

## TECHNICAL ASSISTANCE COMPLETION REPORT

Division: INRM/SARD

<b>TA No., Country and Name</b>		<b>Amount Approved:</b> \$3,620,000	
Cluster TA 3423-IND: Environmental Management at the State Level		<b>Revised Amount:</b> \$3,620,000	
<b>Executing Agency:</b> Ministry of Environment and Forests	<b>Source of Funding:</b> ADB-funded TA Program	<b>Amount Undisbursed:</b> \$709,468.95	<b>Amount Utilized</b> \$2,910,531.05
<b>TA Approval</b> 22 March 2000	<b>TA Signing</b> 14 August 2000	<b>Fielding of First Consultant(s):</b> 23 February 2001	<b>TA Completion Date</b> Original: 31 August 2002      Actual: 30 June 2007 <b>Account Closing Date</b> Original: 31 August 2002      Actual: 31 December 2008
<p><b>Description</b></p> <p>The Government of India (GOI) requested for a Technical Assistance (TA) to improve environmental management at the state level. Given the varying and interrelated needs of central and state government agencies, cluster TA modality was used. Ministry of Environment and Forests (MOEF) was the Executing Agency (EA), and Implementing Agency (IA) was identified for each component. Five components (i) A: Promotion and assessment of environmentally sound projects with MOEF; (ii) B: Feasibility planning for the establishment of environment management institute (EMI) with Gujarat Pollution Control Board (GPCB); (iii) C: Adopting environmental management policies and strategies to state level with Madhya Pradesh Pollution Control Board (MPPCB); (iv) D: Financing cleaner production (CP) with National Productivity Council (NPC); and (v) E: Integrated environmental management case study in Kolkata with West Bengal Pollution Control Board (WBPCB), were integrated into cluster.</p> <p><b>Expected Impact, Outcome and Outputs</b></p> <p>The main objective of the cluster TA was to strengthen environmental management in the states and territories of India by improving the operational systems and institutional frameworks for developing and implementing appropriate environmental policies and mechanisms. The expected outputs were (i) CP program at MOEF, state environment departments, and state pollution control boards (SPCB); (ii) removal of backlog in review and evaluation of environmental impact assessment (EIA), improvement in quality of EIA conditions in the no objection certificates; (iii) rapid and timely response to queries, more equitable enforcement of laws and standards; (iv) use of more appropriate technologies to local conditions, better information to access by industry to environmental problems; (v) better understanding by financial institutions of CP technologies and increased involvement of existing financial institutions; (vi) improved compliance and enforcement of environmental laws, regulations, and standards; and (vii) institutional support to on-going TA-3089 for Kolkata. The expected outcomes were (i) timely review and issuance of no objection certificates that convey environmental concerns; (ii) to provide a "win-win" option to polluters to comply with environmental rules and regulations; (iii) sustained and equitable enforcement program, better record keeping, monitoring, enforcement and allocation of resources; (iv) access to technical skills, information, financial resources to comply with environmental rules and training of operating personnel to operate pollution control facilities; and (v) demonstration project specifically addressing toxic and hazardous waste problem in Kolkata.</p> <p><b>Delivery of Inputs and Conduct of Activities</b></p> <p>While setting up the components during 2001-04, the environmental priorities of the states had undergone revisions in which the TA was originally evolved. This necessitated re-focusing of some of the activities while maintaining the objective of the TA. The components A, C, and D were initiated with an average delay of 6-12 months in 2001-02 due to delay in TA signing, change in the IA for D (NPC to MOEF), and firming up the scope. An EIA training manual and 19 papers including case studies were developed on various environmental management aspects including financing. In consultation with WBPCB, Component E was refocused in 2003 from a case study to cover e-governance, wetlands and hazardous waste management and air quality improvement action plan for Kolkata city. By the time a dialogue was initiated with GPCB in 2003; the EMI was semi-operational in Gujarat. Component B was modified in consultation with GPCB. However, the activities could not be undertaken initially owing to apparent inability of the state to resolve some key issues like final location of the institute, recruitment of Director and other senior staff on regular basis, and confirmed budgetary support; and at last had to be dropped due to inadequate responses /ownership from the IA. By optimizing TA resources and using design flexibility, two follow-on activities under components C and D, and five new activities were developed. The attached Annexure elaborates the inputs, outputs and outcomes under all activities. The consultants produced reports of varying quality ranging from very good to acceptable. The IAs was generally satisfied with the consultants' performance. The reports, pilot demonstrations, training programs/manuals and workshops have contributed towards expected TA outputs. Periodic</p>			

