DRAFT REPORT

ON

SCOPE, STRUCTURE AND PROCESSES OF NATIONAL ENVIRONMENT ASSESSMENT AND MONITORING AUTHORITY (NEAMA)

FOR MINISTRY OF ENVIRONMENT & FORESTS, GOI

BY

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EXECUTIVE SUMMARY

The project titled 'Scope, Structure and Processes of National Environment Assessment and Monitoring Authority (NEAMA)[1] given by MoEF to IIT Delhi consortium had the broad mandate for developing the objectives, structure and core processes of the proposed NEAMA.

The findings and recommendations of the project are based on a) an analysis of various research and committee reports, b) a critical review of the implementation of EIA notification 2006, CRZ notification 1991 and proposed CZM Notification 2010, c) a review of the international practices d) field visits to CPCB, SPCB (Maharashtra, Gujarat & Punjab), regional office of MoEF, Maharashtra Coastal Zone Management Authority , Punjab PCC, IA and CRZ divisions of MoEF; and e) stakeholder consultations with the industry, civil society and government representatives.

Major findings and recommendations in this summary are classified under three sections. Section I brings out the need, scope and fundamental principles for the design of NEAMA . Sections II and III present structure and process related recommendations respectively.

MAJOR FINDINGS & RECOMMENDATIONS

Section I: Need, Scope & Fundamental Principles for NEAMA

1. Though there are institutions like CPCB and SPCB for handling issues of pollution control and post commissioning monitoring of projects at the Centre and State levels respectively, the core processes of granting EIA and CRZ clearances, preparation of CZM plans and post clearance monitoring (till commissioning stage) have no well defined institutional framework and are housed in the Ministry of Environment & Forests, GoI. "The need for a body like NEAMA arises from the rapid industrial and infrastructural development in the last decade, which has exerted tremendous pressure on environment. The number and complexity of the projects being processed for environmental clearance has increased multi-fold whereas the capacity and resources available with MoEF and its agencies have remained limited."

[1] Earlier proposed to be NEPA, but with a modified scope of the organization, it is now named National Environment Assessment and Monitoring Authority' to reflect the sope of its operation.

2. Clearance conditions have three key elements. They are objective and measurable, consistent and fair, and economically and technologically viable.
3. Our review of the international practices reveals that most countries have independent, specialized institutions for conducting EIA, Coastal Zone Management and Post Clearance Monitoring.
4. We analysed the implementation of EIA 2006 notification and the proposed CZM notification 2010 in terms of policy, structure and process level issues. **Almost all the problems in implementing these notifications relate to structure and processes.** Key issues are mentioned below
   a. The presence of MoEF in both the appraisal and approval processes leads to a **perception of conflict of interest**. The Member Secretary (who, according to the 2006 notification, was supposed to be the Secretary) is involved in the processing, appraisal and approval of the EIA applications.
   b. Lack of permanence in the Expert Appraisal Committees leads **to lack of continuity and institutional memory** leading to poor knowledge management.
   c. Current EIA and CRZ clearances rely predominantly on the data provided by the project proponent and the **absence of authenticated and reliable data** and *lack of mechanisms to validate the data provided by the project proponent* might lead to **subjectivity, inconsistency and inferior quality of EIA reports**.
   d. Though the EIA notification requires several documents like ToRs (for every project), minutes of public hearing meetings (for each project), EIA report (with clearance conditions) and self-monitoring reports to be put in public domain (predominantly on the website), this has not been done for lack of institutional mechanisms. This leads to a perception of **lack of transparency** in the processes.
   e. Several studies have pointed toward the poor monitoring of the clearance conditions. Huge gaps in monitoring and enforcement of clearance conditions actually defeats the very purpose of grant of conditional environmental clearance.
5. Based on the observations made above (para 2), international benchmarks and a review of several committee reports, the following principles are used as loadstars for the design of NEAMA.

a) Independence of appraisal and approval process (to address conflict of interest issues).
b) Objectivity/predictability in the appraisal process through use of authenticated, reliable and valid scientific (real-time/time series) data procured through independent agencies, institutional memory and permanence in the Appraisal committees. NEAMA to be scientific, economic and analytical tools driven.
c) Transparency in the process and outcomes of appraisal and monitoring by putting them in the public domain predominantly through the website.
d) The body should have a statutory foundation to ensure autonomy.

Section II: Structure Related Recommendations

6. The three broad objectives of NEAMA would include a) Processing EIA, b) Processing CRZ clearances and preparing coastal zone management plans and c) Monitoring of compliance conditions in pre-commissioning stage and coordinate during the post-commissioning phase upto the validity period of the clearance.
7. Given the mandate of NEAMA, National Coastal Zone Management Authority (NCZMA) would be subsumed in NEAMA.
8. Authenticated data on air and water quality to reside with CPCB, on forest with the FSI and on coastal regime with the NCSCM.
9. Additionally, in view of the ambiguity in the functioning and control of State Environment Assessment Authorities (SEIAAs) and State/ Union Territories Coastal Zone Management Authorities, an additional objective of NEAMA would also be the coordination and guidance of these two bodies.
10. NEAMA would derive powers from the EP Act, 1986 (Powers of entry & inspection, Power to direct utilities to maintain registers and furnish reports, Authority to prosecute for offences, Power to take samples, Power to give directions and Power to appoint its own officers).
11. However certain amendments are recommended in EP Act, 1986 which include a) Power to Charge a fee from the Project Proponent; b) Power to take bank guarantees as a performance enforcement measure, and c) Power to determine and levy financial fines for

non-compliance, non-filing of self-monitoring reports, false data, misrepresentation and any other violation of the EIA notification 2006 and proposed CZM notification 2010.

12. Charging of a suitable fee from the project proponent would provide financial autonomy to NEAMA.
13. The Chairman and Full Time Board Members are to be from technical/scientific or environmental economics or environmental management backgrounds and to be appointed by the Central Government.
14. Part-time members are to be drawn from various stakeholder groups. A representative from the civil society/NGO is to be present on the Board as a part time member.
15. A code on conflict of interest is proposed to further bring in accountability of the apex level Board members. Broad guidelines for developing a code on conflict of interest are proposed, which includes general principles, nature and process of disclosures, acceptance of gifts and procedure for public to raise conflict of interests. These codes would apply to all and particularly to the Board, Full and Part-time members and the TACs (including the invited experts).
16. Expert Appraisal Committees are renamed as Thematic Appraisal Committees (TAC) and are to consist of 8 full-time members drawn from different divisions of NEAMA (like Survey & Research, Economic Costs, database management, EIA and CRZ Divisions), to respond to the need of continuity and institutional memory. Drawing experts from different divisions would also address the need for including diverse skill sets in TACs. External experts from empanelled Institutes/agencies may be invited on TACs on a case to case basis. TACs to be chaired by the Chairperson or full-time Members of the NEAMA.
17. NEAMA includes Survey & Research, Economic costs, Database Management divisions (for scientific data, analysis, interpretation and use), for scientific and analytical rigour which will to lead to objectivity and predictability.
18. It also has a dedicated IT division to make all the reports available on the website to increase the transparency. Monitoring, compliance and enforcement to be done through the six zonal offices of NEAMA.
19. Monitoring and enforcement of the CRZ regulations to be addressed by NEAMA in conjunction with the State/UT Coastal Zone Management Authorities.

Section III: Process Related Recommendations

20. The appraisal of projects for EIA/CRZ clearances and review of coastal zone management plans is proposed to be done by NEAMA. Based upon the recommendations of NEAMA, the approval or otherwise shall be done at the level of MoEF.
21. Model ToRs are to be generated with the help of in-house Survey & Research, Economic Costs and Database Management divisions of NEAMA.
22. The entire process would be automated. Transparency in the EIA, coastal zone clearances and preparation of Coastal Zone Management plan, is sought to be increased by putting up a) ToRs (for every project), b) Minutes of public hearing meeting (for every project), c) Final EIA report with clearance conditions, d) Self monitoring reports e) Reports of inspections done by NEAMA staff and empanelled inspectors, on the NEAMA website.
23. There are well-defined steps in the process that use real-time as well as time-series scientific data (from both in-house expert divisions and outside experts) for validating the data provided by the project proponent and decision-making.
24. Project proponents may get authenticated data (from accredited institutions/agencies like CPCB, FSI and NCSCM) on payment of fee.
25. Calculation of economic cost of compliance conditions is required to be a part of the EIA report. To ensure compliance, it is recommended that the project proponent be asked to furnish a Bank Guarantee (objectively linked to the total cost of compliance conditions). This would ensure a) compliance on the part of the project proponent and b) imposition of realistic and monitorable conditions by the TAC.
26. Services of NCSCM may be taken for preparation of draft Coastal Zone Management plans.
27. Public hearing is to be included in the process of preparation of Coastal Zone Management Plans.
28. It is proposed that a NEAMA observer be present in public hearing meetings and the report of these observers be considered along with the minutes of the public hearing meetings.
29. Monitoring, compliance and enforcement is to be the responsibility of NEAMA. Monitoring is to be done though three mechanisms a) six-monthly self-monitoring report; b) inspections by the NEAMA staff; and c) inspections by authenticated and suitably qualified inspection agencies. The information on compliance and enforcement should be

made available on the website of NEAMA and MoEF in public domain for social audit. Monitoring has to be done with respect to the independent database, environmental standards and the conditions imposed in the clearance."

30. By way of monitoring and enforcement, a warning is to be issued in the instance of failure to submit self-monitoring report in time. If the organization still does not respond, an economic fine is to be levied. For non-compliance, economic cost of non-compliance is to be assessed and charged from the organization for non-compliance. An amendment in the E(P) Act, 1986, may be needed for this purpose. In addition, directions under Section 5 of the Act, including directions of closure in extreme cases, may also be issued.
31. The competencies of the people in NEAMA need to reflect a) Scientific and analytical nature of the core processes and b) diversity of the skills required in the processes.

