

TAR:IND 28044

ASIAN DEVELOPMENT BANK

*This Report has been prepared
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TECHNICAL ASSISTANCE

TO THE

REPUBLIC OF INDIA

FOR

STRENGTHENING ENVIRONMENTAL IMPACT ASSESSMENT CAPACITY

AND ENVIRONMENTAL LEGISLATION

February 1995

CURRENCY EQUIVALENTS

(as of 5 February 1995)

Currency Unit	-	Rupee (Rs)
Rs1.00	=	\$0.0318
\$1.00	=	Rs31.41

ABBREVIATIONS

CEL	-	Centre for Environmental Law
EIA	-	Environmental Impact Assessment
EO	-	Executive Order
HRD	-	Human Resource Development
MOEF	-	Ministry of Environment and Forests
NEERI	-	National Environmental Engineering Research Institute
NGOs	-	Nongovernment Organizations
TA	-	Technical Assistance

NOTES

- (i) The fiscal year of the Government begins on 1 April.
- (ii) In this Report, "\$" refers to US dollars.

I. INTRODUCTION

1. The Government of India has requested the Bank to provide an advisory technical assistance (TA) to strengthen the capacity of the Government and the private sector to plan and implement environmentally sound development projects utilizing the environmental impact assessment (EIA) planning procedure, and to strengthen the related EIA regulatory frameworks. A Fact-Finding Mission to India in June 1993 reached an understanding with the Government on the objectives, scope, cost, and implementation arrangements for the TA.¹

II. BACKGROUND AND RATIONALE

2. India, the world's seventh largest and second most populous country, recently embarked on structural reforms to restore economic growth and improve the efficiency of development through new liberalized policies for agricultural, industrial, and infrastructure development. These policy adjustments were complemented by policies to reduce poverty. It is expected that India will achieve rapid economic development through industrialization and strengthening of infrastructure to support the growth process. There are grounds for concern that the expected rapid economic development together with population growth will exacerbate the growing problem of environmental degradation in India; thus, the sustainability of economic development is in question. Deforestation, land quality degradation, loss of biodiversity, inefficient use of coastal resources and other critical ecosystems, water pollution, air pollution, and poor management of toxic and hazardous substances are all prevalent in India today. The regulatory framework for environmental protection is inadequate.

3. An environmental policy framework already exists in the form of a number of policy documents, acts, and guidelines such as the National Water Policy 1987, National Land Use Policy 1988, National Forest Policy 1988, Policy Statement for Abatement of Pollution 1991, Forest Conservation Act 1980 (amended in 1988), National Conservation and Policy Statement on Environment and Development, Environment Protection Act 1986, Water-Prevention and Control of Pollution Act 1974 (amended in 1988), and Air-Prevention and Control of Pollution Act 1981 (amended in 1987). Pollution standards have been issued and guidelines for EIA of major projects have been promulgated and utilized to a limited extent. Recent environmental regulations require an environment audit of all industrial development projects to review and monitor compliance with such regulations.

4. The preparation of EIAs for development projects has so far been required,² on the basis of an Executive Order (EO) in line with the Environment Protection Act 1986³. The projects covered by the EO are limited to large-scale developments in the industry, mining, irrigation, power, transportation, and communication sectors, as well as projects proposed to be located in ecologically sensitive areas. An administrative structure has been set up, requiring a preliminary EIA followed where necessary, by preparation of a full EIA and environmental

¹ The TA first appeared in the *ADB Business Opportunities* in January 1994.

² Prior to January 1994.

³ An EIA notification dated 27 January 1994 has now made EIA mandatory for projects above certain specified thresholds.

management plan. This system is very similar to the Bank's EIA approach. In addition, regional EIA studies, particularly for river basin developments, which consider the cumulative impacts of a variety of projects, have recently been undertaken. Recent legislation has also been passed requiring land use zoning within the concept of regional planning, and coastal zone management planning that imposes restrictions on types of developments within a relatively narrow strip of coastline.