review missions were undertaken for development and supervision of activities. The activities were completed within TA budget of \$3.15 million (excludes \$0.47 million in contingency). The un-disbursed amount of \$709,469 represents revised budget \$485,000 of dropped component B (original \$765,000 as per TA paper) and unutilized contingency. The overall performances of EA, IAs and ADB are considered satisfactory.

#### **Evaluation of Outputs and Achievement of Outcome**

Given that the TA was processed before ADB's result-focus approach, no performance indicators were specified. The TA Framework identified performance targets against goal, objective, components/outputs, and activities. The overall outcomes are improved (i) environmental governance at the central and state level, especially in Madhya Pradesh, West Bengal, Maharashtra, and Uttarakhand; (ii) local human resource base at central and state level to provide expertise in environmental management including Karnataka, Punjab, Haryana, Jammu and Kashmir, Tamil Nadu and Kerala; (iii) cooperation and information exchange between states; (iv) understanding of financial institutions towards CP concepts and mainstreaming CP in their appraisal process and financing products; and (v) technical skills of polluters and access to information and financial resources to comply with environmental legislation. The specific achievements are (i) inputs towards re-engineered environmental clearance process of MOEF; (ii) strengthened capacity of NHA that subsequently led to establishment of environmental management system; (iii) improved consent management and enforcement at WBPCB; (iv) an order by WBPCB for controlling dust emissions from construction industry; (v) improved environmental planning and decision making at MPPCB, Maharashtra Pollution Control Board (MPCB) and Uttarakhand Environment Protection and Pollution Control Boards (UEPPCB); (vi) enhanced capacity of CPCB and 18 SPCBs towards strategic thinking, developing vision, environmental action plans, and associated investment needs; and (vii) adaptation for application of air pollution potential emissions reduction model in source apportionment studies undertaken at other cities. Apart from this, MPPCB is developing fee based GIS training programs for other state agencies and SPCBs using the skill sets of its own trainers; WBPCB is working on detailed evaluation for establishing EMI to act as regional thin-tank for eastern and north-eastern states in environmental management; and MPCB used the assessment of investment needs identified during development of its environmental action plan as inputs for conceptualizing environmental infrastructure development corporation. The TA also contributed towards ADB publication on policy analysis and associated briefly with environmental education aspects. The investment potential identified under environmental action plans of WBPCB, MPPCB, MPCB, and UEPPCB is significant. The training modules, analytical models, and strategic action/management plans have replication potential in other states. Overall, the performance targets were met. Although TA was well conceptualized, ADB lacked adequate planning, preparedness, continuity and allocation of dedicated personnel necessary for implementation of such complex cluster TA. The EA/IAs demonstrated varying levels of commitment, ownership, and project management skills. Limited availability of dedicated personnel affected coordination with consultants, sometimes resulting in lack of clarity on scope, and deliverables. It required significant efforts later on from ADB and some IAs over extended duration to bring activities back on track to meet overall TA objectives.

#### **Overall Assessment and Rating**

Set in the context of environmental sector, the TA cluster was highly relevant to the GOI's focus and ADB's approach on environmentally sustainable development. All activities had operational, thematic and intellectual linkages that demonstrated the need for a holistic approach to environmental management, and appropriateness of cluster approach. TA strengthened capacity of agencies involved, and many activities have potential for replication. Some activities were carried out in partnership with bilateral agencies. Despite implementation delays, lack of ownership and project management skills, most of the outputs have been met with. Given the design complexities, and based on above evaluation, the TA is considered partly successful bordering on successful.