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LIST OF ABBREVIATIONS

ALGA	Australian Local Government Association
ASSOCHAM	The Associated Chambers of Commerce and Industry of India
CEAA	Canadian Environmental Assessment Agency
CERC	Central Electricity Regulatory Commission
CII	Confederation of Indian Industries
CPCB	Central Pollution Control Board
CRZ	Coastal zone regulations
CZM	Coastal Zone Management
CZMA	Coastal Zone Management Authority
CZMP	Coastal Resources Management Program
DBD	Database Management Division
DB-HO	Database-Head Office
DST	Department of Science and Technology
EIA	Environmental Impact Assessment
EA	Environmental Assessment
EAC	Expert Appraisal Committee
EC	Environmental Clearance
EIA	Environmental Impact Assessment
EIR	Environmental Impact Report
EPA	Environment Protection Act
EU	European Union
FICCI	Federation of Indian Chambers of Commerce and Industry
FSI	Forest Survey of India

GDP	Gross Domestic Product
GIS	Geographical Information System
GoI	Government of India
HRM	Human Resource Management
HTL	High Tide Line
IA	Impact Assessment
IAA	Impact Assessment Agency
ICAG	Intergovernmental Coastal Advisory Group
ICZM	Integrated Coastl Zone Management
IEG	Independent Evaluation Group
IRDA	Insurance Regulatory and Development Authority
IT	Information Technology
KSEB	Kerala State Electricity Board
LTL	Low Tide Line
M&C	Monitoring & Compliance
MoEF	Ministry of Environment and Forests
NCEPC	National Committee on Environmental Planning and Coordination
NCSCM	National Center For Sustainable Coastal Management
NEAMA	National Environment Assessment & Monitoring Authority
NEPA	National Environment Protection Authority
NGO	Non Governmental Organisation
NGT	National Green Tribunal
NOAA	National Oceanic an Atmospheric Administration
OCRM	Office of Ocean and Coastal Resource Management

OECD	Organization for Economic Cooperation and Development
PA	Project Authority
PCB	Pollution Control Board
PCCs	Pollution Control Committees
PH	Public Hearing
PIB	Public investment board
PP	Project Proponent
R&D	Research and Development
S&R	Survey & Research
SCZMA	State Coastal Zone Management Authority
SEA	Strategic Environment Assessment
SEBI	Securities and Exchange Board
SEIAA	State Environment Impact Assessment Authority
SPCBs	State Pollution Control Boards
TAC	Thematic Appraisal Committee
ToRs	Terms of Reference
UK	United Kingdom
USEPA	United States Environment Protection Authority
ZO	Zonal Office

CHAPTER 1

INTRODUCTION, TERMS OF REFERENCE AND METHODOLOGY

1.1 Introduction

The Prime Minister of India, Shri Manmohan Singh, in his address during the 'National Conference of Ministers of Environment & Forests' on August 18, 2009, had suggested that the government should consider setting up of National Environment Protection Authority. This observation probably emanates from the fact that economic development projects initiated with the objective of enhancing levels of quality of life (material comfort) have resulted in detrimental effects on people and natural resources. Because of inadequate environmental planning, human activities have resulted in the disruption of social and communal harmony, the loss of human livelihood and life, the introduction of new diseases, and the destruction of renewable resources. These and other consequences can negate the positive benefits of economic development.

The starting point for the world's concern about the environmental effects of industrialization may be attributed to The Stockholm Conference in 1972 (Mather and Chapman, 1995[1]). At that time, environmental and developmental problems were usually regarded separately, and a need for synthesis between conservation and development was beginning to appear. Some years later, the publication by the World Commission on Environment and Development, also known as the *Brundtland* Report, brought together environmental and developmental issues, i.e., integrating environmental aspects with economic and social aspects. EIA has been considered as a central management tool for achieving sustainable development supporting the notions of the Brundtland Commission (1987), which defined sustainable development as "development, which meets the needs of the present generation without compromising the ability of future generations to fulfill their needs."

Economic development in developing countries has been focused on immediate economic gains environmental protection has not been a priority because the economic losses from environmental degradation often occur long after the economic benefits of development have been realized. According to the Asian Development Bank, the cost of pollution in India in 1992 was estimated at 6% of GDP (Jha & Whalley, 1999[2]).

[1] Mather, A.S & Chapman, K. (1995) 'The Land Resource: Forest', Environmental Resources. UK, Longman

[2] Jha, R. and J. Whalley, (1999), "The Environmental Regime in Developing Countries," Paper presented at *Distributional and Behavioural Effects of Environmental Policy*, NBER/FEMI Conference, 11-12

The past failure of development planning processes to take adequate account of the detrimental impacts of economic development activities led to the advent of *environmental impact assessment (EIA)* processes. EIA was first employed by industrialized countries in the early 1970s.

According to the Business Dictionary[3] Environmental Impact Assessment may be defined as

> *Detailed study based on environmental assessment (EA) to determine the type and level of effects an existing facility is having, or a proposed project would have, on its natural environment. Its objectives include (1) to help decide if the effects are acceptable or have to be reduced for continuation of the facility or proceeding with the proposed project, (2) to design/implement appropriate monitoring, mitigation, and management measures, (3) propose acceptable alternatives, and (4) to prepare an environmental impact report (EIR). The adequacy of an EIA is based on the extent to which the environmental impacts can be identified, evaluated, and mitigated. An EIA is a standard requirement …..and is critically important for projects requiring a major change in land use or those which are to be located in environmentally sensitive areas.*

According to Center for Science and Environment[4], a leading NGO in India

> *EIA systematically examines both beneficial and adverse consequences of the project and ensures that these effects are taken into account during project design. It helps to identify possible environmental effects of the proposed project, proposes measures to mitigate adverse effects and predicts whether there will be significant adverse environmental effects, even after the mitigation is implemented. By considering the environmental effects of the project and their mitigation early in the project planning cycle, environmental assessment has many benefits, such as protection of environment, optimum utilisation of resources and saving of time and cost of the project. Properly conducted EIA also lessens conflicts by promoting community participation, informing decision*

[3] http://www.businessdictionary.com/

[4] http://www.cseindia.org/node/383

makers, and helping lay the base for environmentally sound projects. Benefits of integrating EIA have been observed in all stages of a project, from exploration and planning, through construction, operations, decommissioning, and beyond site closure.

It may be inferred from the preceding definitions that) *detailed scientific studies* for a systematic examination of the effects of a project on both human and non-human physical environment, are a must, b) EIA has to consider the impact of a project on social structures, and c) monitoring of the project post impact assessment is important. Thus any organization designed to institutionalize EIA needs to address these issues significantly.

Several committees[5] [6] have made major recommendations for reforms in environmental governance (their specific recommendations are discussed in subsequent chapters). The main focus of this report is to first identify key issues and then propose a structural and process related plan to implement these key issues raised by various experts and stakeholders, from time to time.

1.2 Terms of Reference/ Objectives[7]

The terms and references/Objectives of the present project are given in the following sub-sections.

1.2.1 Role and Responsibility of NEPA

The focus in this phase would be to identify the mandate for NEPA both in the short as well as the long terms, which will include the following:

a) Identifying the powers that NEPA will have under various statues

b) Identifying the objectives, vision and mission statements of NEPA

1.2.2 Organizational Design and Core Operational Processes of NEPA

[5] Report of the High Powered Committee on Statutory Clearances, CPCB, April 2010
[6] Reports for the task forces on Governance, Transparency, Participation and Environmental Impact Assessment and Urban Environmental Issues, (Shekhar Singh Committee Report), Planning Commission, 2007
[7] Please see Annexure I for the Terms of Reference

Based on the mandate of NEPA and its vision and mission statements, an organizational design will be proposed. The design of NEPA would be done around four aspects i) The Strategic Apex (Level and broad roles, responsibilities and authority of the head of NEPA, constitution and the role of the board of Directors, the relationship of NEPA with the MoEF); ii) The Operational Core (Identification of the functional units or departments around the core functions of NEPA and design of broad hierarchy and the nature of professionals required to man the professional core; iii) The support functions (like maintenance, HRM etc.); iv) Core Operational Processes

The specific objectives are mentioned below

a) Identifying broad organizational structure (at the strategic level)

b) Working out the functional areas

c) Work out the relationship of NEPA with other existing institutions

d) Propose processes for core operations of NEPA

1.2.3. Resource Requirements for Establishing NEPA

This would include the following

a) Manpower requirements
b) Infrastructure Requirements
c) Financial Implications

1.3 Methodology

To be able to respond to the needs of the project, we used multiple methods like observation, interviews, field visits, analysis of existing literature and international benchmarks involving different stakeholders.

We studied some international experiences of institutionalizing EIA and Coastal Zone Management (CZM) processes, besides studying the existing literature. These are discussed in detail in subsequent chapters. Indian and international practices on EIA and CZM are included in Chapter 2.

1.3.1 Field Visits

With the objective of understanding the issues and their implementation at the ground level, field visits were conducted to the following sites

- Central Pollution Control Board (Meeting with the Member Secretary)
- Ministry of Environment & Forests (IA & CRZ Divisions)
- SPCBs (Haryana Pollution Control Board, Maharashtra Pollution Control Board, Gujarat Pollution Control Board)
- PCCs (Chandigarh)
- SCZMA (Maharashtra Coastal Zone Management Authority)
- Regional office of MoEF in Chandigarh.

The analysis of the relevant facts (for the purpose of our project objectives) revealed that there were vast differences in various SPCB's Maharashtra was much more advanced and developed as compared to Punjab PCB. Regional offices of MoEF had skeletal staff and infrastructure. There was no standard format for monitoring of post clearance conditions. According to EIA notification, 2006, organizations are required to submit self monitoring reports, our team could not access these reports.

1.3.2 Multi-Stakeholder Consultations

Consultations with various stakeholders were conducted, with a view to develop a comprehensive understanding of the issues and the following were consulted

- CII Meeting (Industrial Consultation with 10 major category A industries from both Public as well as Private Sector were included (please see Annexure II for participant list and Annexure III for Summary of their comments)
- Civil Society Meetings (Mr. Rithwik Dutta from Environment Resource Centre on May 28, 2010 , Please see Annexure IV for a summary of the interview Online Discussions with Ms. Kanchi Kohli & Ms. Manju Menon of Kalpvriksh)
- Mr. John Seager (Head of Environment Strategy at the Environment Agency, UK on Feb 16, 2010)
- Ms. Manju Mohan (Expert Appraisal Committee Member see Annexure V for a summary of the interview)
- E-mail discussions with Catherine MacCallum, Senior Environmental Officer, Strategic

Policy And Planning Services, Office of the Environmental Protection Authority, Australian (Copy of the Mail attached in Annexure VI)

- Participation in workshop on reforms in environmental Regulation held by Ministry of Environment and Forests on 25.05.2010

The observations arising from these discussions are used in subsequent chapters.

1.4 Structure and Organization of the Report

The report may broadly be divided into two parts. Part I focuses predominantly on evaluation and assessment of the background (Chapter 1). After analyzing EIA implementation in India and international benchmarks, we develop guiding principles for the design of proposed NEAMA (NEAMA)[8] in Chapter 2 in this part (Part I). Part II focuses on recommendations and addresses the key objectives (terms of reference) for this project. Chapter 3 recommends the vision, mission, objectives and legal powers of the proposed NEAMA. Chapter 4 presents the organizational structure both at the strategic as well as operational levels. Chapter 5 presents the old and the new core processes, viz. EIA, CRZ and Post clearance monitoring along with the linkages of the proposed NEAMA with other organizations and Chapter 6 presents resource requirements.

[8] Though the ToRs given by MoEF refer to the proposed body as NEPA, in view of the scope of operations of this Authority, we would prefer to name it National Environment Assessment and Monitoring Authority (NEAMA) to truly reflect its objectives and responsibilities.

CHAPTER 2

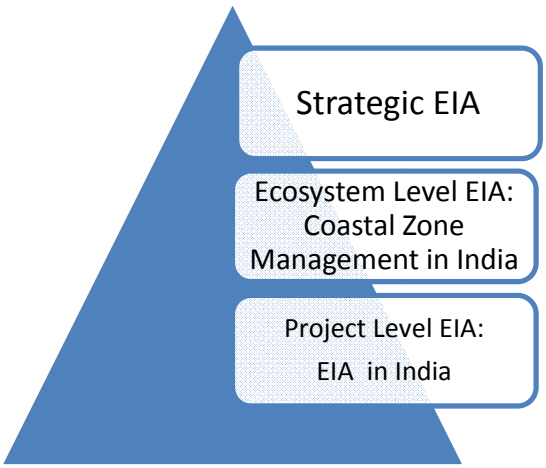
EIA AND CZM: INDIAN AND INTERNATIONAL EXPERIENCES

2.1: EIA: Concept & Its Evolution

The focus in this chapter is on the two core processes forming the bedrock of environment protection and management, viz. EIA and Coastal Zone Management. Conceptually Coastal Zone Management may be treated as a specialized subset of a generic EIA process.