5. The implementation of the regulations noted above involves no less than 15 ministries, a larger number of government departments, as well as private sector and non-government organizations (NGOs). The Government has already in place a number of legal regulations to control industrial sources of pollution. Because of a number of constraints, however, it is now considering a balanced set of positive incentives as well as legal disincentives. In particular, it is looking at the development and adoption of cleaner industrial technologies whereby incentives such as softer repayment terms for loans used for financing waste minimization measures and reduced fees on effluent discharges may be available to industries adopting cleaner technologies. The institutional setting and legal framework that have evolved in the last few years identify responsibilities for implementation of environmental policies and EIA regulations under the overall supervision of the Ministry of Environment and Forests (MOEF). Most of the line ministries have established environment cells that vary considerably in capabilities to undertake and administer EIA studies.

6. A review of the Indian EIA experience in the last several years indicates limited effectiveness because of insufficient expertise at the practitioner and reviewer levels and lack of understanding and appreciation at the decision-maker level. There is limited ability to apply EIA at the regional or river basin level so as to evaluate the impacts of a large number of diverse activities. MOEF has developed a set of sectoral EIA guidelines, but recognizes a serious gap in the methodologies and guidelines for regional or river basin multi-project EIA and regional environmental planning. Such methodologies and guidelines need to be established in India in line with the Bank's regional economic-cum-environmental planning procedures in order to sustain the development of natural resources. In addition, a recent review of the legal framework indicates that despite copious statutes and legislation, not enough is being done to protect the environment partly because of a lack of consistency in the interpretation of the various laws and regulations.

7. With the advent of the Government's liberalized development policies and the Bank's key role in assisting the Government to formulate and implement these policies, it is appropriate and timely for the Bank to also assist the Government in improving its environmental planning framework by strengthening the legislative framework as well as the institutional and human resource capacity. Such assistance is in line with the medium-term strategy of the Bank for addressing cross-cutting issues and, in particular, for assisting developing member countries (DMCs) in capacity building. Through its experience of providing similar assistance to such countries, the Bank is in a unique position to assist the Government to establish a series of centers of excellence in EIA and environmental law and to introduce effective regional environmental planning and EIA, including a regulatory framework with guidelines and related training courses to meet the needs of decision-makers, administrators, and environment specialists in India.

III. THE TECHNICAL ASSISTANCE

A. Objectives

8. The TA aims to assist the Government to strengthen its overall capability to implement national environmental planning and management by improving its EIA program, applications of regional environmental planning, as well as environmental law research and education. The TA will support an intensive effort by the Government for institutional and human resource capacity building primarily by (i) refining of environmental planning and EIA methodologies and procedures as well as related regulations, and (ii) training of an adequate number of administrators and environmental specialists throughout the country.

B. Scope

9. The TA has two components: environmental assessment capacity (Component A) and environmental law (Component B). Environmental impact assessment capacity involves these activities:

- (i) preparation and refinement of procedural manuals and guidelines on EIA, development of training materials for utilization of these guidelines with a focus on EIA team training for mid- and senior-level project and field study managers;
- (ii) development and implementation of training courses to be carried out by the National Environmental Engineering Research Institute (NEERI) for (i) training in EIA administration, quality control, and review techniques; (ii) training in integration of EIA and project planning for decision-makers; and (iii) training teams of EIA practitioners in project and regional EIA. About 150 specialists will receive such training;
- (iii) external training of two senior Government officials concerned with implementation of the regional EIA program (planning based on carrying capacity) and industrial environment audit, with a particular focus on technologies for pollution prevention and waste minimization, and on environmental considerations in regional and industrial development; and
- (iv) preparation of a five-year human resource development (HRD) plan to meet national EIA program requirements including feasibility-level analysis of the requirements for training facilities, external training, and associated costs; and a proposal for implementation of the five-year HRD plan.

The environmental law component involves assistance with policy research to formulate or amend environmental legislation and with the development of environmental law networking.