#### **Major Lessons**

(i) For a complex TA cluster with components and sub-components having interrelated activities of this nature with a diverse set of implementing agencies, dedicated personnel inputs from ADB and continued involvement and commitment from the EA and IAs is a must which was observed to be inadequate; (ii) Similarly, the leadership experience and skills of the team leader is as crucial as the technical skills, which were observed to be missing sometimes. Close attention must be focused by ADB and EA on proven leadership qualities of the team leader and team composition for successful implementation; and (iii) Initially the TA did lose focus to some extent, due to inadequate ADB oversight; and diminishing commitment, ownership and clarity on scope with EA, IAs, and consultants. ADB must build-in dedicated staff inputs during implementation to bring in clarity and ensure institutionalizing of implementation plan well in advance for such complex TA clusters.

#### **Recommendations and Follow-Up Actions**

1. During design of such complex cluster TAs, the continued commitment from EA/IAs must be ensured through a structured supervision framework, and ensure dedicated ADB oversight right from the start of implementation.
2. The final outputs in Kolkata air quality improvement, wetlands and hazardous waste management, and state based environmental action plans have potential for investment programs.

## Cluster TA 3423-IND: Environmental Management at State Level

**Executing Agency:** Ministry of Environment and Forests (MOEF), Government of India (GOI)

**Implementing Agencies:**

1. Components A and D and Activities 4, 5 and 6: MOEF
2. Component B: Gujarat Pollution Control Board (GPCB)
3. Component C and Activity 1: Madhya Pradesh Pollution Control Board (MPPCB)
4. Component D: National Productivity Council (NPC) (subsequently replaced by MOEF)
5. Component E and Activity 2: West Bengal Pollution Control Board (WBPCB)
6. Activity 3: Maharashtra Pollution Control Board (MPCB) and Uttarakhand Environment Protection and Pollution Control Board (UEPPCB)

Description (Implementing Agency)	Delivery of Inputs and Conduct of Activities	Outputs	Outcomes	Evaluation
<b>Components planned under Cluster TA 3423-IND</b>				
<p><b>Component A:</b> Promotion and assessment of environmentally sound projects  (IA: MOEF)</p>	<p>The overall implementation of the component was delayed on account of lack of managerial control of the consulting firm. The component explored several aspects of environmentally sound management practices, and developed manual for trainers in EIA. The activities included capacity building of MOEF, NHAI, state pollution control boards (SPCBs).</p> <p>Overall MOEF was satisfied with the outputs of the component. The overall performance of ADB and MOEF could be considered satisfactory.</p>	<ul style="list-style-type: none"> <li>• Report on promotion and assessment of Environmentally Sound Projects (ESPs)</li> <li>• Train the trainer manual on Environmental Impacts Assessment (EIA)</li> </ul> <p><b>Occasional Papers:</b></p> <ul style="list-style-type: none"> <li>• Impacts of the current regulatory regime on cleaner production (CP) and cleaner technologies (CT) promotion in India;</li> <li>• National and state level CP initiatives;</li> <li>• Linkages between MOEF and the State;</li> <li>• Decision Guidelines for MBI Use in India: The Case of Gujarat;</li> <li>• Benefits of using MBIs for Environmental Management: An Application Using State-Level Data from India;</li> <li>• State and Central Governmental Linkages on Environmental Management;</li> <li>• Environmental Information/Data Procedure;</li> <li>• Outreach and Information Dissemination Needs and Strategies to Promote ESPs; and</li> <li>• Promoting Strategic Environmental Assessment in India.</li> </ul> <p><b>Training and Workshops :</b></p>	<ul style="list-style-type: none"> <li>• Improved EIA processes ;</li> <li>• Strengthened local human resource base to provide expertise in environmental management;</li> <li>• Improved cooperation and information exchange between states ;</li> <li>• Strengthened environmental management capacity of NHAI;</li> <li>• Improved capacity of SPCBs to promote CP/CT</li> </ul>	<p>MOEF initiated a re-engineering of its environmental clearance process just after the Component A was completed. This limited the applicability of some of the outputs developed. Nevertheless, MOEF used part of the guidelines and suggestions as inputs for EIA process improvements.</p> <p>There was no follow-up from MOEF, SPCBs or ADB to build upon further on the action plan blue-print developed for ESP promotion on four pillars (i) information sharing and capacity building; (ii) policies and regulations ; (iii) financing and (iv) institutional strengthening.</p> <p>The training for NHAI staff strengthened environmental management capacity of NHAI facilitating development of its own environmental management system in later years.</p>