Figure 2.1 presents the hierarchy of EIA proposed by Sadler (1996)[9], and mapping of EIA processes in India. Most projects go through an EIA process either at the Centre of the State level (details in subsequent sections), there are ecosystem level plans for coastal zone management. Thus, though EIA is a generic concept, specialized zones (like coastal zone) form a subset of the EIA processes conceptually. Planning Commission committee, too, has recommended preparation of national level plans[10].

Figure 2.1: Levels of EIA Processes in India



[9] Sadler, B. (1996). International Study of the Effectiveness of Environmental Assessment. *Environmental Assessment in a Changing World: Evaluating Practice to improve performance*. Report prepared for Canadian Environmental Assessment Agency and International Association of Impact Assessment.
[10] Reports for the task forces on Governance, Transparency, Participation and Environmental Impact Assessment and Urban Environmental Issues, (Shekhar Singh Committee Report), Planning Commission, 2007

Environmental Impact Assessment can be broadly defined as the systematic identification and evaluation of the potential impacts (effects) of proposed projects plans, programmes or legislative actions relative to the physical – chemical, biological, cultural and socioeconomic components of the total environment (Canter, 1996[11]).

An analysis of several conceptualizations and definitions of EIA would reveal the following as essential components of the EIA process.

- screening - to decide if and at what level EIA should be applied
- scoping - to identify the important issues and prepare terms of reference
- impact analysis - to predict the effects of a proposal and evaluate their significance
- mitigation - to establish measures to prevent, reduce or compensate for impacts
- reporting – to prepare the information necessary for decision making
- decision-making – to approve or reject the proposal and set conditions
- follow up – to monitor, manage and audit impacts of project implementation
- public involvement – to inform and consult with stakeholders

Much work in recent times has been done on public involvement and its significance in the EIA process. Needless to say, all EIA processes need to give due cognizance to involving affected parties and stakeholders. An analysis of the key components mentioned above, reveals a heavy reliance on impact analysis, mitigation and reporting of the impact assessment which require sound technical and scientific analysis. Robinson in as early as 1989 had emphasized the significance of science and scientific expertise in the EIA process.

Sadler (1996) classifies EIA processes as occurring at three levels. At the most elementary level is the project based EA system, which looks at individual projects and their environmental impact in isolation. As the name implies it is done on project to project basis. The second EA is at the ecosystem level. At this level focus is on preparing land use, territorial, sectoral and infrastructure plans. Finally the strategic level EA is included at macro-economic policy levels, budgets and trade agreements. Countries vary in terms of the level at which they implement EIA systems.

[11] Canter, L.W., (1996). *Environmental Impact Assessment* (Second Edition), McGraw-Hill Inc

The origin of EIA can be traced to implementation of the National Environment Policy Act (NEPA) 1969 in the US, which made EIA a mandatory regulatory process. Initially, EIA was followed in developed or high-income countries, significantly in Canada, Australia, and New Zealand (1973-74). Columbia (1974), Philippines (1978) were the early adopters of EIA from amongst the developing countries. The process took momentum in 1980s and very significantly, in 1989, the World Bank adopted EIA for major development projects, in which a borrower country had to undertake an EIA under the Bank's supervision**.**

Evolution of EIA can thus be divided into four overlapping phases. 1) Introduction and early development (1970 -1975) – mandate and foundations of EIA established in the USA; then adopted by a few other countries (e.g. Australia, Canada, New Zealand); basic concept, procedure and methodology still apply. 2) Increasing scope and sophistication (mid ’70s to early ’80s) – more advanced techniques (e.g. risk assessment); guidance on process implementation (e.g. screening and scoping); social impacts considered; public inquiries and reviews drive innovations in leading countries; take up of EIA still limited but includes developing countries (e.g. China, Thailand and the Philippines). 3) Process strengthening and integration (early ‘80’s to early ’90s) – review of EIA practice and experience; scientific and institutional frameworks of EIA updated; coordination of EIA with other processes, (e.g. project appraisal, land use planning); ecosystem level changes and cumulative effects begin to be addressed; attention given to monitoring and other follow-up mechanisms. Many more countries adopt EIA; the European Community and the World Bank respectively establish supra-national and international lending requirements. 4) Strategic and sustainability orientation (early ’90s to date) EIA aspects enshrined in international agreements; marked increase in international training, capacity building and networking activities; development of strategic environmental assessment (SEA) of policies and plans; inclusion of sustainability concepts and criteria in EIA and SEA practice; EIA applied in all OECD countries and large number of developing and transitional countries.

2.1.1 EIA in India

The beginning of government efforts to regulate pollution started with the enactment of The Wildlife Protection Act in 1972 (Kathuria & Gundimeda, 2001[12]). Some of the landmark acts were the Water (Prevention and Control of Pollution) Act of 1974, the Air Act, The Environment Protection Act (EPA) of 1986 (MoEF, 2003). The EPAct (1986) is considered an umbrella legislation as it has enabling provisions for standards, rules and notifications related to restrictions on industries (see Section3 (2)(v)). However, their monitoring has been inefficient to say the least (Priyadarshini & Gupta, 2003[13]).

The foundation of environmental impact assessment (EIA) in India was laid in 1976-77 when the Planning Commission asked the then Department of Science and Technology (DST) to examine the river-valley projects from environmental angle. During the same time environmental issues had gained importance in India post Stockholm conference in 1972 where India upheld the cause of "poverty is the worst polluter". As its consequence National Committee on Environmental Planning and Coordination (NCEPC) was constituted, under the Department of Science and Technology (DST) (Valappil et al., 1994[14]). NCEPC was supposed to examine major projects in India and illustrate the environmental hazards of setting up these projects and weigh them against the derived benefits. NCEPC recommended the setting up of Department of Environment in 1980 which finally took shape as Ministry of Environment and Forest (Rao 1997).

EIA was required in India since 1982 for all public sector projects requiring investment from public investment Board (PIB). The first formal EIA process was carried out on the Silent river valley hydroelectric project in the early part of 1980s (Valappil et al., 1994[14]). The project envisaged building a 130 m high dam across the Kuntipuzha river. It was felt that the impact could be substantial and hence an EIA was ordered. The project proponent was Kerala State Electricity Board (KSEB). This project had the potential to cause significant damage to the biodiversity and forest ecosystem of the Silent Valley. The project was withdrawn in 1985 and

[12] Kathuria, V. and H. Gundimeda, (2001), "Industrial Pollution Control Need for Flexibility," *India Development Report 2001*, 140-156.

[13] Priyadarshini K. & Gupta O.K. (2003). Compliance to Environmental Regulations: The Indian Context. *International Journal of Business and Economics, 2(1),* 9-26.

[14] Valappil M, Devuyst D, Hens L (1994). Evaluation of the environmental impact assessment procedure in India. Impact Assessment 12:75–88

Silent Valley was declared a national park. This was the starting of EIA regime in India and subsequently EIA was extended to cover various activities.

The process got a a lot of support from the Environment Protection Act (EPA) 1986, which had provisions to make EIA mandatory. This act was supposed to be the umbrella act covering all provisions of previous environmental Acts. A formal notification was introduced on 27th January 1994 under this act; which made it mandatory to get an environment clearance for all listed projects under this notification. The constitution of India is committed to environmental protection[15]. A well-defined legal framework exists to safeguard quality of environment. The EPA (1986) in particular established EIA as a legal requirement for upcoming development activities.

Next, we look at the two IA notifications—1994 and 2006 for the provisions and their implementation.

2.1.1.1 EIA Notification 1994

This was the first legal step to formally introduce EIA in India. It laid out guidelines and introduced the rules that formed the basic framework for EIA in India. The notification mandated the need for Environment Clearance (EC) to all new projects and those requiring expansion. The industries which required EIA were listed in Schedule I. It was a list of 30, which now seems inadequate, but might have been sufficient to cover all industries in those times. The notification also mandated public hearing which is even today an important part of the project. The notification had made provisions for the formation of an Impact Assessment Agency (IAA), to comprise experts for review of the documents submitted to the MoEF for clearance. It defined the roles and responsibilities of the IAA. These committees still play critical role in project evaluations and fix time frame for various stages of the environmental clearance process. The notification allowed re-application in case of rejection due to lack of data.

About eight amendments (*April, 1997; June, 2002; February, 2003; May, 2003; August, 2003; September, 2003; July, 2004 and July, 2005),*were made in the original 1994 notification. Despite the amendments, the EIA process was criticized both by the industry and the civil

[15] Biswas D. Environmental legislation and enforcement mechanism. *Tech Monitor* 1996;13(1):16–20.

society. In response, a major comprehensive revision (September 2006) was finalized which used international concepts and continues to form the bedrock of current EIA process in India. . EIA process as envisaged in the 2006 notification addresses the key issues envisaged in international benchmarks.

2.1.1.2 EIA Notification 2006

This notification was introduced in September 2006, almost a year after its first draft was put up for discussion. Among other things an important aim of Notification 2006 was to make the clearance process smoother. The Planning Commission through its Approach Paper of the 11th Five-Year Plan had made its views clear- 'the country's environmental clearance regulations are beginning to resemble the old license-permit raj and were in need of urgent reform'. There was also criticism that the current list of projects was unable to account for all the projects. Further economic parameters were not enough to decide the impact of the project. These issues were addressed in this notification which included many more activities and specified parameters based on actual impact than just investment.

An important introduction through this notification was the four step process of screening, scoping, public consultation and appraisal. This was more in sync with the international norms. The screening process delegated the power to grant clearances to State Environment Authorities. Two categories- A and B, were created. Those projects which fell under category B had to apply to State Authorities for clearance.

Scoping was also introduced as a term which included the generation of Terms of Reference, on the basis of which the EIA report had to be made by Project Proponents. These terms of reference had to be devised by the Expert Appraisal Committees (EAC) at the Center and State expert committees at the state level. This enhanced the role and burden of the expert committees.

Public consultation was the third stage in EIA as per the new notification. The notification highlighted the significance of this process by delineating its scope, procedure and duration. Specific responsibilities were placed on government arms to ensure that public hearing was

carried out competently. Measures such as video recording of public hearing and putting up project details on State Pollution Control Boards' website were introduced.

The approval by EAC was to list the monitoring conditions and the project proponents were required to fill in a half-yearly self-monitoring report, which was to be made publicly available according to this notification

The 2006 notification also requires the setting up of State Environment Impact Assessment Authority (SEIAA), which are to be constituted the MoEF (Central Government) under sub-section (3) of section 3 of EP Act, 1986.

The only amendment to this notification was published on 1st December 2009. Some changes were made which made advertising of EIA conditions mandatory in Cat B projects. Further Irrigation projects without the potential of submergence were allowed to be categorized as Cat B irrespective of size. Some parts of public consultation were altered in order to ensure public participation. Overall the amendment tried to simplify EIA procedures for projects, which had little potential of causing environmental damage.