C. Cost Estimates and Financing Plan

10. The TA is estimated to cost \$605,000, of which the foreign exchange cost is estimated at \$178,000 and the local currency cost at \$427,000 equivalent (see Appendix 1). The Government contribution is estimated at \$105,000 equivalent. The Bank will finance on a grant

basis the total foreign exchange cost of \$178,000 and part of the local currency cost of an equivalent of \$322,000. Thus a total of \$500,000 will be provided on a grant basis.

D. Implementation Arrangements

11. MOEF will implement the TA. MOEF will set up a Project Office in New Delhi to supervise the TA and liaise with the Bank on the engagement of consultants, procurement of equipment, maintenance of accounts, organization for external and local training, and other administrative tasks. The terms of reference for consultants' services are provided in Appendix 2. MOEF will assign a Director, who will have overall responsibility for TA implementation, and a Program Manager who will be responsible for day-to-day TA implementation under the supervision of the TA Director. The procurement of equipment to be retained by MOEF on completion of the TA will be carried out by the consultants on behalf of the Government and in accordance with the Bank *Guidelines for Procurement*. MOEF will provide the Bank with a list of institutions highly qualified in EIA, that can provide domestic consultants and are willing to undertake the TA. The consultants will be contractually responsible to the Bank, but will be supervised by the TA Director and Program Manager on procedural matters such as conducting training courses and preparing case studies.

12. The Bank will engage the services of international (3 person-months) and domestic (43 person-months) consultants pursuant to the Bank *Guidelines on the Use of Consultants*. For the domestic consultants in Component A, NEERI will be selected following the special selection procedures specified in Section 6.14 in the Bank *Guidelines on the Use of Consultants* because of NEERI's experience in similar projects.

13. NEERI¹ will provide 23 person-months of domestic experts in the fields of EIA, environmental modelling and monitoring, curriculum development, instructional materials preparation, training, regional economic and environmental planning, air quality management, water quality management, natural resource management, environmental health, socioeconomic and resettlement issues, risk assessment, and management information systems.

14. The Centre for Environmental Law (CEL)² will be assisted in Component B by a team of domestic and international consultants which will provide 20 person-months in the field of environmental legislation and provide international inputs for Component A as well. This team of internationally recruited and domestic consultants will be selected following international

¹ NEERI is recognized as India's leading EIA institution for analytical work as well as training. NEERI has established a national network and international contacts, which ensures that the very best EIA specialist would be available for the TA. NEERI has an independent corporate status as a research institute, and has performed and continues to perform consulting services for the Government with respect to environmental issues. The request of the Government to appoint NEERI is supported for the reasons given above and also because the TA would then facilitate delineation and strengthening of centers of EIA excellence networked through NEERI and MOEF and which can be called upon by the Bank to carry out EIA studies for Bank projects with assurance of high quality at low cost.

² CEL is a nongovernment organization (NGO) that provides facilities for legal research, education, legal interventions, networking, and advocacy. MOEF has designated CEL as a national facility and as a cooperating agency for this TA.

recruitment procedures specified in the Bank *Guidelines on the Use of Consultants*.

15. The TA will be implemented over a period of about 18 months and discussed in a meeting between the representatives of the Bank, the Government, and the consultants. A tripartite review will be carried out in the 4th and 17th months.

16. The consultants for Components A and B will be responsible for submitting the following reports to the Government and the Bank:

- (i) inception reports, to be submitted at the end of the third month, after mobilization of consultants;
- (ii) progress report for Component A, including a case study report at the end of the 10th month, training course evaluations at the end of the 14th month, an Expert Systems for Environmental Screening Report and software at the end of the 16th month, and for Component B, an Environmental Law Management Information System and Network at the end of the 16th month;
- (iii) draft final reports, including for Component A only, an HRD-EIA feasibility study and recommendations for the establishment of centers of EIA excellence to be submitted at the end of the 17th month; and
- (iv) a final report within two weeks of the final tripartite review, taking into account the comments of the Government and the Bank.