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Description (Implementing Agency)	Delivery of Inputs and Conduct of Activities	Outputs	Outcomes	Evaluation
		<ul style="list-style-type: none"> <li>• EIA preparation and review;</li> <li>• Environmental Information Management Systems;</li> <li>• Promoting CP/CT and MBI; and</li> <li>• Promoting ESPs.</li> </ul>		
<p><b>Component B:</b> Feasibility planning for the establishment of environment management institute (EMI) <b>Revised to</b> (i) developing operational strategy for the EMI; (ii) air quality improvement action plan for Ahmedabad; and (iii) e-governance. (IA: GPCB)</p>	<p>The activities under Component B were refocused to suit the then prevailing priorities of the state. However, the activities could not be undertaken owing to apparent inability of the state for resolution of some key organizational issues of EMI. The further refined scope had to be dropped due to inadequate responses /ownership from the IA.</p>		<p>Component B was dropped from the TA.</p>	<p>The IA lacked ownership for the Component. The IA did not follow-up for initiating activities till late 2003. By the time ADB initiated dialogue in late 2003, Gujarat EMI was semi-operational. ADB refocused activities as per IA's revised priorities, however, the state was not able to finalize location of the institute, and commit to recruitment of Director and other senior staff on regular basis, and confirmed budgetary support. In 2005 ADB further refined scope, but with IA's inadequate responses and lack of ownership, the activities had to be dropped from the scope.</p>
<p><b>Component C:</b> Adopting environmental management policies and strategies to state level (IA: MPPCB)</p>	<p>The implementation of the component was delayed due to lack of leadership from the consulting firm. This also led to some extent ownership issues with the IA.</p>	<p><b>Working Papers:</b></p> <ul style="list-style-type: none"> <li>• Legal, Institutional and Organizational Analysis of the Madhya Pradesh Pollution Control Board</li> <li>• Cross-Sectoral Analysis of Madhya Pradesh Policies that Impact on Sound Environmental Management Practices</li> <li>• Environmental Action Program in Madhya Pradesh</li> </ul>	<ul style="list-style-type: none"> <li>• Strengthened local human resource base to provide expertise in environmental management;</li> <li>• Access to technologies for improved environmental planning and decision making at MPPCB;</li> </ul>	<p>Although the component analyzed existing policies, institutional set-up of MPPCB, provided GIS based IT infrastructure, and developed environmental action program for the state, no follow-on activities were envisaged for visible outcome.</p>

