHGs in the IPDP villages even after the closure of ESMP. This concept is being extended to other mines of WCL. RAPs are being prepared for the new mines in compliance of the R&R policy of the company.

*Environment:* Environmental monitoring is undertaken in a standardized manner with regard to the parameters, frequency of monitoring, and methods of testing in all the mines of Coal India. Dust suppression arrangements made and effluent treatment plants commissioned in the mines are working satisfactorily, and are being replicated in other mines beyond the ESMP project mines. The environmental management division set in the company is functioning to carry on the systems established during ESMP. The three year action plan for institutional strengthening of Coal India is proving successful in enhancing its strength through training, implementing the Environment Management System (EMS) of ISO 14001, and installation of GIS.

### **Lessons Learned.**

- Resettlement and rehabilitation of the PAPs has to be done keeping in view the customs, habits and culture of the people. The resettlement sites need to be identified with participation of the PAPs. It has

been found that PAPs are more interested in getting the lump sum monetary compensation payment in lieu of plots in the resettlement sites.

- It is necessary to have a permanent strength of personnel to deal with the environmental and social mitigation measures. For inducing people to remain in this category of activities, some attraction is required to be generated in the form of career development.
- Technical assistance greatly helped in formulating the action plans, particularly the involvement of a soil technologist in the area of OB dump reclamation, and of NGOs in case of implementation of RAPs and IPDPs.
- Transparency regarding the mining project construction to the PAPs is very much necessary for getting full cooperation for physical acquisition of legally acquired land.
- The PAPs dealt with in the project were mainly agricultural workers and mostly tribal. To train them in other trades and then develop entrepreneurship to make them capable of self-earning was a tough job, particularly when they always dream of a comparatively high salaried mine job. Thus it was not possible to address the vast and complicated issues on social mitigation with complete success in the 25 geographically scattered open cast coal mines in such a short effective *project* period of three years time. However, it was a very good objective started in a planned manner.
- While organising training for the PAPs on skill development, the trainee EPAPs should be prioritized, so that only potential self employment interested people are trained and not the people who are interested only for the stipend during the training days.
- Success of self-employment schemes highly depends on arranging seed money for the people from banks, government schemes, etc.
- Land based income generation schemes for the PAPs has huge scope in use of the reclaimed mine lands and utilisation of the effluent from the sewage treatment plants.
- Community driven development program under IPDP is very useful and its sustainability depends on handing over the assets for operation and maintenance under proper supervision of the Panchayats.
- Certain aspects like mine closure planning, and Social Impact Assessment should be properly built in the Environment Management Plan itself, including the cost estimate.
- Creation of external OB dumps should be restricted to minimum as far as possible, and only during initial phase of box cutting in the opencast mines. Then onwards, only back filling of over burden should be practiced for concurrent land reclamation. A thought is required to be given in the EMP regarding the land use plan of the reclaimed land with further improvement for land based income generation activities.

### **Evaluation of the Bank**

The Bank rendered highly professional and competent advice and assistance from time to time in implementation of the project. The Bank missions visited all the project mines in the subsidiaries adequate number of times to review the progress of implementation and gave necessary advice to address the weak areas. During each visit, the World Bank officials held detailed discussions with the consultants and the staff at corporate, area and project mine levels. Their suggestions and guidance during deliberation on mitigation of the environmental and specially the complex issues on social aspect helped the project achieve the objective largely. Assistance of the Bank in helping Coal India to develop an organizational set up for environmental and social mitigation and firming up different policies and thus enhancing the capability of the company in dealing with the management of environmental and social issues is highly appreciated. At times the approach of the Bank was bureaucratic in nature, lacking proper appreciation of the ground realities. The difficulty in achieving the targeted income restoration figure on the back ground of Indian culture and habits needs to be understood and appreciated in a comprehensive manner.

## **Additional Annex 10. Coal Sector Rehabilitation Project (Loan No. 4226-IN)**

*Project Development Objectives:* The main project objectives are to support the market-oriented reforms India is undertaking in the coal sector and, specifically, to provide financial and technical support to Coal India's efforts to make itself commercially viable and self-sustaining. Underpinning India's broad drive to achieve economic growth, the project also aims to increase domestic supplies of coal, by financing investment in the most profitable 24 opencast mines of Coal India, for the power sector and other industries until imports and production from private investments can fill the emerging supply gap.

*Applicable Operational Directives:* All environmental and social mitigation activities were handled under the CSESMP.