17. The Government, the Bank, and the consultants will discuss within two weeks of their submission during tripartite meetings the inception reports and the draft final reports.

IV. THE PRESIDENT'S DECISION

18. The President, acting under the authority delegated to him by the Board, has approved the provision of technical assistance, on a grant basis, to the Government of India in an amount not exceeding the equivalent of \$500,000 for the purpose of Strengthening Environmental Impact Assessment Capacity and Environmental Legislation, and hereby reports his action to the Board.

COST ESTIMATES
(in US\$'000)

Amount

A. BANK FINANCING

1. Foreign Exchange Cost

a.	International Consultants' Remuneration	57
b.	International Per Diem	
	International Consultants	10
	External Training	6
c.	International Travel	
	International Consultants	10
	External Training	5
d.	International Communications	3
e.	Computers and Training Equipment	42
f.	Training Material and Reference Documents	5
g.	Report Preparation Documents (incl. Case Study Reports)	12
h.	Government Representative at Contract Negotiations	3
i.	Contingencies	25

Subtotal (1)	178
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2. Local Exchange Cost

		<u>Assessment</u>	<u>Law</u>	<u>Total</u>
a.	Domestic Consultants' Remuneration (incl. Case Study Preparation/Analysis and Training Seminar)	150	110	260
b.	Local Airfare	5	5	10
c.	Local Transportation	5	-	5
d.	Networking and Management Information Systems Training	5	10	15
e.	Contingencies	22	10	32

Subtotal (2)	322
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Total A (1+2)	500
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B. GOVERNMENT FINANCING

a.	Counterpart Staff	30
b.	Local Airfare	5
c.	Local Transportation	15
d.	Case Study Preparation/Analysis	35
e.	Administrative Expenses (Office Space, Training Venue, Supplies, Counterpart and Support Staff)	5
f.	EIA Training Courses/Seminars	<u>15</u>

Total (B)	<u>105</u>
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Grand Total (A+B)	605
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(Reference in text: page 3, para. 10)

TERMS OF REFERENCE

A. Environmental Impact Assessment Capacity

1. The terms of reference (TOR) of the consultants include, but are not limited to, refining and, as required, preparing new procedural manuals and guidelines for environmental impact assessment (EIA). The specific tasks are:

- (i) refining manuals and guidelines on project-specific EIA, utilizing existing manuals and training materials of the Ministry of Environment and Forests (MOEF) and applicable materials developed by the Bank. Such manuals and guidelines shall cover the following topics:
 - environmental screening (including preparation of computerized expert systems);
 - initial environmental examination;
 - full-scale EIA including measurement, modelling, and prediction techniques;
 - measurements of uncertainty in EIA projections;
 - preparation of TOR for EIA;
 - preparation of critiques of EIA;
 - methods for assuring compliance with implementation of environmental management measures as an integral component of project implementation;
 - methods for preparing appropriate monitoring programs;
 - risk assessment and waste minimization for industry and power projects; and
 - resettlement issues.
- (ii) developing a case study of the Damodar River Basin and training on applications of EIA for regional economic-cum-environmental regional planning (planning based on carrying capacity) and for evaluation of policy and development program proposals;
- (iii) developing a manual for EIA trainers; and
- (iv) developing an EIA manual for decision-makers.

2. The consultants will carry out the following training activities:

- (i) preparation of training materials for the administrative and technical components listed above, with a focus on EIA team training for mid- and senior-level project managers and field managers; and for awareness

(Reference in text: page 4, para. 11)

training of environmental planning and management decision-makers, giving emphasis to regional planning and the principle that the polluter pays;

- (ii) initial testing of training materials and procedures through application in training courses be carried out by the National Environmental Engineering Research Institute (NEERI), which is also responsible for the ongoing Carrying Capacity Study of the Damodar River Basin. A core group of trainers will conduct the courses. Trainees will include administrators and environmental specialists (about 150) from various ministries and institutions selected because of their prospects as future trainers of EIA practitioners; and
- (iii) a series of seminars on waste minimization and regional industrial development to collect basic information on newly developed technologies and methodologies now available.