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	<p>MPPCB was not fully satisfied with the overall impact of the outputs, and a follow-on GIS based training activity was developed in late 2003 with a quantified outcome.</p> <p>The overall performance of ADB and MPPCB could be considered less than satisfactory.</p>	<ul style="list-style-type: none"> <li>• System analysis and Database development</li> <li>• Policy Instruments for Pollution Abatement in Madhya Pradesh: An Economic Approach</li> <li>• Equipping the Enforcers in the Environmental Judicial Process and Exploring the Potential for Better Environmental Management</li> </ul> <p><b>Case Studies:</b></p> <ul style="list-style-type: none"> <li>• Incorporating Market Based Instruments into Waste Management in Indore</li> <li>• Pollution Prevention Planning at Pithampur Industrial Estate</li> </ul> <p><b>Training and Workshops:</b></p> <ul style="list-style-type: none"> <li>• Multistakeholder Awareness Raising Workshops and Training Sessions</li> </ul>	<ul style="list-style-type: none"> <li>• Improved capacity of MPPCB to promote CP; and</li> <li>• Improved implementation and enforcement of environmental regulations, and standards .</li> </ul>	<p>During follow-up review visit in late 2003, it was realized that GIS based IT infrastructure provided to MPPCB could be useful only when a structured training was provided to its staff. This led to development of a follow-on activity implemented during 2005-06.</p>
<p><b>Component D:</b> Financing cleaner production  (IA: MOEF)</p>	<p>The implementation of the component was delayed due to change in the implementing agency and lack of clarity with respect to the scope and outputs. CP practices, existing technical and financial opportunities in 12 industrial sectors were reviewed. To bring in a sharper focus and definite outcome, the scope was enhanced to include a pilot demonstration for financing a CP intervention, training programs, and a working paper on CP.</p>	<ul style="list-style-type: none"> <li>• Action Plan for Promoting CP and facilitating its Financing at the National and State Levels</li> <li>• Pilot Demonstration of Financing model for a cluster of small and medium enterprises (SME) adopting CP measures ;</li> </ul> <p><b>Working Paper</b></p> <ul style="list-style-type: none"> <li>• Cleaner production in India – issues and challenges</li> </ul> <p><b>Sectoral studies on CP in Industries</b></p> <ul style="list-style-type: none"> <li>• Chlor-alkali,</li> <li>• Cast Iron,</li> <li>• Chemicals,</li> <li>• Dyes,</li> <li>• Textiles,</li> <li>• Electroplating,</li> <li>• Glass, and</li> <li>• Foundry,</li> </ul>	<ul style="list-style-type: none"> <li>• Using self assessment toolkit, a pilot for financing CP interventions in SMEs through commercial banking was demonstrated;</li> <li>• Strengthened local human resource base to provide expertise in financing CP in SMEs;</li> <li>• Improved cooperation and information exchange between states,</li> <li>• Improved capacity of the state pollution control boards (SPCBs) to promote CP</li> <li>• Improved understanding of financial institutions towards CP concepts and mainstreaming CP in their appraisal process and financing products;</li> </ul>	<p>The detailed analysis for CP opportunities in 12 industrial sectors led to development of action plan for CP promotion and financing through about 25 tasks with short, medium and long term priorities. However, the activities did not have a demonstrable outcome. During review at final draft stage, the scope was enhanced to conduct a pilot for financing CP interventions in SMEs through commercial banking sector using the self assessment toolkit developed, A series of training programs were conducted in five states for financial services sector, state government agencies and polluters for capacity building and identifying a candidate for pilot demonstration.</p>