*Board Approval:* September 9, 1997;      *Date of Effectiveness:* June 17, 1998  
*Original Closing Date:* June 30, 2003;      *Revised Closing Date:* None  
*Date of Loan Cancellation:* July 25, 2000 for IBRD Loan and  
January 21, 2001 for IDA Credit

<b>Subsidiary</b>	<b>State</b>	<b>Project Mines</b>
Northern Coalfields Ltd.	Uttar Pradesh	5
South-Eastern Coalfields Ltd.	Chhattisgarh	5
Mahanadi Coalfields Ltd.	Orissa	6
Central Coalfields Ltd.	Jharkand	3
Western Coalfields Ltd.	Maharashtra	5

### *Costs and financing:*

The total cost of the project was about US\$649.80 million, compared with the SAR estimate of US\$1.7 billion. Of the Bank Loan amount of US\$530 million, US\$224.40 million was disbursed and an amount of US\$268.70 million was cancelled on July 31, 2000. About US\$37 million remained open for disbursement under special commitments. Out of the Credit amount of US\$2.0 million, US\$1.42 million was disbursed and the remaining US\$0.58 million cancelled on January 25, 2001. JBIC provided co-financing of US\$261.30 million, and CIL contributed US\$125.78 million. This was proportionately less than that planned due to the higher level of local procurement and savings in excise duties, reduced custom tariffs and CIL's disproportionate share of works which were either dropped or deferred.

### *Outcome/achievement of objective:*

The project's physical (investment) objective of increasing CIL coal production through rehabilitation and/or expansion of 24 mine sub-projects was, in aggregate, achieved ahead of schedule. The physical targets for individual sub-projects varied, some well exceeding planned levels of coal production, while others are still building up to full output.

Another outcome of the project was the liberalization of pricing and distribution for all categories of coal in January 2000. Accordingly, CIL has been free to set prices of deregulated coal according to the market forces, and the prices of washed coal (both Coking and Non Coking) are being fixed by the subsidiary companies. Coal is also presently freely imported by anyone under open general license (OGL).

The project facilitated CIL reforming and restructuring its operations to the extent that its subsidiaries

became largely financially independent and autonomous companies, improving their productivity; competing with each other; and fixing their own prices according to market demands. The project also supported CIL's decision to do away with the existing systems of linkage/sponsorship and take a new policy initiative for non-core sector. Subsidiary companies are also authorized to sell their entire quantity of coal and coal products after meeting the requirements of the core sector, to the non-core sector customers. In addition, the project eliminated the automatic cross-subsidization of loss-making activities through Coal Price Regulation Account (CPRA) pricing mechanism between subsidiaries and even collieries as a natural consequence of coal price liberalization.

Owing to unsatisfactory performance on coal sector reform; a reversal of the policy of reducing import duties on coal; the financial deterioration beyond covenanted limits under the CSR; and difficulties with economic rehabilitation and income restoration under the CSESMP, the Bank advised the Ministry of Coal (MOC) and CIL in January 2000 that it was considering applying legal remedies and moving towards suspension in the event that these issues were not addressed. As the issues remained unresolved after extensive discussion, the Bank proposed two options to the government comprising: (i) if GOI could achieve compliance within a reasonable period of time with the covenanted actions under the two projects in the near term, the Bank would suspend the CSR Loan, reinstating it when compliance was achieved; or (ii) if GOI assessed that compliance could not be achieved, they should request cancellation of the balance of the CSR Loan. In July 2000, GOI and CIL requested cancellation of the un-disbursed balance of the Loan and Credit. The reasons and the background for such an outcome are described below:

*Sector Reform.* The amendment of the CMNA was an essential legislative measure to enable the participation of the private sector in the development of new non-captive coal mines and also in any divestment that CIL would undertake as part of the restructuring of its loss-making subsidiaries. GOI in its Supplemental Letter to the CSR Loan Agreement had committed itself to submit the draft amendment to the CMNA to Parliament by December 31, 1997. Despite the Bank's repeated attempts to emphasize the importance of this amendment, there was inordinate delay on the part of the GOI to submit it to the Parliament. The draft was finally submitted to the Parliament in April 2000, and was subsequently referred to the Standing Committee on Industry of Parliament and thereafter to the Standing Committee on Energy. After project closure, the GOI however did continue its efforts to submit the bill to Parliament and was prepared to withstand intense trade union pressure to withdraw the bill and endured a three day general strike in December 2001. Nonetheless, the difficulties in securing these reforms are apparent and further delays can be anticipated.

*Regulatory Framework.* This important policy TA was designed to provide the critical foundation for coal sector reform to encourage the introduction of private sector interests in the coal sector and create enhanced competition between coal producers within India. Although the detailed TOR and its underlying fundamental philosophies were agreed at loan negotiations and reflected in loan and credit agreements as a precursor to continuing Bank support to CIL, GOI showed limited interest in engaging with international/local consultants and played a minor role in the development of its findings and recommendations. The study was completed well behind schedule due to procurement misunderstandings, delays and general lack of cooperation. Even though DOC had agreed to submit a time-bound action plan for the implementation of a new regulatory framework by June 30, 2000, it was never submitted by DOC to the Bank.

*Restructuring of BCCL and ECL.* Despite the initial capital restructuring, CIL failed to take the bold measures needed to restore the financial viability of its loss making subsidiaries, BCCL and ECL in spite of repeated representations by the Bank. These together with CCL have now completely eroded their equity base and have all been referred to the BIFR for restructuring or closure under the

Sick Companies Act of 1985. Despite various plans which remain under consideration by GOI/CIL and a 17% reduction in excess labor since 1998, these companies continue to drain scarce resources from other parts of the group and undermine CIL's ability to sustain its operations.