2.1.1.3 Implementation of 2006 Notification

2006 notification was appreciated both by the industry as well as the civil society, as it enhanced the significance of public consultation and followed the international norms; and, it prescribed time limits for different stages. However, as is evident from the current cases, its implementation has left a lot to be desired.

Table 2.1 shows the present EIA processes, prescribed in EIA notification 2006, gaps in implementation and their possible implications. It is important to note here that all these digressions might be subject to legal scrutiny besides having implications of perceived inefficiency.

Table 2.1: Gaps in EIA 2006 Implementation

EIA: CURRENT PROCESS	EIA 2006 RECOMMENDATIONS	GAPS	POSSIBLE IMPLICATIONS
The background (expertise) of the EAC members is not clear (based on the committees listed on the website[16])	Appendix VI of the EIA notification identifies the diverse expertise/skill mix required in an EAC	EACs are probably not constituted keeping in mind the prescriptions of the notification	2006 notification recommends a mix of skills in EAC committee to ensure that the EIA reports are not only of superior quality but are also comprehensive and address all the issues. A compromise in the skill set of the EAC members may lead to a perception of poor quality and lack of comprehensiveness of the EIA reports
MoEF member is the Member Secretary of the EAC committees	MoEF representative is to be the secretary of EACs	The role of Member Secretary is much more than that of Secretary	The increased role of the Member Secretary in the EACs may lead to MoEF influence on decision making which is likely to be interpreted as leading to conflict of interest
Currently the member secretary	EACs to be independent bodies	MoEF representative is	The involvement of the member secretary in all

[16] Website http://moef.nic.in/modules/project-clearances/environment-clearances/ accessed on Oct. 20, 2010

processes the application, is a member of the approval committee		involved in all the processes	the steps of the approval process may lead to perceptions of conflict of interest
Accessed on Oct.6, 2010 and several occasions before, the MoEF website does not display the minutes of the EAC meeting on its website	EIA Notification 2006 requires the minutes of the EAC appraisal committee be finalized and put up on the web within 5 days (A Delhi High Court order in 2009	The minutes of the EAC meeting are not displayed on the website	The process may seem to lack transparency in contradiction to both the letter and spirit of EIA notification
The MoEF website does not have the clearance report	For compliance and monitoring, a 2009 amendment to para 10 (10 (i) c) of EIA notification 2006 makes it mandatory for MoEF to display environment clearance in public domain on government portal	The clearance report (along with clearance conditions) is not made available to public at large and the concerned affected stakeholders	It may be perceived as lack of willingness to monitor compliance with clearance conditions

It seems that the 2006 notification, through its various clauses, was aimed inter-alia, at improving the quality of EAC reports (through use of diverse skills and databases), establish independence of the approval committees (EACs), and bring in transparency into the EIA processes besides reducing delays in decision making. However, because of the lack of an institutional infrastructure and support at the Ministry, it seems that the letter and spirit of the 2006 notification are not being realized fully.

Besides the lacunae in the implementation of the notification, ill-defined scoping processes, insufficient baseline data, inconsistency in the application of evaluation and predictive tools,

poor quality of EIA reports and lack of accountability of EIA experts have been found to be key problems with EIA in India (Paliwal, 2005[17])

2.1.2 International Practices in EIA

EIA has been institutionalized both through legislation and executive in most of the developed world and is of growing significance in developing countries as well. In this section, we report the EIA systems, processes, their goals and mechanisms of implementation in four developed countries, viz., Canada, Australia, The European Union (and some member countries). Besides looking at country specific practices, we reviewed some published material (books, monographs & research papers) for understanding the global trends in EIA philosophy and practice.

2.1.2.1 Canadian EIA[18]

The Canadian Environmental Assessment Agency (CEAA) came into being in 1994. Interestingly Canada has a legislation on EIA, the **Canadian Environmental Assessment Act** which came into force in early 1995. It is said that the Agency was set up in preparation and anticipation of the Act. Thus, in Canada, EIA is regulated through an Act. CEAA is a federal body accountable to the Minister of Environment and does the following (as listed on their website accessed on Oct. 14, 2010)

- Administers the **Canadian Environmental Assessment Act.**
- Encourages public participation because protecting the environment is everyone's business.
- Advances the science and practice of environmental assessment through research and development.
- Promotes high-quality assessment through training and guidance.
- Provides administrative and advisory support for review panels, mediations, comprehensive studies and class screenings.
- Promotes the use of strategic environmental assessment as a key tool to support sustainable decision making.

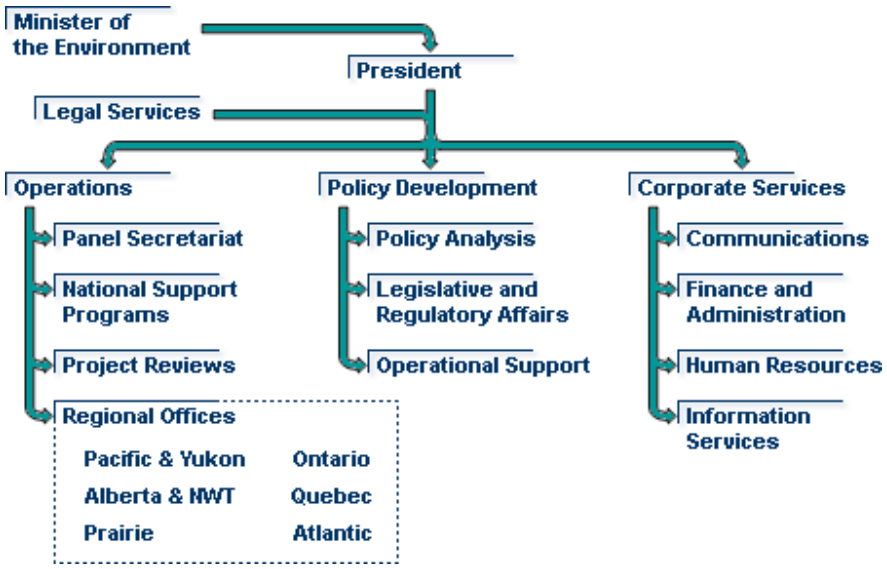
[17] Paliwal, R., 2005, *"EIA practices in India and its evaluation using SWOT analysis"* Centre for Regulatory and Policy Research, TERI School of Advanced Studies, New Delhi.

[18] From the website http://www.ceaa.gc.ca/default.asp?lang=En&n=0046B0B2-1 (accessed on Oct 20, 2010)

CEAA works through its headquarters and six regional offices. They also actively collaborate with other federal departments and agencies, provinces and territories, environmental and Aboriginal groups and industry.

Their organizational structure is given in Figure 2.2.

Figure 2.2 Organizational Structure of CEAA



2.1.2.2 Australian EIA

In Australia EIA is covered under the Environment Protection Act. The *Environmental Protection Act 1986* Part IV provides the legislative framework for the EIA process. Under this process, the EPA looks at statutory planning schemes and development proposals to assess their likely impacts on the environment. Though budget for EIA was not available, for the Office of EPA, Western Australia budget for the year 2009-2010 was Aus $11,40,7000 and that for the year 2010-2011 (estimated) is Aus $ 12, 275,000[19].

[19] Source Budget Paper No. 2 Volume 3 received in email from Catherine MacCullum (see Annexure VI)

It has the following objectives[20]

a. To ensure that proponents take primary responsibility for the protection of the part of the environment impacted by their proposals.
b. To promote the principles of environmental protection, precautionary principle; principle of intergenerational equity; principle of the conservation of biological diversity and ecological integrity; principles relating to improved valuation, pricing and incentive mechanisms; and principle of waste minimisation.
c. To promote mitigation of adverse environmental impacts.
d. To provide opportunities for public participation and input from decisionmaking authorities and other government agencies during the assessment.
e. To ensure accountability and transparency in the EPA's assessment of a proposal by making the relevant EPA policies, guidelines and procedures and proponent information publicly available, and ensure that the assessment procedures are applied fairly and consistently.
f. To promote continuous improvement in EIA through learning and knowledge gained through the EIA process.
g. To ensure that independent, publicly available advice on environmental matters is provided to the Minister before decisions are made.

The EIA report is submitted to the Minister, this report is expected to cover the following:

a. a summary description of the proposal and its key characteristics;
b. a description of the environmental setting;
c. the identification of and reporting on the key environmental factors;
d. consideration of the principles of environmental protection;
e. recommendations as to whether or not the proposal should be implemented;
f. recommended conditions and procedures that the proposal (with or without modifications) should be subject to, if it were to be implemented; and
g. other advice and recommendations considered relevant by the EPA.

They identify effectiveness and efficiency[21] criteria for EIA as follows.

[20] Source FINAL DRAFT (V8) Environmental Impact Assessment Administrative Procedures 2010

Effectiveness Criteria

- percentage of approved projects with actual impacts not exceeding those predicted during the assessment;
- percentage of assessments that meet agreed initial timelines; and
- percentage of implemented projects where all environmental conditions have been met.

Efficiency Criteria

- average cost per environmental assessment;
- average cost per environmental policy developed; and
- average cost per environmental audit completed

2.1.2.3 EIA: European Union Directive & Implementation UK

The European Union has an EIA directive for its member states that was brought into effect in 1985 and since then there have been three amendments—1997, 2003 and 2009.

The notification requires a mandatory EIA for listed projects which include long distance railways, motorways, expressways, airports etc. For other listed projects, the national authorities have to decide whether an EIA is needed. This is done by the "screening procedure", which determines the effects of projects on the basis of thresholds/criteria or a case by case examination. The national authorities are expected to take into consideration the criteria laid down in the directive.

The EIA procedure can be summarized as follows: the developer may request the competent authority to specify the terms that should be covered by the EIA information to be provided by the developer (scoping stage); the developer is required to provide information on the environmental impact on a format prescribed in the notification. The environmental authorities and the public have to be informed and consulted; the competent authority decides, by taking into consideration the results of consultations. The public is informed of the decision afterwards and can challenge the decision before the courts.

[21] Source Environmental Protection Authority Strategic Plan 2010-2013 received in email from Catherine MacCullum (see Annexure VI)

EIA in UK[22]

In UK, EIA is conducted by the local planning authority, which involves the scoping, public consultation and EIA assessment. The core group of in-house experts in this Authority, invites experts on a case to case basis. . Where an authority considers that it does not have the necessary expertise to evaluate the information contained in an environmental statement, it seeks advice from consultants or other suitably qualified persons or organisations. The project proponent has a right to appeal to the Secretary of State in case there is an adverse decision by the Authority or the Authority is not able to provide a decision within the stipulated time (16 weeks). The EIA process involves five major steps—a) application to the planning authority for a screening opinion; b) application to the Secretary of State for a screening direction; c) application to the planning authority for a scoping opinion; d) application to the Secretary of State (or the Assembly) for a scoping direction; and e) submission of an environmental statement to the planning authority in conjunction with a planning application.

2.1.2.4 EIA in China

The Appraisal Committee for Environment & Engineering (ACEE) in People's Republic of China is a specialized body for environment impact assessment. It appraises projects for environment clearances and establishes conditions for clearances. Up to one year of granting clearance, it receives the inspection and monitoring reports from other agencies and reviews them against the clearance conditions.