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	MOEF was satisfied with the outputs of the component. The performance of ADB and MOEF could be considered satisfactory.	<p><b>Case studies:</b></p> <ul style="list-style-type: none"> <li>• CP Financing Models <ul style="list-style-type: none"> <li>○ Paper industry,</li> <li>○ Hand bloc printing industry, and</li> <li>○ Industrial Estate</li> </ul> </li> <li>• Information Technology and CP <ul style="list-style-type: none"> <li>○ Knitwear industry</li> </ul> </li> </ul> <p><b>Self Assessment Toolkits:</b></p> <ul style="list-style-type: none"> <li>• Financing for CP in SMEs, and</li> <li>• Environmental Benchmarking in Paint and Coating Industry,</li> </ul> <p><b>Training programs on CP practices:</b></p> <ul style="list-style-type: none"> <li>• for officials from financial services sector, state agencies such as SPCBs, industrial development corporations, industrial estate associations, and cleaner production centers ; and</li> <li>• technical staff /operators working in small and medium scale industries in the states of Punjab, Haryana, Karnataka, Gujarat, and West Bengal</li> </ul>	<ul style="list-style-type: none"> <li>• Improved technical skills of polluters and provided access to information to comply with environmental regulations, rules, and standards, access to financial resources and training of operating personnel to operate pollution control facilities</li> <li>• Improved capacities of polluter to comply with the environmental regulations, and standards</li> <li>• Provided a win-win" option to polluters to comply with environmental rules and regulations.</li> </ul>	The efforts yielded into a pilot for financing CP interventions for SME cluster in Gujarat.
<p><b>Component E:</b> Integrated environmental management case study in Kolkata</p> <p><b>Revised to</b> Strengthening environmental management at West Bengal Pollution Control Board  (IA: WBPCB)</p>	<p>The IA requested to modify the original scope based on revised priorities of the state.</p> <p>With high commitment of IA and effective leadership at the consulting firm, the physical implementation of this component with diverse and complex set of activities was completed on schedule.</p>	<p><b>Reports:</b></p> <ul style="list-style-type: none"> <li>• Environmental management information system (E-Governance) at West Bengal Pollution Control Board;</li> <li>• Wetlands management in West Bengal (Mapping of urban wetlands and management Plan);</li> <li>• Hazardous waste management (Inventory and action plan for the state); and</li> <li>• Ambient Air Quality Improvement Action Plan for Kolkata City.</li> </ul>	<ul style="list-style-type: none"> <li>• Improved consent management at WBPCB;</li> <li>• Improved (i) monitoring, (ii) record keeping, and (iii) enforcement procedures at WBPCB;</li> <li>• Improved implementation and enforcement of environmental regulations by WBPCB;</li> <li>• Data used to develop specific action plan for East Kolkata Wetlands, a Ramsar site;</li> <li>• Based on the inventory and action plan, state developing hazardous waste management facilities;</li> </ul>	<p>The component comprised of implementation of a complex set of four diverse activities that dealt with urban air quality of Kolkata, management of hazardous wastes and wetlands in the state, and e-governance at WBPCB.</p> <p>On account of high commitment from top management of IA, and equally effective team leadership from the consulting firm, this component delivered reports of good quality. The reports also evaluated investment potential of the various management action plans.</p>

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	<p>There was slight delay at the end due to organizational changes at top management level of IA. The quality of inputs was good, and resulted in focused, identifiable outcomes.</p> <p>WBPCB was satisfied with the outputs. The overall performance of ADB and WBPCB could be considered highly satisfactory.</p>	<p><b>Analytical model:</b></p> <ul style="list-style-type: none"> <li>Development of Kolkata Air Pollution Potential Emissions Reductions Model.</li> </ul>	<ul style="list-style-type: none"> <li>Based on the report, State Government issued order for dust control from construction industry; and</li> <li>The air pollution potential emissions reduction model being used in source apportionment studies undertaken at other cities.</li> </ul>	<p>While WBPCB has already issued an order for dust emissions control from the construction industry based on the ambient air quality improvement study, the state has initiated follow-up actions on management of urban wetlands including a Ramsar site; and developing a facility for management of toxic and hazardous waste.</p> <p>The Kolkata Air Pollution Potential Emissions Reductions Model is also being applied in other on-going source apportionment studies.</p>
<b>Additional Activities carried out under Cluster TA 3423-IND</b>				
<p><b>Activity 1:</b> Follow-on activity on training on geographic information systems (GIS) for improved environmental planning and decision making at MPPCB under component C (co-financed with GTZ)  (IA: MPPCB)</p>	<p>The follow-on activity was developed to utilize the GIS based IT infrastructure provided to MPPCB under Component C with committed top management at MPPCB. The implementation was delayed due to frequent rescheduling of training modules on due to last moment non-availability of nominated officers tasked to attend to other government duties. However, the commitment levels continued resulting in</p>	<ul style="list-style-type: none"> <li>Training Toolkit comprising of five modules;</li> <li>80 technical officers of MPPCB trained for three levels – beginner, intermediate and advanced;</li> <li>Overall 164 person-weeks of training was conducted over a period of 9 months; and</li> <li>8 MPPCB officers trained at advanced level to act as trainers.</li> </ul>	<ul style="list-style-type: none"> <li>Improved decision making capacity of MPPCB;</li> <li>Effective utilization of IT infrastructure developed at MPPCB;</li> <li>Strengthened local human resource base to provide expertise in environmental management;</li> <li>Improved monitoring and enforcing environmental laws; and</li> <li>MPPCB developing a fee based GIS training programs for other state agencies and other state pollution control boards using the skill sets of its own trainers .</li> </ul>	<p>Under this activity more than 65% of technical officers of MPPCB were trained to use GIS based techniques for improved environmental planning and decision making. 8 officers were trained up to advanced stage to act as trainers for sustainability of this initiative.</p> <p>During review mission under Loan 2046-IND, the Regional Director, MPPCB at Indore used the imagery data procured during training, applied GIS techniques learnt, and provided his inputs on the mitigation measures that would be acceptable to MPPCB for the environmental impacts of the activity proposed under the loan in less than 45 minutes, which</p>