*Lower than expected demand for coal.* Most of the expected additions to power generation capacity did not materialize due to the slow pace of the power sector reforms, and as a result, demand for coal began to decline. In addition, a slow down in industrial demand combined with the availability of imported Indonesian coal at comparable or cheaper prices than domestic coal, especially in the coastal areas, affected the demand for coal from cement plants and other industrial users. Consequently, the actual demand was only 311.0 million tons in 1996/97 and 354.3 million tons in 2001/02 compared with 332.7 million tons and 513 million tons respectively in the SAR. Likewise, while the SAR estimated the gap in coal supply would be 44.0 million tons in 1996/97 and 128.0 million tons in 2001/02, the actual gap for these years were only 15.9 and 25.46 million tons respectively. In light of these developments, a downward revision of capital requirements due to outsourcing, better maintenance and operating performance, and savings realized on phase A procurements, CIL no longer needed external finance to support the procurement of equipment scheduled for the Phase B of the project.

#### *Outputs by components:*

##### *(A) Investment Component.*

*(Satisfactory).* The objective of increasing coal production at the sub-projects by 13.4 million tones per year to a level of 105.95 in 2002 was achieved by end 2001 with an increased output of 17.85 million tones and a total sub-project production of 112.83 million tones coal. The output of individual CIL subsidiary sub-projects was generally satisfactory (exceeding plan) although the 3 sub-projects at CCL are not expected to meet planned production targets until 2002/3. It is evident that from 1996 – 2001 Coal India (CIL) successfully:

increased production (by 31 million tons per year - 13%);  
reduced employment (by 87,000 workers -14%) and  
increased labor productivity (by 0.5 tons per man shift – 28%).

These are substantial accomplishments and, despite more modest gains in the financial performance, the objectives of the investment component were realized by CIL.

Key consolidated statistics of CIL for the period 1996-2001 are given below:

		Actual	Actual	Actual	Actual	Actual	Actual	SAR
		1996	1997	1998	1999	2000	2001	2001
Production	Mill tons	237.3	250.6	260.6	256.5	260.6	268.1	289.9
Coal Prices	Rs/ton	441	530	588	600	629	652	739
Production Cost	Rs/ton	442	497	545	573	617	726	504
Labor Cost	Rs/ton	211	215	230	239	266	380	245
Profit/(loss)	Rs billion	(14.1)	6.9	14.5	18.0	11.4	6.1	25.2
Employment	# 000's	639	632	620	599	574	552	594
Productivity	OMS	1.8	1.9	1.9	2.0	2.1	2.3	n/a

Capacity Utilization	%	n/a	n/a	91.9	88.3	87.5	85.7	88.3
Capital Expenditure	Rs billion	15.5	13.3	16.3	15.9	28.8	7.6	35.7
Debt	Rs billion	61.6	61.4	55.9	63.6	70.5	63.2	61.1
Equity	Rs billion	49.9	54.2	59.2	64.3	61.4	39.4	117.6
Receivables	months	2.4	2.3	2.6	3.1	3.0	3.3	1.4
<b>Source: CIL Annual Reports</b>								
<i>WB Staff Appraisal Report</i>								

*(B). Technical Assistance and Training Component.*

*(Unsatisfactory).* The project design provided for nine technical assistance/training sub-components (estimated cost US\$14 million) covering policy, institutional development and project implementation. The level and extent of TA/training was substantial by any project standards. Generally speaking, the TOR for individual study programs was developed as a cooperative effort between Bank staff and GOI/CIL and the TA design was to a large extent appropriate. With the loan cancellation coinciding approximately with the conclusion of the TA programs, Bank staff were unable, with the exception of the policy (legal/regulatory) study, to review the implementation of domestic/international consultant findings and recommendations. Consequently, achievements realized by the TA could not be specified with any degree of certainty.

## Additional Annex 11. ESMP Implementation Status

Annex 11a

### CSESMP – Overall Status of Resettlement

Subsidiary & Mine	PAFs to be resettled	PAFs to be resettled as per mine expansion plans by June 30, 02	Resettled by June 30, 2002				Balance (as per target)	Expected date of completion of resettlement
			In Rs(a)	Outside Rs(b)	Cash(c)	Total		
NCL	57	57	57	43	--	57	--	Completed
Jhingurda	57	57	14	43	--	57	--	Completed
MCL	1290	812	188	282	468	938	352	
Jagannath	436	436	14	176	246	436	--	Completed
Bharatpur	308	243	90	8	198	296	12	Mine contingency plans(d)
Lakhanpu	172	133	73	64	24	161	11	Mine contingency plans(d)
Belpahar	374	45	11	34		45	329	Mine contingency plans(d)
SECL	852	852	393		459	852	--	Completed
Gevra	244	244	244	--	--	244	--	Completed
Dipka	575	575	116		459	575	--	Completed
Kusmunda	33	33	33	--	--	33	33	Completed
CCL	342	225	67	15	143	225	117	
KD Hesalong	52	52	50	2	--	52	--	Completed
Parej East(e)	290 (+115)	173	17	13	143 (+57)	173 (+57)	117 (+58)	March '05
Total	2541 (+115)	1946	705	340	1070 (+57)	2072 (+57)	469(f) (+58)	