2.1.2.5 Learnings-- International Practices

Based on the country practices mentioned above and other published material, some key trends can be identified. In this report, we look at trends in terms of institutional requirements and procedural requirements (which are relevant for the scope of our work)

1. Most countries have an EIA vested in law, this either takes the form of a separate Act (e.g., Canada (Canadian Environmental Assessment Act (1995), Korea (EIA Act enacted in 1993), or an amendment or provision under environmental law.

[22] Source http://www.communities.gov.uk/documents/planningandbuilding/pdf/157989.pdf (accessed on Oct.20, 2010).

2. Sadler (1996)[23] --EIA through a formal institutional mechanism**.** EIA is either a part of an independent body (like NEPA in Australia or ACEE in People's Republic of China) or is a specialized independent body (in Canada), not a part of ministry. For example, the Canadian Environmental Assessment Agency is a federal body accountable to the Minister of the Environment. The core EIA assessment process is done by the Planning Authority in UK.

3. Usually in-house experts conduct the EIA (however, they may invite experts as in the UK EPA). This helps in building accountability of the experts and continuity in the appraisal process. These, in turn, lead to development of institutional memory and knowledge management.
4. EIA is predominantly a science-based process with heavy reliance on authentic, reliable and valid data on a real-time as well as time-series basis and makes extensive use of R & D (Robinson, 1989[24]).
5. Most agencies include some socio-economic and legal experts but at present there is a predominance of environmental scientists (Beckwith, 1994[25]; Finsterbusch and Gagnon, 1995[26])
6. Effective Public Participation is a focus of almost all the EIA agencies (CEAA and Australian EIA state it as one of their objectives).
7. Transparency and Communication with public are important features of best EIA international processes (CEAA has a separate division and it is a stated objective of Australian EIA)
8. EIA processes are standardized (Australian EIA). The effectiveness of EIA processes (Sadler, 1996) is assessed on this parameter, implying the significance, objectivity and predictability in EIA.
9. In almost all the countries, the centralized Head Quarters work closely with regional/zonal offices.

[23] Sadler, B. 1996. International Study of the Effectiveness of Environmental Assessment, final report, Environmental Assessment in a changing world; evaluating Practice to improve performance, Prepared for International Association for Impact Assessment (IAIA).
[24] Robinson R.M. (1989). Environmental impact assessment: The growing importance of science in government decision making. *Hydrobiologia, 188/189,* 137-142
[25] Beckwith, J.A. 1994. Social Impact in Western Australia at a Crossroads. *lmpact Assessment. 12: 199-214*
[26] Finsterbusch, K. and C. Gagnon. 1995. Community Participation in Social Impact Assessment: An Essential Condition for Sustainable Development. *lmpact Assessment 13: 226-228*

10. Ecosystem and SEA in developed countries, project based mostly in developing countries (Sadler, 1996).
11. International practices show a use of performance criteria for assessing the performance of EIA processes.

Based on case studies of various countries Sadler (1996) also reports best practices in post clearance monitoring as follows.

a) Self Monitoring Reports are used extensively and systematically

b) Proper training needs to be imparted to those who have to carry out monitoring.

c) There is an independent surveillance and vetting of monitoring results.

d) Frequent Monitoring is reqired to ensure compliance with clearance conditions.

2.2 Key Issues in EIA

Based on our analysis of implementation of EIA (and Coastal Zone Management as a sub-set of EIA) in India and global best practices, we look at the gaps in the Indian EIA process and look at the levels at which these gaps can be addressed. Table 2.2 shows these issues and possible remedies. The remedies could be at the level of policy, structure or processes.

Table 2.2: Key Issues, Causes and Remedial Suggestions (for EIA)

KEY ISSUES	CAUSES	PROPOSED REMEDIAL MEASURES		
		Policy Level	Structure Level	Process Level
Quality of EIA appraisal & clearance condition report by EAC	Lack of time given by EAC experts		Permanent members dedicated to the task for a fixed term	Well laid out Selection process of EAC members to address these issues
	Lack of validated data from reliable resource		Creation of specialized divisions like Scientific and Socio-economic divisions	Validation & compilation of data from external sources like CPCB, NCSCZM and FSI and specialized divisions within NEAMA
Lack of standardization in EIA reports leading to subjectivity and inconsistency	No standards in ToR generation		A specialised unit (EIA procedural) prepares model ToRs	Model ToR generation[27] using authenticated, reliable and valid databases on industries and region
	No standard data sources		Creation of a specialized Databases division	Data from different sources & creation of standard databases in-house.
	No standard formats	Standardization	Creation of	Application and

[27] Report of the High Powered Committee on Statutory Clearances, CPCB, April 2010

	for EIA report preparation	of EIA reports to be introduced	IT division to maintain records online and facilitate on-line processing at every step.	other procedural requirements to be filled online
Lack of continuity and Institutional memory	EAC consists of part-time members who are external experts		Creation of a TAC division consisting of appraisal experts. At least half of the EAC members to be permanent with a tenure of 3 years	On-line processing and putting up all the reports also on-line would help in developing Institutional memory.
Lack of checks and balances	No validation of data given in pre-feasibility report		Creation of Database and Survey & Research Divisions	An in-house Database Mgt. division (DBD) does analysis of data comparing it with standard data sources from CPCB and others.
	Public hearing not monitored		Restructuring and strengthening	Introduction of NEAMA observers who will report on

			of Regional Offices	Public Hearing
	No validation of data submitted as part of EIA report			Apart from analysis from DBD, external expertise can be sought for specialized data
	Lack of accountability of the EAC members		Permanent members to be recruited for a term of 3 years	Selection process of EAC members to be address these issues and be well laid out
Lack of Transparency	No procedural facilitator steps for public involvement* Proceedings of public hearing not put on line.* Minutes of the EAC meeting not put on line.*	Strict norms about disclosure	IT Division to be responsible for these activities.	Introduction of disclosure at each step • Initial PP information in the first stage • Final ToR • Public hearing proceedings • Final EIA report • Minutes of EAC meeting • EAC recommendat

				ions • Self Monitoring Reports Leads to feedback mechanism from public
	Too much paper based procedures, hence not easy to digitize		IT & DBD which reduces paperwork making digitizing almost procedural	Online filing and tracking of application through different stages
Issues of Conflict of Interest	MoEF involved in processing, appraisal, approval and monitoring processes		Creation of an independent entity that is not involved in the approval process.	Board and EAC members to be recruited after ensuring that there is no conflict of interest.
Ineffective monitoring and compliance		Provision for monetary penalties, bank guarantees at the time of approval	Well-laid out processes for monitoring.	Creation of a legal Division to handle issues of non-compliance
Ineffective enforcement	Due to ineffective monitoring and lack	The authority be given power, in		

	of powers to impose fines/punishments	accordance with polluter pays principle, to charge the actual cost of non-compliance		

*= *Required in EIA 2006 Notification*

An analysis of Table 2.2 reveals that though there are little changes required on the policy side, there is a clear requirement of changing the structure and processes.

MoEF, too, has identified three key elements for the design of NEAMA. "First, the conditions must be objective and measurable, so that it is clear what is to be done and whether it has been complied with. Second, the conditions must be consistent and fair, so that similar projects are given similar condition to adhere to. Finally, the conditions must not impose inordinate financial or time costs on the proponents (which would render them impractical)."

2.2 Coastal Zone Management

The dynamic processes that occur within the coastal zones produce diverse and productive ecosystems which have been of great importance historically for human populations[28]. Coastal margins equate to only 8% of the world's surface area but provide 25% of global productivity.[29]

Integrated Coastal Zone Management (ICZM) requires a systemic approach where all aspects of coastal zone management—physical, biological, human, social, geographical and political are considered for sustainable development of coastal zones. This concept was born in 1992 during

[28] Kay, R. & Alder, J. 1999. *Coastal Planning and Management*, London, E & FN Spon.

[29] Brown, K., Tompkins, E. L. & Adger, N. 2002. *Making Waves: Integrating coastal conservation and development*, London, Earthscan Publications Limited

the Earth Summit of Rio de Janeiro. The policy regarding ICZM is set out in the proceedings of the summit within Agenda 21, *Chapter 17*.

The European Commission defines the ICZM as follows

ICZM is a dynamic, multidisciplinary and iterative process to promote sustainable management of coastal zones. It covers the full cycle of information collection, planning (in its broadest sense), decision making, management and monitoring of implementation. ICZM uses the informed participation and cooperation of all stakeholders to assess the societal goals in a given coastal area, and to take actions towards meeting these objectives. integration of the terrestrial and marine components of the target territory, in both time and space.

2.3.1 Coastal Zone Management in India[30]

India has about 7500 kms stretch of coastal area and nearly 250 million people live within a distance of 50 kms from the coast. The delicate coastal zone area consists of a variety of ecosystems like mangroves, coral reefs, estuaries, lagoons etc. On the one hand, these areas are cradles for civilizations to develop, on the other they are also the recipients of natural disasters like cyclones, super cyclones, tsunami and the like. Coastal area in India has seen growth in industrial and urban development but these areas are also more prone to natural disasters like cyclones etc. This requires increased effort maintain and manage coastal areas.

The genesis of concern for management and preservation of coastal zone in India is traced back to 1981 when the then Prime Minister Smt. Indira Gandhi expressed concern over the unplanned development in coastal areas. She asked all the coastal states to undertake measures to preserve and protect the environment in coastal areas[25]. This initial concern and direction snowballed into a CRZ notification in 1991.

We now look at regulation on Coastal zone management by briefly analyzing the 1991 notification and the proposed 2010 notification.

[30] Swaminathan (2009) Committee report 'Final Frontiers' and the draft CRZ Notification 2010 have already conducted an in-depth analysis of the problems with 1991 Notification and the draft 2010 Notification has addressed these issues, we present a brief summary of the same here.

2.3.1.1 CRZ Notification, 1991

Coastal zone regulation predominantly requires two major activities a) preparation of coastal zone plans and b) enforcement and monitoring of CRZ notification, 1991.

The first regulation for management of coastal zone in India came into force through CRZ (Coastal Regulation Zone) Notification, 1991. As per this notification, CRZ consists of coastal stretches of seas, bays, estuaries, creeks, rivers and backwaters which are influenced by tidal action. It divided the coastal zones into four areas, viz. CRZ I (sensitive and inter-tidal), CRZ II (urban development), CRZ III (rural or underdeveloped) and CRZ IV (Andaman & Nicobar and Lakshdweep Islands) and identified prohibited and permissible activities in these areas.

Coastal zone planning predominantly requires information collection and broad planning of the entire coastline in India. Coastal zone management plans predominantly require demarcation of High and Low Tide Line (HTL/LTL) and th Ministry has identified some institutes for this job.

The National Coastal Zone Management Authority (NCZMA) and State level Coastal Zone Management Authorities (SCZMAs) have been constituted for enforcement and monitoring of CRZ notification. These authorities have been delegated power under section 5 of EP Act, 1986 for taking action against violations. Thus, NCZMA and SCZMAs are the real tools for the implementation of the notification.