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	<p>65% of technical staff being trained. The consultant delivered five modules in 15 one-week duration training sessions. The activity resulted in identifiable outcomes.</p> <p>MPPCB was satisfied with the outputs of the activity. The overall performance of ADB and MPPCB could be considered highly satisfactory.</p>			<p>otherwise would have taken days.</p> <p>MPPCB planning to conduct fee based GIS training programs for other state agencies and other state pollution control boards using the skill sets of its own trainers.</p> <p>The World Bank's proposed capacity building program with MOEF is likely to include this activity for replication at other SPCBs.</p>
<p><b>Activity 2:</b> Feasibility planning for establishing an Environmental Management Institute in West Bengal  (IA: WBPCB)</p>	<p>The activity was implemented on schedule on account of continued commitment of the IA and the consultant. The feasibility report was considered useful and further evaluation is underway.</p> <p>WBPCB was satisfied with the output. The overall performance of ADB and WBPCB could be considered satisfactory.</p>	<ul style="list-style-type: none"> <li>• Report on feasibility of environmental management institute in West Bengal to act as regional think-tank; and</li> <li>• Stakeholder consultation workshops.</li> </ul>	<ul style="list-style-type: none"> <li>• The state is working on detailed evaluation for establishing environmental management institute and had approached Central government to include this institute in the proposed loan with World Bank for environmental capacity building; and</li> <li>• This institute would lead to improved cooperation and information exchange between states.</li> </ul>	<p>In 2005, with apparent disability of Gujarat state to resolve issues pertaining to Gujarat EMI, the dialogue was initiated with WBPCB to conduct feasibility for setting up an EMI in West Bengal that would act as regional think-tank for eastern and north-eastern states in environmental management.</p> <p>With continued commitment from WBPCB, the feasibility report was developed that was shared with wide range of stakeholders. The state is working on detailed evaluation.</p>