- (a) Relocated to resettlement site.
- (b) Relocated outside resettlement site and temporarily in mine quarters.
- (c) Relocated to places of own choice with cash grant of Rs. 50,000 in lieu of a plot in a resettlement site and transition allowance.
- (d) For the MCL mines of Jagannath, Bharatpur, Belpahar and Lakhanpur, contingency mine plans were developed in 1998 to cope with possible delays in resettlement of PAPs due to disputes mainly involving PAP demands for additional mine jobs. The contingency plans involved having mining operations bypass villages resisting resettlement, leaving a 300m gap between the quarry and the nearest habitation. A joint CSR/CSESMP mission reviewed these plans, and were satisfied that they would permit the continuation of orderly mine advances over at least the next 5 to 7 years, thus permitting additional time, as and if required, to resolve outstanding disputes raised by the PAPs. Since then, provision of additional mine jobs and the introduction of the cash grant of Rs. 50,000 have contributed towards overcoming the resistance in all the MCL mines except Belpahar (Aide Memoire for mission from August 31 to September 11, 1998, para 49).
- (e) Additional PAFs added to caseload in Muslim Tola and Duru villages: 115. Of these, 57 PAFs have shifted to places of own choice with cash grant of Rs. 50,000. The balance of 58 PAFs are planned to be relocated by March 2005.
- (f) The total caseload for resettlement beyond the project closing date is **527 PAFs** consisting of the 469 PAFs from the SAR caseload plus the balance of 58 PAFs from the additional caseload identified in Parej East.

## Annex 11b

## CSESMP: Status of Economic Rehabilitation 1997 - 2002

Subsidiary and Mine	Number of EPAPs		No. of EPAPs Reporting Income**		No. of EPAPS Reporting Income in 1997 & 2002		Avg. Individual Income Rs./month		Avg. Increase 1997 - 2002*** Rs./month		Change in Inflation Adjusted EPAP Incomes 1997 to 2002	
	1997	2002	1997	2002	1997	2002	1997	2002	Increase	De-crease	Same	
<b>NCL</b>	<b>256</b>	<b>245</b>	<b>256</b>	<b>245</b>	<b>245</b>	<b>245</b>	<b>824</b>	<b>2,128</b>	<b>1,105</b>	<b>178</b>	<b>4</b>	<b>63</b>
Jhingurda	256	245	256	245	245	245	824	2,128	1,105	178	4	63
<b>MCL</b>	<b>7,230</b>	<b>6,627</b>	<b>4,109</b>	<b>2,316</b>	<b>2,316</b>	<b>2,316</b>	<b>2,454</b>	<b>4,699</b>	<b>1,656</b>	<b>2,161</b>	<b>154</b>	<b>2</b>
Ananta	432	424	232	176	176	176	3,041	4,635	865	147	28	1
Jagannath	1,674	1,601	698	514	514	514	2,706	4,725	1,369	478	36	0
Bharatpur	1,552	1,187	745	313	313	313	2,919	4,990	1,370	290	23	0
Lakhanpur	504	464	346	207	207	207	2,348	5,167	2,256	201	6	1
Samaleswari	989	925	691	463	463	463	2,098	4,430	1,829	422	41	0
Belpahar	2,079	2,036	1,397	643	643	643	1,614	4,248	2,246	623	20	0
<b>CCL</b>	<b>745</b>	<b>653</b>	<b>715</b>	<b>648</b>	<b>648</b>	<b>648</b>	<b>947</b>	<b>2,010</b>	<b>836</b>	<b>432</b>	<b>79</b>	<b>137</b>
KD Hesalong	98	84	94	84	84	84	1,095	2,467	1,109	62	6	16
Parej East	647	569	621	564	564	564	798	1,553	563	370	73	121
<b>SECL</b>	<b>1,983</b>	<b>1,658</b>	<b>1,768</b>	<b>1,620</b>	<b>1,620</b>	<b>1,620</b>	<b>1,257</b>	<b>2,388</b>	<b>721</b>	<b>1,072</b>	<b>126</b>	<b>422</b>
Bisrampur	506	443	477	443	443	443	1,132	2,713	769	315	12	116
Dhanpuri	153	130	139	130	130	130	916	1,786	650	85	25	20
Kusmunda	103	93	101	93	93	93	1,037	1,622	337	44	16	33
Gevra	466	413	418	402	402	402	1,235	2,978	1,447	257	37	108
Dipka	755	573	633	552	552	552	1,967	2,840	401	371	36	145
<b>Total</b>	<b>10,214</b>	<b>9,183</b>	<b>6,848</b>	<b>4,829</b>	<b>4,829</b>	<b>4,829</b>	<b>1,371</b>	<b>2,806</b>	<b>1,079</b>	<b>3,843</b>	<b>363</b>	<b>624</b>