3. The consultants will prepare a human resource development (HRD) plan, in consultation with the Government's Secretary of Environment. The HRD plan will include a feasibility-level strategy to develop environmental planning and management capability within the Government. The plan will cover the following:

- (i) clear objectives and goals for the next five years to address manpower needs within the field of environment among sectoral and multisectoral agencies of the Government;
- (ii) assessment of the constraints to HRD for the environment sector, taking account of the current state of environmental affairs in the Government, including major sectoral problem areas, areas of critical geographical concern, administrative institutions and interrelationships among agencies, and Government budgetary resources available for environmental protection issues;
- (iii) specific time-bound targets for the next ten years to determine the degree to which objectives are met and whether they are to be revised;
- (iv) identification of immediate needs and inputs to implement the HRD plan including necessary facilities for performing specific environmental functions such as monitoring and database management as well as working budgets; and
- (v) determination of critical manpower requirements and material resources required for short- and medium-term training.

4. The consultants will liaise with the experts/organizations appointed for the environmental law component, and review their recommendations and reports.

5. The consultants will carry out the procurement of equipment on behalf of the Government in accordance with the *Bank Guidelines for Procurement*.

B. Environmental Law

6. The consultants will contribute to strengthening environmental law research and education in India by supporting the following activities:

- (i) obtain copies of key reference materials to be the core information for a central repository of relevant legal information;
- (ii) collect and review all pertinent legislation including laws, executive regulations, regional and international treaties and declarations, by-laws or other regulations;
- (iii) collate the legislation and reviews in a logical sequence, such as chronologically within each major environment sector. Sectors may include resources use, resource conservation, pollution control. Within each sector may be subsectors; for example, under resource use may be forest, fisheries, and land use. These examples are meant to provide guidance only since the consultants must determine the most appropriate organization;
- (iv) draw up an historical account of the evolution of India's environmental legislation, identifying the reasons for such evolution and including indigenous customary law and traditional environmental management procedures;
- (v) review and assess environmental regulations and standards followed in practice; for poorly implemented legislation, determine reasons for weaknesses in implementation or enforcement and the precise distribution of responsibilities for enforcement and implementation;
- (vi) identify environmental legislation that requires updating to attain sustainable economic growth; provide for technological progress and demographic growth, as well as take into account administrative, social, and cultural factors, regional and international obligations, or similar considerations;
- (vii) determine gaps in environmental legislation and provide recommendations for correction either through amendments or enactments; and recommend potential resolution of conflicts among the laws in force through amendment of legislation; and

- (viii) develop a management information system for environment legislation and propose a networking system of government authorities, nongovernment organizations (NGOs), and other concerned parties for dissemination of information.

7. The consultants will assist in undertaking the following activities:

- (i) solicit comments on preliminary findings and analyses from other recognized experts in environmental law and from government agencies before the preparation of a draft report with recommendations;
- (ii) prepare a draft final report on recommended environmental legislation that is compatible with India's economic and technological growth, administrative systems, and regional and international obligations, presented in such a way as to strengthen the Government's decision-making process;
- (iii) develop guidelines to help pertinent Government authorities in enforcing legislation, regulations, and environmental standards; and
- (iv) assist in preparing and implementing a training program leading to the implementation of an environmental legislation network.

8. The consultants will carry out the procurement of equipment on behalf of the Government in accordance with the *Bank Guidelines for Procurement*.

C. Reports

9. Consultants for Component A will furnish copies of their draft and final reports to the team of domestic and international consultants for comments. Likewise, the team of domestic and international consultants will submit their reports for comments to the consultants for Component A.

10. The consultants will prepare an inception report, an interim report and a final report. Draft reports will be reviewed in liaison with the experts/organizations appointed for the Technical Assistance, and discussed in tripartite/project review meetings.