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<p><b>Activity 3:</b> Strategic planning for SPCBs and development of environmental visions, situation analysis and environmental monitors for two states (co-financed with SIDA)</p> <p>(IAs: MPCB and UEPPCB)</p>	<p>The activity was implemented on schedule due to commitment of the IAs and the consultant. The reports identified strategies, action plans and investment requirements for both the IAs. The officers from both IAs were trained for GIS application that was not a part of the agreed TOR, but was observed to be an important input to achieve the desired outcomes. The activity resulted in identifiable outcomes and has potential for replication in other states.</p> <p>Both MPCB and UEPPCB were satisfied with the outputs. The overall performance of ADB, MPCB, and UEPPCB could be considered satisfactory.</p>	<ul style="list-style-type: none"> <li>• National colloquium on strategic planning for top management of Central Pollution Control Board and 18 SPCBs;</li> <li>• Situation Analysis for <ul style="list-style-type: none"> <li>○ MPCB;</li> <li>○ UEPPCB;</li> </ul> </li> <li>• Strategic Action Plans for <ul style="list-style-type: none"> <li>○ MPCB;</li> <li>○ UEPPCB;</li> </ul> </li> <li>• GIS Monitors for <ul style="list-style-type: none"> <li>○ MPCB;</li> <li>○ UEPPCB;</li> </ul> </li> <li>• Guidance manual on strategic action planning for pollution control boards; and</li> <li>• Training programs for officers of MPCB and UEPPCB on GIS applications .</li> </ul>	<ul style="list-style-type: none"> <li>• Enhanced capacity of top management of CPCB and SPCBs towards strategic thinking, developing vision, and investment oriented environmental action plans ;</li> <li>• Strengthened local human resource base to provide expertise in environmental management; and</li> <li>• Improved cooperation and information exchange between states,</li> </ul>	<p>The National Colloquium was well attended with participation from Chairpersons and Member Secretaries. It resulted in identification of MPCB and UEPPCB as candidates for pilot demonstrations.</p> <p>The situation analysis and strategic action plans led to identification of investment needs of environmental infrastructure in the states. These investment needs were used as inputs by MPCB for the concept of setting up of environmental infrastructure development corporation.</p> <p>For effective utilization of the strategic action plans, GIS based platform was considered useful, and therefore, both IAs were provided with preliminary GIS software and requisite training.</p> <p>The World Bank's proposed capacity building program with MOEF is likely to include this activity for replication at other SPCBs.</p>
<p><b>Activity 4:</b> International roundtable on "Policy instruments for air quality improvement in south Asian cities"</p>	<p>The one and a half-day roundtable was inaugurated by Secretary, MOEF, GOI. It was organized for policy makers from India, Pakistan and Bangladesh, and</p>	<ul style="list-style-type: none"> <li>• Inputs for ADB Publication "Policy instruments for air quality improvement in south Asian cities"; and</li> <li>• Identified Investment requirements in three cities for improving air quality.</li> </ul>	<ul style="list-style-type: none"> <li>• ADB publication; and</li> <li>• Provided access to information on MBIs for air quality improvement to comply with environmental standards,</li> </ul>	<p>The round table deliberated on the various policy approaches and market based instruments for air quality improvement in Dhaka, Delhi and Karachi. It also looked at investment needs for the likely interventions and explored means of financing.</p>

## Cluster TA 3423-IND: Environmental Management at State Level

Description (Implementing Agency)	Delivery of Inputs and Conduct of Activities	Outputs	Outcomes	Evaluation
	regulators, NGOs, and research institutions from India with a focus on market based instruments . It deliberated on the options for improving air quality; developed city based action plans, and assessed investment needs for implementing such plans.			
<b>Activity 5:</b> Training program on “Capacity building for urban air quality management decision support systems” for urban local bodies and SPCBs (co-financed with USEPA)	The TA provided a resource person for demonstration of analytical model developed during implementation of Component E for application in other source apportionment studies planned for critically polluted cities in India to improve urban air quality.	<ul style="list-style-type: none"> <li>• Demonstration of Kolkata Air Pollution Potential Emissions Reductions (KAPPER) Model developed during implementation of Component E for adaptation.</li> </ul>	<ul style="list-style-type: none"> <li>• The model being used for emission projections and simulations in the source apportionment studies undertaken at other cities ;</li> <li>• Strengthened local human resource base to provide expertise in environmental management; and</li> <li>• Improved cooperation and information exchange between states .</li> </ul>	The resource person participated in the training program attended by urban local bodies, SPCBs, mandated to implement air quality improvement programs and by consultants involved in conducting source apportionment studies for critically polluted cities. The adaptation of KAPPER model for these applications was explored.
<b>Activity 6:</b> Support to international conference to mark the beginning of UN “Decade of education for sustainable development” (co-financed with UNESCO)	The TA provided support for organizing the international conference that deliberated the importance of environmental education, and techniques for outreach. It was attended by more than 250 delegates .	<ul style="list-style-type: none"> <li>• Conference Proceedings on UN Decade of education for sustainable development.</li> </ul>	<ul style="list-style-type: none"> <li>• Visibility for MOEF and ADB in the area of environmental education;</li> <li>• Improved cooperation and information exchange; and</li> <li>• Strengthened local human resource base to provide expertise in environmental management.</li> </ul>	The conference deliberated on the importance of education for sustainable development, and associated information dissemination and outreach techniques.  Environmental education is an important aspect in strengthening environmental management through improved awareness, and TA's participation provided distinct visibility to ADB.