Annex 11c

Subsidiary/ mine	No. of IPDP Villages	No of Village Working Group members					VWG members elected to Gram Panchayat or Block Development Committee		who are also members of Gram Panchayat or or Block Development Committee				
							SC	ST	OBC & others	Total			Women as % of total
<b>CCL</b>	<b>27</b>												
KDHesalong	4												
Parej East	11												
Rajrappa	12												
<b>MCL</b>	<b>27</b>	<b>1</b>	<b>2</b>	<b>7</b>	<b>10</b>	<b>40.0</b>			<b>1</b>	<b>1</b>	<b>2</b>		
Belpahar	7								1	1	2		
Lakhanpur	5			1	1								
Samleswari	7			1	1								
Bharatpur	5	1		1	2								
Jaganath	3		2	4	6	60							
<b>NCL</b>	<b>50</b>	<b>1</b>		<b>8</b>	<b>9</b>	<b>11.1</b>	<b>1</b>			<b>8</b>	<b>9</b>	<b>11.1</b>	
Jhingurda	8												
Bina	11			7	8	12.5	1			8	8	12.5	
Dudhichua	5												
Jayant	9												
Nighai	17			1	1					1	1		
<b>SECL</b>	<b>46</b>	<b>7</b>	<b>30</b>	<b>45</b>	<b>81</b>	<b>17.3</b>	<b>6</b>		<b>23</b>	<b>27</b>	<b>54</b>	<b>18.5</b>	
Gevra	5	1	9	2	12				3	1	4		
Dipka	3		5	2	7	14.3							
Kusmund	8	2	4	1	7	60.0	2		4	1	7	60.0	
Manikpur	8		1	1	2				1	1	2		
Dhanpur	6			1									
Bisrampur	16	4	11	38	53	17.0	4		15	24	43	14.0	
<b>WCL</b>	<b>22</b>	<b>9</b>	<b>2</b>	<b>9</b>	<b>20</b>	<b>20.0</b>	<b>9</b>		<b>2</b>	<b>9</b>	<b>20</b>	<b>15</b>	
Padmapur	6	2	2	1	5		2			1	5		
Durgapur	6	4		4	8	37.5	4			4	8	37.5	
Sasti	3	3			3		3				3		
Niljai	3			3	3					3	3		
Umrer	4			1	1	100.0			2	1	1	100.0	
<b>Total</b>	<b>172</b>	<b>18</b>	<b>34</b>	<b>69</b>	<b>120</b>	<b>192</b>	<b>16</b>		<b>26</b>	<b>45</b>	<b>79</b>	<b>164</b>	

Annex 11d

Subsidiary / mine	Total investment 1998-2002 (Rs -,000)	Asset Creation (No. of activities)				VWG members elected to Gram Panchayat or Block Development Committee			Community Activities (No. of activities)				
			Target	Completed	In progress	Dropped	Target	Completed	In progress	Dropped	Target	Completed	Dropped
<b>CCL</b>	<b>4430</b>	<b>118</b>	<b>105</b>			<b>13</b>	<b>106</b>	<b>98</b>		<b>8</b>	<b>241</b>	<b>227</b>	<b>14</b>
KDHesalong	1656	30	29			1	26	23		3	39	37	2
Parej East	1783	45	42			3	49	48		1	146	134	12
Rajrapa	991	43	34			9	31	27		4	56	56	
<b>MCL</b>	<b>24003</b>	<b>265</b>	<b>248</b>			<b>17</b>	<b>248</b>	<b>214</b>		<b>34</b>	<b>241</b>	<b>219</b>	<b>22</b>
Belpahar	6769	71	67			4	75	57		18	94	88	6
Lakhanpur	7796	42	40			2	53	47		6	41	37	4
Samleswari	3630	47	45			2	92	91		1	61	54	7
Bharatpur	4018	64	62			2	16	8		8	37	33	4
Jaganath	1790	41	34			7	12	11		1	8	7	1
<b>NCL</b>	<b>29345</b>	<b>118</b>	<b>116</b>	<b>1</b>	<b>1</b>		<b>404</b>	<b>404</b>			<b>710</b>	<b>710</b>	
Jhingurda	4412	20	19				40	40			144	144	
Bina	8090	23	22			1	62	62			148	148	
Dudhichua	3981	17	17				28	28			109	109	
Jayant	6447	30	30				76	76			105	105	
Nighai	6415	28	28				198	198			204	204	
<b>SECL</b>	<b>41127</b>	<b>299</b>	<b>252</b>	<b>19</b>	<b>28</b>		<b>174</b>	<b>167</b>		<b>7</b>	<b>425</b>	<b>419</b>	<b>3</b>
Gevra	4895	36	29			3	2	2			75	75	
Dipka	4534	25	23			2	21	17		4	41	41	
Kusmund	2118	25	24			1	41	40		1	50	44	3
Manikpur	7750	85	54	15		16	53	53			139	139	
Dhanpur	5546	45	44			1	14	14			31	31	
Bisrampur	16284	83	76			5	43	41		2	89	89	
<b>WCL</b>	<b>7844</b>	<b>111</b>	<b>108</b>			<b>3</b>	<b>369</b>	<b>363</b>		<b>6</b>	<b>1446</b>	<b>1382</b>	<b>58</b>
Padmapur	1766	32	32				121	121			391	366	25
Durgapur	1903	22	21			1	111	111			338	320	18
Sasti	1308	29	27			2	45	39		6	167	150	9
Niljai	1974	19	19				49	49			233	230	3
Umrer	893	9	9				43	43			317	317	
<b>Total</b>	<b>106749</b>	<b>911</b>	<b>829</b>	<b>20</b>	<b>62</b>		<b>1301</b>	<b>1246</b>		<b>55</b>	<b>3063</b>	<b>2957</b>	<b>97</b>