Problems with 1991 Notification

The Swaminathan Committee[31] has identified several weaknesses of the notification and its implementation. Violation of the CRZ areas including destruction of mangroves, coral reefs; illegal construction in no development zones and construction in CRZ II without adhering to norms are identified as some of the major weaknesses of the implementation this notification. According to Swaminathan Committee report, the 1991 notification is 'badly structured' and is difficult to understand. Another major problem identified by the Committee is the fact that one set of principles are laid out for diverse coastal environment. CRZ has also been criticized for not

[31] Swaminathan M S, Nayak S, Narain S., Mauskar, J.M (2009). *Final Frontier: Agenda to protect the ecosystem and habitat of India's coast for conservation and livelihood security*. Report submitted to MoEF.

being scientific enough and lacks consensus on a commonly agreed upon definition of coastal zone. The classification of coastal area and monitoring and enforcement of the CRZ classification requires proactive and professional support from the local/regional bodies (SCZMAs), which has not been effectively done so far.

2.3.1.2 Proposed 2010 Notification

In response to these and several other problems associated with the content and implementation of 1991 notification, MoEF has come up with a proposed 2010 notification, which addresses these concerns.

In the revised notification, the new scheme of classification of coastal zones is proposed. Besides, the clearance for Coastal zone projects is harmonized with EIA 2006 notification. The 2010 notification is based on extensive study by Swaminathan Committee and public consultation, we agree with all the provisions in the proposed 2010 notification.

Key features of the notification include:

a. Well-defined process for development of Coastal Zone Management Plans (Para 5).
b. Well-defined process for granting Clearances (Para 4.2)
c. Allocating the responsibility for enforcement of violation under 1991 notification to State/Union Territory Coastal Zone Management Authorities.(Para 6 i (b)).
d. Details of the Violations under CRZ 1991 and the action taken by State/Union Territory CZMAs to be posted on the website of the concerned CZMA (Para 6 i (c)).
e. Detailed proposal for CRZ classification (Para 7).

Finally, we recommend that Coastal Zone Management and Planning be included in the new Authority being set up for EIA and monitoring for three broad reasons.

- As mentioned earlier, coastal zone plan is also Environment Impact Assessment though at the ecosystem level and the basic principles and ideologies of EIA would apply to this as well.

- The proposed 2010 notification acknowledges that as major part of Coastal zone clearance requires EIA, it has to be housed with the EIA processes.
- Just as the EIA, Coastal Zone planning and management need to be independent of the approval process. Hence, we propose that the Coastal zone management and planning be also included in the new Authority being envisaged.

2.2.2 Coastal Zone Management: International Practices

The Swaminathan Committee Report[25] has done a review of the international practices in Coastal Zone Management covering countries like the USA, the UK, Canada, The Netherlands, Australia, Spain and the like. We briefly review a few practices, viz., the Europen Union Directive on Integrated Coastal Zone Management Program and the implementation of this in the UK; Coastal Zone Management Practices in the USA and Australia.

2.2.2.1 The European Union Integrated Coastal Zone Management (ICZM) Strategy

Since EU consists of several member states, their strategy focuses on the theme of collaboration for the planning and management of coastal zone. Significant, in their strategy is importance given to the civil society. Envisaged in the strategy is the role of EU as a provider leadership, guidance and support to the member states for its effective implementation.

It is important to note that the strategy, not only identified new tools and practices, it develops on existing mechanisms and programs from all areas of use. In 2002, the European Parliament and Council adopted a Recommendation onthe implementation of the Integrated Coastal Zone Management in Europe. This required the member states to assess their coastal zone management efforts in terms of legislations, institutions and stakeholders. The member states were to use the outcome of the assessment to develop their national level strategies, to implement an integrated approach to management of coastal areas and to report progress to the European Commission by February 2006.[32]

The EU strategy follows eight key principles

1. A broad holistic approach

[32] Recommendation of the European Parliament and of the Council concerning the implementation of Integrated Coastal Zone Management in Europe (2002/413/EC). www.ec.europa.eu/environment/iczm/

2. Taking long term perspective
3. Adaptive management
4. Specific solutions and flexible measures
5. Working with natural processes
6. Participatory planning
7. Support and involvement of all administrative bodies; and
8. Use of combination of instruments

After the formulation of the ICZM strategy, its implementation was facilitated by the formation of an expert group in 2003. This Group had the mandate for helping the member states in implementing the recommendations of the ICZM set out in 2002.

One year and several observations later, the Group came out with two indicators for assessing the effectiveness of the coastal zone management efforts. The outcome was two indicators

- Progress Indicator (This focused on the processes and focused on measuring progress in implementing ICZM)
  indicator').
- Sustainability Indicators (Contained 27 indicators of sustainable development of the coastal zone)

These two indicator sets are directly related. That is, the greater the penetration of ICZM into all levels of governance and activity in the coastal zone, the greater the likelihood that there will be a positive improvement in the state of the coast. And the more the coast is seen to improve, the greater will be a willingness to introduce further and more sophisticated aspects of ICZM. Thus the indicators mutually reinforce one another which results in the long-term benefit of the coastal zone.

Implementation in the UK

Coastal zone management in the UK is dealt by the Department for Environment, Food and Rural Affairs (defra). The implementation of ICZM is embedded in Marine and Coastal Access Act 2009**.**

In response to the recommendation from EU regarding the implementation of ICZM for taking proactive steps, The UK government gave out its vision of 'clean, healthy, safe, productive and biologically diverse oceans and seas'(in the document titled '*Safeguarding our Seas* in 2002). *Safeguarding our Seas* sets out a strategy which emphasizes greater integration of management

and decision-making processes in trying to achieve the objective of more sustainable development in coastal areas. Specifically, the vision statement includes the following[33]

- Sustainably managed coastal areas, where competing demands and pressures have been taken into account and the social and economic needs of society have been reconciled with the need for conservation of the natural and historic environment.
- A clear policy and regulatory framework into which the principles of a holistic and co-ordinated approach are embedded.
- A new, strategic management approach in the marine environment, which is effectively integrated with the management of the land.
- More consistent application of the principles of good, holistic and co-ordinated management around the coast.
- A management approach that builds on existing structures and responsibilities, whilst encouraging organisations to work better together.
- A flexible management approach, which supports local initiatives and solutions to address local circumstances, within an overall regulatory framework.
- Appropriate and effective stakeholder

2.2.2.2 Coastal Zone Management in USA

The management and oversight of the coastal plans in the USA are done by The Office of Ocean and Coastal Resource Management (OCRM), part of the National Oceanic and Atmospheric Administration (NOAA). Three legislations: the Coastal Zone Management Act, MPA Executive Order, and Coral Reef Conservation Act, provide the legislative support to this activity. At the level of implementation, there is the National Coastal Zone Management (CZM) Program, which is a voluntary partnership between the federal government and U.S. coastal territories (states) (authorized by the Coastal Zone Management Act (CZMA) of 1972) to address national coastal issues. The Act provides the basis for protecting, restoring, and responsibly developing diverse coastal communities and resources. In doing so, the CZM program includes the diverse and often

[33] http://www.defra.gov.uk/environment/marine/documents/protected/iczm/iczm-strategy-england.pdf

conflicting viewpoints (of economic development and conservation). This makes it a comprehensive program. Some of the key elements of the National CZM Program include:

- Protecting natural resources;
- Managing development in high hazard areas;
- Giving development priority to coastal-dependent uses;
- Providing public access for recreation; and
- Coordinating state and federal actions.

The integration and coordination between the federal government and the the states is brought about by the National Policy and Evaluation division, which initiates regular evaluations of the state coastal management programs and national estuarine research reserves. The evaluations are conducted in collaboration with a liaison from the Office of Ocean and Coastal Resource Management's Coastal Program Division or the Estuarine Reserves Division, as well as a state participant. Evaluations are conducted every three years. The Division has also developed a Coastal Zone Management Act Performance Measurement System. The measurement system, inter-alia, includes tracking the national benefit of the Coastal Zone Management Act (CZMA), and assisting state coastal programs in improving the effectiveness of their own management goals. The Performance Management System tracks performance in a range of categories.

Towarsd positive reinforcement for responsible use and management of coastal zone, The Walter B. Jones Memorial Excellence Awards were established o "promote excellence in coastal zone management by identifying and acknowledging outstanding accomplishments in the field." The award ceremony takes place once every two years in Washington DC.

2.2.2.3 ICZM in Australia

The fundamental goal of Integrated Coastal Zone Management (ICZM) in Australia is '*to maintain, restore or improve the quality of coastal zone ecosystems and the societies they support*'. The Framework for a National Cooperative Approach to Integrated Coastal Zone Management**,** is an instrument for implementing ICZM. The six priority areas addressed in the Framework are:

- integration across the catchment coast ocean continuum
- land and marine based sources of pollution
- climate change
- pest plants and animals
- planning for population change
- capacity building

The implementation of this Framework for a National Cooperative Approach to Integrated Coastal Zone Management is managed through the Intergovernmental Coastal Advisory Group (ICAG), which consists of representatives from the Australian Government, each state government, the Northern Territory Government and the Australian Local Government Association (ALGA). ICAG members meet several times a year to share experiences and to work on Framework implementation.

2.2.2.4 Coastal Zone Management: Learnings from International Practices

An analysis of the coastal zone management practices points towards the following

1. Most of the countries follow an integrated approach to coastal zone management, treating it as a sensitive ecosystem.
2. Most of the countries have a well-articulated strategy, and the implementation programs are derived from and linked to this strategy.
3. There are close links between the central and local bodies/authorities in the management of coastal areas.
4. Many countries (EU and the USA) have developed performance indicators for measuring the effectiveness of the implementation of ICZMs.
5. Though punishments are built into the system or non-compliance, responsible performers are also rewarded in some countries (USA).

2. 3 Summary & Guiding Principles for Design

On several occasions, autonomy (lack of conflict of interest), professionalism (science based), objectivity/predictability, transparency and effectiveness are identified as the touchstone

principles for environmental governance systems. MoEF has also recently articulated three key elements of the design of the environmental clearance conditions: "*First, the conditions must be objective and measurable, so that it is clear what is to be done and whether it has been complied with. Second, the conditions must be consistent and fair, so that similar projects are given similar conditions to adhere to. Finally, the conditions must not impose inordinate financial or time costs on the proponents (which would render them impractical.*" The existing EIA and monitoring and compliance processes are reviewed around these principles. Our observations and recommendations on each of the principles are as follows

a) Autonomy

   Currently both the appraisal and approval processes are conducted by MoEF. This is likely to lead to a perception of **conflict of interest**. International best practices also show that the appraisal process is done by independent agencies (Chapter 2, section 2.3.4) and the approval is done by the Ministries. It is hence, recommended that an independent agency may conduct the appraisal process and the approval may be done by the Ministry.

b) Science Based for Objectivity and Predictability

   EIA approval is a complex science-based process, highly dependent on **valid and reliable scientific/socio-economic databases**. Since a large part of the data is scientific in nature, use of standardized/authenticated real time/time series data will improve objectivity and predictability of the EIA process. Currently, the EIA decisions are taken on the face value of the data provided by the project proponent. It is extremely important that reliable and valid **real time (and time series) databases** are developed and accredited agencies are identified as providers of these data. **These databases could be made available to the project proponents for a fee**.Objectivity can also be built in by generating model Terms of Reference (ToRs) and standardizing the template for EAC recommendations (to the extent possible).

c) Transparency

   EIA notification requires various documents like ToRs, recommendations of EAC and the self-monitoring reports to be published on the website, which is currently not being done. To improve transparency, application form (as prescribed in EIA notification 2006), model ToRs, Minutes of the public hearing meeting, EAC approval report and self-monitoring reported be made public on the website and any other media (like newspapers and other mass

communication channels). Besides these all rules, policies and amendments/changes in the policies need to be posted on the website immediately (within a week of the notification).

d) Effectiveness

There has to be **continuity** in the EIA processes with some permanence of the EAC members and their affiliation with the organization. Currently, all the experts on the committees are part-time, who assess projects on a standalone, case to case basis. It is recommended that at least a critical core of the EAC may consist of permanent full-time members for a fixed tenure. This would not only provide continuity but would also help in developing **institutional memory** and **knowledge management**, consequently leading to improved quality of EIA reports based on informed decision making.