**Annex 11e**

<b>Subsidiary/ mine</b>	<b>Number of villages with IPDP community assets</b>	<b>Investment in community assets (Rs-,000)</b>	<b>Community contribution *</b>			<b>O &amp; M arrangements</b>			<b>O &amp; M undertaken</b>
			<b>Only deduction from wages</b>	<b>Deduction from wages plus cash</b>	<b>Other (excluding deduction from wages)</b>	<b>Community contribution in bank account, but no user charges</b>	<b>Community contribution, plus user charges</b>	<b>Transfer of responsibili ty to Panchayat</b>	
<b>CCL</b>	<b>27</b>	<b>3462</b>	<b>27</b>			<b>3</b>			<b>3</b>
KDHesalong	4	1343	4			1		NO	1
Parej East	11	1173	11					NO	
Rajrapa	12	946	12			2		NO	2
<b>MCL</b>	<b>27</b>	<b>21187</b>	<b>8</b>		<b>19</b>	<b>8</b>			<b>26</b>
Belpahar	7	5799			7			Yes	7
Lakhanpur	5	7253			5			Yes	5
Samleswari	7	2966			7			Yes	7
Bharatpur	5	3724	5			5		Yes	5
Jaganath	3	1445	3			3		Yes	2
<b>NCL</b>	<b>46</b>	<b>23131</b>	<b>10</b>	<b>36</b>			<b>46</b>		<b>4</b>
Jhingurda	10	6742					10	NO	
Bina	5	3149		5			5	NO	
Dudhichua	9	5221		9			9	NO	4
Jayant	8	3274		8			8	NO	
Nighai	14	4745					14		
<b>SECL</b>	<b>45</b>	<b>32299</b>		<b>39</b>	<b>6</b>	<b>28</b>	<b>10</b>		<b>11</b>
Gevra	5	4319		5		5		Yes	8
Dipka	3	4248		3		3		Yes	0
Kusmund	7	2128		7		4	3	Yes	3
Manikpur	8	7580		8			7	Yes	0
Dhanpur	6	5379			6			Yes	0
Bisrampur	16	16182		16		16		Yes	0
<b>WCL</b>	<b>21</b>	<b>5735</b>		<b>21</b>					
Padmapur	6	1178		6				Yes	
Durgapur	6	1235		6				Yes	
Sasti	2	1419		2				Yes	
Niljai	3	1312		3				Yes	
Umrer	4	591		4				Yes	
<b>Total</b>	<b>166</b>	<b>85814</b>	<b>45</b>	<b>965</b>	<b>25</b>	<b>39</b>	<b>56</b>		<b>44</b>

**Annex 11f**

Subsidiary/ Mine	Number of OB dumps	Value of civil works (Rs -.000)	Award of Work	Status of civil works	Plantation activities (no of trees)	Application of top soil on OB dumps
<b>CCL</b>						
Parej East	1	174.20	Aug. 30, 2000	Completed	17,500	8,500 cu.m used between 1999-01 on external dump. Currently used on internal dump. No storage.
KD Hesalong	1	-	By CCL	Completed	7,500	25,000 cu.m used in 2001. About 30,000 cu.m stored.
Rajrappa	2	396.00	June 15, 2000	Completed	115,000	20,000 cu.m used.
<b>NCL</b>						
Nigahi	2	359,007.00	Jan. 16, 2001	Completed	205,000	Top soil layer is shallow, and is not stored. For tree plantation, suitable soil and manure is used in the excavated pits where the trees are planted
Jayant*	2	991,958.00	Jan. 16, 2001	Completed	244,700	
Jhingurdah	2	191,174.00	Jan. 19, 2001	Completed	110,000	
Dudhichua	2	190,738.00	Jan. 16, 2001	Completed	338,000	
Bina	1	482,929.00	Jan. 12, 2001	Completed	100,000	
<b>SECL</b>						
Dhanpuri	2	20,327.00	Oct. 17, 2000	Completed	113,000	Concurrent application of top soil**
Gevra	3	175,270.00	Oct 4, 2000	Completed	140,000	Top soil is stored.
Dipka	2	177,567.00	Oct 4, 2000	Completed	60,000	175 million cu.m stored.
Kusmunda	9	71,210.00	Sept. 25, 2000	Completed	100,000	Top soil is not stored. Instead, suitable soil and manure is used.
Manikpur	2	59,098.00	Oct. 31, 2000	Completed	100,000	Top soil is not stored.
<b>MCL</b>						
Jagannath	4	94,487.00	Oct. 31, 2000	Completed	37,189	Concurrent application of top soil. In addition, top soil has been mixed with other OB dump materials, which is held to provide better growth for mature trees, when their roots reach deeper.
Bharatpur	4	60,524.00	Nov. 30, 2000	Completed	58,270	
Ananta	1	49,400.00	Nov. 23, 2000	Completed	15,800	
Samleswari	6	7,800.00	Sept. 5, 2000	Completed	23,365	
Lakhanpur	1	6,010.00	Nov 14, 2000	Completed	11,267	
Belpahar	7	10,510.00	Nov 14, 2000	Completed	101,699	
<b>WCL</b>						
Durgapur	5	12,027.00	Sept. 1999	Completed	139,000	Storage of top soil is practiced on a limited scale Mostly concurrent application of top soil.
Padmapur	6	7,048.00	Sept. 1999	Completed	143,000	
Sasti	5	-	By WCL	Completed	136,600	
Niljai	3	2,828.00	Sept. 1999	Completed	96,500	
Umrer	2	-	By WCL	Completed	191,000	

Notes: \* Jayant 1 and 2 have been combined into one dump. The changes were approved by the technical expert, IIT, Kanpur.

\*\* Concurrent application of top soil involves the immediate spreading of top soil when it is excavated on OB dumps that have reached their planned height or on the portion of backfilled quarries (internal dumps) that are level with the surrounding area.

**Annex 11g**

**Workshop Effluent Treatment Plants**

Subsidiary/ Mine	Integrated treatment plant for mine and workshop?	Use of discharges	Monitoring results: April to July 2002 (Permissible limit: TSS: 100)
<b>CCL</b>			
1. KD Hesalong	No	100% is being reused for water spraying/vehicle washing	TSS(100) high- July(246)
2. Rajrappa	No	100% is being reused for water spraying/vehicle washing	TSS(100) high- June(120),July(140)
3. Parej East	No	100% is being reused for waterspraying/vehicle washing	TSS(100) high- May(118)
<b>SECL</b>			
5. Gevra	No	96% is being reused for water spraying/vehicle washing	Within permissible limits
6. Dipka	No	90% is being reused for water spraying/vehicle washing	TSS excessive in April(126),May(176)
7. Kusmunda	No	94% is being reused for water spraying/vehicle washing	TSS excessive in April(186)
8. Manikpur	No	90% is being reused for water spraying/vehicle washing	Within permissible limits
9. Dhanpuri	No	92% is being reused for water spraying/vehicle washing	Within permissible limits
10. Bisrampur	No	95% is being reused for water spraying/vehicle washing	Within permissible limits
<b>WCL</b>			
11. Durgapur	No	100% is being reused for water spraying/vehicle washing	Within permissible limits
12. Padmapur	No	100% is being reused for water spraying/vehicle washing	Within permissible limits
13. Sasti	No	100% is being reused for water spraying/vehicle washing	Within permissible limits
14. Niljai	No	100% is being reused for water spraying/vehicle washing	Within permissible limits
15. Umrer	No	100% is being reused for water spraying/vehicle washing	Within permissible limits
<b>NCL</b>			
16. Dudhichua	Yes	50% is being used for spraying, arrangement for using the balance will be ready shortly.	Within permissible limits
17. Nigahi	Yes	100% is being used for spraying.	Within permissible limits
18. Jhingurda	Yes	100% is being used for spraying.	TSS excessive in May(113),July(164)
19. Bina	Yes	60%, being used in spraying and deshaling plant, arrangement for using the balance will be ready shortly.	Within permissible limits
20. Jayant	Yes	40%, being used for spraying, arrangement for using the balance will be ready shortly.	Within permissible limits
<b>MCL</b>			
21. Jagannath	Yes	40%, being used in plantation area and chemical house. Rest of the effluent is being discharged in the paddy field on request from the villagers.	Within permissible limits
22. Ananta	Yes	100%, being used for vehicle washing & dust suppression.	Within permissible limits
23. Samaleswari	Yes	100%, being used in spraying for dust suppression in roads & CHP, for fire fighting in coal stocks and vehicle washing.	Within permissible limits
24. Bharatpur	Yes	100%, being used for vehicle washing & dust suppression.	Within permissible limits
25. Belpahar	Yes	System is being developed for reuse.	Within permissible limits
26. Lakanpur	Yes	30%, being used for vehicle washing & dust suppression.	Within permissible limits