The effectiveness of the EIA would lie not only in having a high quality, scientifically informed EIA report, but also on **compliance with clearance conditions** by the project proponent, which requires **effective monitoring**. The 2006 notification requires a six-monthly self-monitoring report, which is to be put up on the website. Not only these reports are not put up on the website, there are major gaps in the content and process of these reports. **Self-monitoring** process needs to re-strengthened and supported **by periodic inspections** by regional officers and **accredited independent inspectors**.

CHAPTER 3

VISION, MISSION OBJECTIVES AND POWERS OF NEAMA

To begin with, an autonomous body called National Environment Assessment and Monitoring Authority (NEAMA) be set up under the Ministry of Environment & Forests. The body should have a statutory foundation to ensure autonomy.

We would like to recommend that the proposed Authority be called National Environment Assessment and Monitoring Authority (NEAMA) for two reasons. First, the name reflects the scope of operations of the proposed organization. Second, internationally, National Environment Protection Authorities have a broader mandate, which includes pollution control and other activities. NEPA has been perceived by many as equivalent of Environment Protection Authority replacing (or taking over the mandate of) the existing CPCB[34], NEAMA appropriately reflects the scope and functions of the authority. The need for a body like NEAMA arises from the rapid industrial and infrastructural development in the last decade, which has exerted tremendous pressure on environment. The number and complexity of the projects being processed for environmental clearance has increased multi-fold whereas the capacity and resources available with MoEF and its agencies have remained limited.

The chapter aims at identifying the *raison d'être* of NEAMA, its core activities in the short and the long terms and the powers that it needs to be vested with to achieve its objectives. NEAMA is primarily conceived as a processing body with a mandate for efficiently and effectively managing the EIA and CRZ clearances with extensive use of scientific and technological databases/knowledge.

3.1 Mission and Vision Statements of NEAMA

Sadler (1996), in his analysis of country practices in EIA, identifies three levels at which the Environment Assessment could happen. Project EIA, at the most basic level, conducts the impact assessment for individual projects as is evident from the name. At this level the proposed project is the central focus and environmental (physical and social) issues pertaining to that project are assessed. The next level is a more integrated level, which is termed 'Ecosystem Approach'. This

[34] Bhushan C (2010). 'Reform for reforms sake'. *Down to Earth*, August 1—15, pp52-53.,

approach looks at environmental concerns for planning and programming for ecosystems like land use, coastal zone plans, sector and infrastructure plans. Finally, Strategic Environment Assessment (SEA) at the policy making level, where it is included not only in macro-economic policies but also across borders in trade agreements. We use this conceptualization for the purpose of developing a vision, mission, short, medium and long term plans for NEAMA.

Mission defines the fundamental purpose of an organization or an enterprise, succinctly describing why it exists and what it does. The mission could be either for the long term or the short term. It is not an objective with a timeline, but rather the overall goal that is accomplished as organizational goals and objectives are achieved.

Vision defines the desired or intended future state of an organization or enterprise in terms of its fundamental objective and/or strategic direction. Vision is a long term view, sometimes describing how the organization would like the world in which it operates to be. For example a charity working with the poor might have a vision statement which read "A world without poverty". It is sometimes used to set out a 'picture' of the organization in the future. A vision statement provides inspiration, the basis for all the organization's planning. It could answer the question: "Where do we want to go?"

3.1.1.1: Existing Environmental Governance Mechanisms and Space for NEAMA

Before we identify the vision, mission and mandate for the proposed NEAMA, it is important to review the existing institutions in environmental governance and their roles and responsibilities. To begin with, Central Pollution Control Board (CPCB) is a Central level body that has the powers and functions specified under Water (Prevention and Control of Pollution) Act, 1974 and Air (Prevention and Control of Pollution) Act, 1981. CPCB has no direct role in environmental clearance process, though it acts as a research organization, which by collecting, analysing and disseminating information pertaining to pollution prevention and abatement, benefits the MoEF, SPCBs and several other stakeholders of environmental clearance process. In terms of monitoring, CPCB has the power to monitor, and enforce pollution norms. CPCB is primarily a scientific body with core competence in R& D related to carrying capacity, cleaner technologies and the like.

At the state level, there are State Pollution Control Boards (SPCBs), which work under the Department of Environment in each state. Though, the SPCBs lack consistency in structure and processes across different states, in almost all the states, they have the powers under Air (1981) and Water (1974) Acts, with a predominant mandate for pollution control.

So far as EIA is concerned, State Environment Impact Assessment Authorities (SEIAAs) are formed under EP Act, 1986, which are formed by MoEF but lack an integrating institution for harmonising, monitoring and controlling their activities. State level Departments loosely control them and provide skeletal infrastructure support. The Ministry, whose predominant job is policy making is saddled with the task of EIA and has little clarity on its control over and relationship with SEIAAs.

So far as the Coastal zone management is concerened, there is National Coastal Zone Management Authority in MoEF at the center level and there are State Coastal Zone Management Authorities at the state level. Swaminathan Committee (2009) report clearly points to the inefficiencies in both National and State level Coastal Zone Management Authorities. To begin with NCZMA is housed in MoEF and the role relationship of SCZMA's with state and center levl are ambiguous to say the least. It can be concluded that for want of an institution MoEF loosely holds responsibility of Coastal Zone Management.

Clearly, there is an institutional gap in managing EIA and coastal zone and there is a need for an institution to manage these activities, scientifically, and effectively using the diverse skills required for managing these two specialized functions.

These gaps in the environmental governance institutional mechanisms in India and the international benchmarks are used to develop the vision, mission and objectives of the proposed NEAMA.

Mission Statement of NEAMA

To prevent environmental damage and social losses ***beyond*** *what would be achieved without assessment*

Vision Statement of NEAMA

To ensure the development at the national level is sustainable i.e. within the threshold of ecological tolerance and social acceptability, through planning and management of the projects and coastal zone ecosystems.

3.2 Short , Medium and Long Term Goals of NEAMA

Using Sadler's (1996) typology and vision and mission statements of NEAMA, we propose the following long, medium and short term goals of NEAMA.

3.2.1 Long-Term Goals[35] of NEAMA: SEA Level

- Make Environment Assessment (EA) part of macro-economic policy and budget formulations by integrating it in all the ministries[36].
- Include EA in trade agreements with other countries

3.2.2 Medium Term[37] Goals: Ecosystem Level[33]

- Use EA for Land use (land planning)
- Use EA for territorial plans (like coastal zone and other ecological systems)
- Use EA in the planning processes of relevant ministries

3.2. 3 Short-Term[38] Goals: Operational, Project Level

Before identifying the specific short term goals, it is important to identify the notifications and rules that would form the bedrock of NEAMA and would guide its short-term functions. Proposed 2010 CZM notification; EIA Notification, 2006 and Eco-sensitive areas Notifications would guide NEAMA's functioning.

A discussion on the processes to be followed to manage and implement these rules is contained in Chapter 5 dealing with three core processes of NEAMA, viz, EIA clearances, CRZ clearances,

[35] Long-term is usually taken as a time period of 5 to 7 years
[36] Reports for the task forces on Governance, Transparency, Participation and Environmental Impact Assessment and Urban Environmental Issues, (Shekhar Singh Committee Report), Planning Commission, 2007 also recommend these to be the goals of EIA processes.
[37] Medium term refers to a period of 3 to 5 years
[38] Short term refers to operational objectives.

preparation of Coastal Zone Management plans and Post clearance monitoring (both EIA & CZM).

Based on the above, the functions of NEAMA in the short-term would be:

- Appraising projects or activities for environmental clearances
- Appraising and developing coastal zone management plans and revising them periodically
- Monitoring the compliance with clearance conditions imposed in the environmental clearance and initiating enforcement action

- Providing coordination and guidance to the State Coastal Zone Management Authorities and State Environment Impact Assessment Authorities.
- Advising the Central government in the development of policies and guidelines for pro-active environmental management including clearances and impact assessment.
- Carrying out (or sponsoring) research on carrying capacity, coastal zone planning and management.
- Facilitating development of reliable & valid databases of environment related information.

1.3 Powers of NEAMA

NEAMA will be a professional body with enough independence to ensure efficiency and effectiveness in its processes. For this, NEAMA would require

- Financial independence
  a. An earmarked, secure and adequate source of funding
  b. NEAMA may charge a fee from project proponents as processing fee for every project appraised. This may require an appropriate amendment in EP Act, 1986.

- Management independence
  a. Autonomy over internal administration

b. Protection from dismissal without due cause

- Transparency

a. Public consultations with affected parties

b. Public written decision with explanations for the decisions

3.4 Legal Powers of NEAMA under EP Act, 1986

NEAMA would derive its powers predominantly from the EP Act, 1986. Besides, the existing powers some amendments in EPA Act are recommended in the following sub-sections. First, we discuss the powers under EP Act and then the amenedments.

3.4.1 Powers of Entry and Inspection (Section 10 of EPA, 1986)

Central govt. or authorized representative of State may inspect the premises or records of any person. The owner/operator must provide the government official access to records and properties relating to the effluents, emissions and waste for inspection purposes. Presently, the frequency and procedure for inspections vary widely over the states. NEAMA would, however, need to lay guidelines to improve/and regularize the inspections. In case of USA, EPA and authorized States must conduct inspections once in every two years in privately operated facilities and federally operated facilities on annual basis by USEPA or authorized states. NEAMA and all organizations should have an established policy and procedure for handling inspections.

Essentially, under the Environment Protection Act, 1986 such entries are authorized by Section 10(1) *where any person (either an employee of NEAMA or an authorised person) shall have right to enter at all reasonable times with such assistance as is considered necessary any place for the purpose of performing any of the functions of the Central Government entrusted to him, whether the directions given or conditions of consent under this Act are being complied with or not and for the purpose of examining and testing any equipment, industrial plant, record, register, document or any other material object or for conducting a search of any building and every person shall be bound to render all assistance to the person empowered by the Central Government.*

3.4.2 Powers to Direct Utilities to Maintain Registers and Furnish Reports (Section 20 of EPA, 1986)

A proponent of a project while applying for consent to establish provides information with regard to geographical location, the details of the surrounding areas in terms of physical structures such as towns, villages, schools, hospitals and heritage sites etc., the flora and fauna along with their status bringing out their species and present threats, if any. It also supplies information regarding quality and quantity of surface and ground waters as well as the ambient air. The Regulatory Authority incorporates conditions to the effect that the proponent shall regularly supply it information about the changes in of the above information. As a matter of fact, the proponent requires an amended consent if there is any change in nature, quality or quantity of inputs or outputs in its production or change in its process of production. The proponent is also required to monitor the quantity and quality of its effluents, emissions and sold waste generated whether hazardous, biomedical or e-waste etc. It has also to monitor regularly their impact on the recipient body be it land, water or the atmosphere. The number and size of outlets as well as their point of discharge are important. So are the specifications and good repair of the equipment.