Annex 11h

CSESMP: Sewage Treatment Plants

Sewage Treatment Plants	Date of commis-sio ning	Number of quarters served	Capacity in ml/day	BOD test result: Dec 01	BOD test result: July 2002	TSS test result: Dec. 01	TSS test result: Oct. 01
					1st	2nd	1st 2nd
<b>CCL</b>							
Parej East	Dec. 2000	688	1.0	6	8	7	445854
KD Hesalong	Dec. 2000	665	1.0	6	9	7	489868
Rajrappa	Dec. 2000	1,860	1.5	7	9	7	586458
<b>MCL</b>							
Samleswari	Dec. 2000	426	0.5	20 (F)	12	16	92 (F)2618
Belpahar/Lakhanpur	Sept. 2000	2,258	1.7	19 (F)	21	13	88 (F)1808
Jagannath	Nov. 2000	723	1.0	22 (J)	19	17	58 (J)5260
Ananta	Nov. 2000	737	0.5	18 (J)	20	23	106 (J)7935
<b>NCL</b>							
Nighai	Sept. 2000	2,442	2.5	22	16	13	333241
Dudhichua II/Jayant	Aug. 2000	3,245	4.0	26	16	18	374144
Jhingurda	Aug. 2000	1,185	1.5	23	17	12	383832
Dudhichua I	Aug. 2000	1,736	2.0	20	14	13	463832
Bina	Sept. 2000	2,337	2.5	17	21	22	423632
<b>SECL</b>							
Bisrampur	Feb. 2001	2,223	1.5	17	15	17	272426
Dhanpuri	Feb. 2001	1,042	1.0	19	16	18	285862
Gevra/Dipka	Feb. 2001	4,505	3.0	24	14	16	372638
Kusmunda	March 01	2,267	2.0	30	28	32	296456
Manikpur	March 01	355	0.5	40	14	12	326062
<b>WCL</b>							
Umrer	Sept. 2000	971	1.0	18	19	20	421012
Sasti	July 2000	599	1.0	21	21	20	981618
Niljai	Aug. 2000	539	0.5	12	16	15	501218
Durgapur/Padmapur	Sept. 2000	1,732	2.5	13	20	18	96610

Permissible limits: BOD: 30; TSS: 100. (J): Jan 02 test results. (F): Feb 02 test results. SECL figures from May 02, and WCL figures from June 02.

## Annex 11i

## CSESMP: Status of Dust Suppression Measures by June 30, 2002

Subsidiary / mine	Mobile sprinklers (Nos)		Fixed sprinklers (Km)		Dust extractors in drills (Nos)		Black-top ping of roads (Km)		Plantation other than Avenue (Ha)		Avenue plantation (Km)	
	Target	Actual	Target	Actual	Target	Actual	Target	Actual	Target	Actual	Target	Actual
<b>CCL</b>	<b>6</b>	<b>6</b>	<b>4.3</b>	<b>4.04</b>	<b>17</b>	<b>17</b>	<b>3</b>	<b>3</b>	<b>139</b>	<b>139</b>	<b>14.1</b>	<b>14.1</b>
Parej East	2	2	0.8	0.54	2	2			10	10		
KDHesalong	3	3	0.5	0.5	5	5			61	61	2.6	2.6
Rajrappa	1	1	3	3	10	10	3	3	68	68	11.5	11.5
<b>MCL</b>												
Belpahar	2	2			5	5	2.2	2.2	52	61.5	8	8
Lakhanpur	2	2			6	6	5	5	56	57	6	52
Samleswari	2	2			5	5	9	9	48	54	9.5	11
Bharatpur	2	2			5	5	6	6	41	55.5	6	23
Jaganath	2	2			7	7	5.5	5.5	20	26.52	3	2.7
Ananta	2	2			8	8	3.23	2.43	32	30.31	8	10
<b>NCL</b>												
Jhingurda	2	2			6	6			52	52		
Bina	6	6			12	12			24	24		
Dudhichua	6	6	3.7	3.7	12	12	1.2	2.4	112.8	112.8		
Jayant	8	8	4.1	4.1	18	18	7.75	7.75	18	18		
Nighai	6	6			12	12	3	3	188	188		
<b>SECL</b>												
Gevra	5	5	2	2	15	15			50	50		
Dipka	4	4	1.5	1.5	8	8	9.7	9.7	47	47	6	6
Kusmund	2	2	2.5	3.2	8	8	6.7	6.7	8	8		
Manikpur	2	2	1.7	1.7	11	11	.95	.95	50	50		
Dhanpur	2	2	1.5	1.5	6	6	4.35	4.35	50	50		
Bisrampur			2	2	7	7	4.4	52	52	18	18	
<b>WCL</b>	<b>5</b>	<b>5</b>	<b>2.25</b>	<b>2.87</b>	<b>37</b>	<b>37</b>			<b>137.48</b>	<b>137.48</b>	<b>27</b>	<b>27</b>
Padmapur	1	1		.575	6	6			24.4	24.4	5	5
Durgapur	1	1	.25	.875	10	10			17.2	17.2	9.5	9.5
Sasti	1	1	.75	.5	6	6			38.4	38.4	4	4
Niljai	1	1	.25	.4	5	5			47.08	47.08	4	4
Umrer	1	1	1	.52	10	10			10.4	10.4	4.5	4.5

\* Actual as per site availability