NEAMA may, in relation to its function under EP Act, require any person, officer, State Government or other authority to furnish to NEAMA officer (or an authorised peron) any reports, returns, statistics, accounts and other information and such person, officer, State Government or other authority shall be bound to do so.

3.4.3 Authority to Prosecute for Offences (Section 15 of EPA, 1986)

Whoever fails to comply with or contravenes any of the provisions of the rules made or orders or directions issued by NEAMA shall, in respect of each such failure or contravention, be punishable with imprisonment and/or a monetary fine[39]. If the failure or contravention referred to

[39] An amendment is proposd on the amount of fine latr on.

above continues beyond a period of one year after the date of conviction, the offender shall be punishable with imprisonment for a term which may extend to seven years.

Where any offence under this Act has been committed by a company, every person who, at the time the offence was committed, was directly in charge of, and was responsible to, the company for the conduct of the business of the company, as well as the company, shall be deemed to be guilty of the offence and shall be liable to be proceeded against and punished accordingly.

3.4.4 Powers to Take Samples (Section 11 of EPA, 1986)

In cases filed in courts under pollution control acts samples of effluents or emissions forms a very important part of evidence. The power for taking samples of effluents, emissions and wastes and procedure to be followed for routine analysis and legal purposes have prescribed under Section 11 of the EPA, 1986.

NEAMA shall have powers to collect samples for routine analysis or monitoring under Section 11(1).However in legal cases the authorized person to collect the sample shall serve notice there and then of his intention to collect samples, collect the sample and in his presence the containers shall be marked and sealed. Containers shall be signed by both the parties. The sample shall be sent to a laboratory recognized by NEAMA without delay. However where the occupier willfully absents himself or refuses to sign, the container will be signed by the person collecting the sample and sample will be sent without delay to an authorized/accredited laboratory.

The most important points to be kept in mind for this physical evidence are i) sample should not be tampered and contaminated ii) that the instruments used in collection and analysis were properly maintained and calibrated iii) the samples were evaluated according to scientifically acceptable and standard methods of analysis iv) the persons collecting and analyzing the sample were properly qualified and experienced in their profession.

3.4.5 Powers to Give Directions (Section 5 of EPA, 1986)

Section 5 of the EP Act defines this power as the power to issue directions to any entity, who is bound to comply with such directions. Under this provision, NEAMA would have the power to order a) closure, prohibition or regulation of any industry, operation or process; or b) stoppage or regulation of the supply of electricity or water or any other service.

3.4.6 Power to Appoint its Own Officers (Section 4 of EPA, 1986)

EP Act, 1986 gives the powers to appoint officers for this purpose as follows:

> *Without prejudice to the provisions of sub-section (3) of section 3, the Central Government may appoint officers with such designation as it thinks fit for the purposes of this Act and may entrust to them such of the powers and functions under this Act as it may deem fit.*
> *(2) The officers appointed under sub-section (1) shall be subject to the general control and direction of the Central Government or, if so directed by that Government, also of the authority or authorities, if any, constituted under subsection (3) of section 3 or of any other authority or officer.*

This implies the NEAMA would have the power to appoint its own officers. However, the Chairman and Board members would be appointed by the Central Government.

3.5 Additional Powers through Amendment to EP Act, 1986

As has been (and will be mentioned) in different sections of this report, NEAMA is envisaged to have some additional powers to be able to a) have financial independence (sustainability) and levy monetary fines on defaulters and using precautionary principle take a financial guarantee for the implementation of compliance conditions. Following powers (through amendment of EPA may be given to NEAMA

a. Power to charge a fee for processing of EIA applications from the project proponents (fixed as a percentage of the overall cost of the project)
b. Power to take a financial guarantee (bank guarantee) for 25% (or higher as may be deemed fit) of the cost of compliance conditions laid out in the EIA clearance report.
c. Power to determine and levy a financial penalty for non-complianceaccording to the estimated economic cost of non-compliance, false data, misrepresentation etc.

3.6 Accountability

The accountability of NEAMA may be built through multiple mechanisms. To begin with NEAMA would be required to prepare and widely publish its *annual report*, which would bring

in checks and balances in the use of funds. Besides, annul reports, regular audits by *Controller and Auditor General (CAG)* would also ensure financial accountability. The *appointment and removal of the Chairman/Board Members would be done by the Central Government*, ensuring checks on the functioning of the Chairman/ Board Members. NEAMA needs to have an information disclosure policy to ensure all the information is accessible to public at large ensuring transparency and accountability. An *Independent Evaluation Group (IEG)* that may conduct detailed analyses and social audit[40] of NEAMA activities periodically (once in two years). The aims of the IEG's evaluations could be to provide an objective basis for assessing the results of NEAMA, and to provide accountability in the achievement of its objectives. *Complaint and response mechanisms* may be made available to citizens and civil society (on NEAMA website) through which they may report possible violations by NEAMA of its own policies. Mechanisms of quasi-judicial accountability, such as inspections and enquiries may be initiated when violations are found. Finally, it is recommended that NEAMA has a code on conflict of interest (a brief outline o the same is presented in Annexure IX).

3.7 Summary & Key Recommendations

1. An autonomous body called National Environment Assessment and Monitoring Authority (NEAMA) be set up under the Ministry of Environment & Forests. The body should have a statutory foundation to ensure autonomy.
2. The three broad objectives of NEAMA would include a) Processing EIA, b) Processing CRZ clearances and preparing coastal zone management plans and c) Monitoring of compliance conditions in pre-commissioning stage and coordinate during the post-commissioning phase upto the validity period of the clearance.
3. Charging of a suitable fee from the project proponent would provide financial autonomy to NEAMA.
4. NEAMA would derive powers from the EP Act, 1986 (Powers of entry & inspection, Power to direct utilities to maintain registers and furnish reports, Authority to prosecute for offences, Power to take samples, Power to give directions and Power to appoint its own officers).

[40] Reports for the task forces on Governance, Transparency, Participation and Environmental Impact Assessment and Urban Environmental Issues, (Shekhar Singh Committee Report), Planning Commission, 2007

5. However certain amendments are recommended in EP Act, 1986 which include a) Power to Charge a fee from the Project Proponent; b) Power to take bank guarantees as a performance enforcement measure, and c) Power to determine and levy financial fines for non-compliance, non-filing of self-monitoring reports, false data, misrepresentation and any other violation of the EIA notification 2006 and proposed CZM notification 2010.
6. Accountability would be built into the body through a) Annual Report b) CAG report c) Appointment and removal of the Chairman and Board members by Central Government d) policy on disclosures e) policy on conflict of interest f) social audits through an Independent Evaluation Group (IEG).

CHAPTER 4

ORGANIZATIONAL STRUCTURE

In this chapter we first recommend the structure of NEAMA at the apex, which would consist of the Board--its Chairman and the members. In the next part we propose an organization chart, identifying the Departments and their key roles. Details of the functioning of the key processes, i.e., EIA and CRZ at NEAMA are contained in Chapter 5.

4.1 Structure at the Apex: The Board and Its Constitution

It is often said that Pollution Control Boards (PCBs) are, sometimes, not able to exercise powers to force compliance because of interference from powerful interest and pressure groups. This interference is hardly surprising given that often the Boards do not reflect a balanced and independent group of experts. According to the Planning Commission Report (Planning Commission, 2001-02)), the Chairman of the Boards are often political appointee, leading to political interference. According to the EPA, the State PCBs are required to have a technically competent Board of Members, a well-qualified core group of technicians and administrators and a network of field offices to facilitate the process. A study[41], reports that in the case of the Andhra Pradesh PCB, out of 15 members, 9 were from the bureaucracy and none from a technical background. In Maharashtra, out of 13 members, 6 were from the bureaucracy and 2 from technical cadre. Professionalism and technical expertise of the Board is a key factor in ensuring the efficiency of proposed NEAMA.

To recommend a Board structure, besides, looking at the literature and its prescription, we also looked at the Boards some of the regulatory bodies in India like Securities and Exchange Board

[41] Priyadarshini K. & Gupta O.K. (2003). Compliance to Environmental Regulations: The Indian Context. *International Journal of Business and Economics, 2(1),* 9-26.

of India (SEBI), Central Electricity Regulatory Authority (CERC) and Insurance Regulatory and Development Authority (IRDA), besides other reports.[42]

4.1.1 Recommendations for Board Structure

As mentioned earlier in Chapter 2, the organization, though predominantly science-based has to use diverse skill sets to be effective. Importance of multiplicity of skills has been highlighted in several reports[43] and to respond to this need, it is recommended that the full-time members and the Chairman of the Board may represent the highly specialized technical competencies required. The Chairman and the Board members are to be predominantly from technical/scientific or environmental economics or environmental management background.

- Chairman (also the Executive Head of NEAMA) (Technical Expert)—Secretary (GoI) Level

Full-Time Members: (4 + 1 MS) 5 (of the level of Additional Secretary to GoI)

- Full-Time Member—Technical 1 (Environmental Sciences/Physical Sciences/Life Sciences/public health Expert)
- Full-Time Member—Technical 2 (Environmental Sciences/Physical Sciences/Life Sciences/public health Expert)
- Full-Time Member—Technical 3 (Environmental Sciences/Physical Sciences/Life Sciences/public health Expert)
- Full-Time Member—Technical 4 (Economics/Legal Expert)
- Full-Time—Member Secretary

The part-time members need to represent the various stakeholder perspectives. It has been recommended that civil society representative be present on the Board to reflect their interests.[38] In light of this, the following composition of the Board in terms of part-time members is recommended as follows.

Part-Time Members: 9

[42] thirteenth Administrative Reforms Committee Report (2009).
[43] Reports for the task forces on Governance, Transparency, Participation and Environmental Impact Assessment and Urban Environmental Issues, (Shekhar Singh Committee Report), Planning Commission, 2007

- Chairman CPCB
- Representatives of SPCB's--2 (in rotation every 2 years)
- Representative from Civil Society (Environmental NGO's)—1
- Academician —Environment Management
- Representative from Ministry of Environment and Forests (Joint Secretary level officer)
- Representative from Ministry of Urban Development (Joint Secretary level officer)
- Representative from Ministry of Industries (Joint Secretary level officer)
- Representative from Industry Associations (CII/FICCI/ASSOCHAM)—1

4.1.2 Qualification, Selection Process and Tenure --Chairman and Full-Time Members

4.1.2.1 Qualifications

Given the pre-eminence of technical skills in NEAMA, the pre-dominant qualification of the Chairman has to be expertise in relevant areas (Scientific/ Engineering/ Legal/ Economics/ Management).

Before appointing any person as the Chairperson or Full-Time Member, the Central Government shall satisfy itself that the person does not have any such vested interest which is likely to affect prejudicially his/her functions, particularly keeping in mind the ***conflict of interest*** that the Chairman or the member might bring in. Broad guidelines for preparing a code on conflict of interest (based on SEBI's code) are given in Annexure VII.

4.1.2.2 Selection & Removal Process—Chairman and Full-Time Members

The selection of the Chairman may be made by the Central Government on the recommendation of a Selection Committee. The Selection Committee may have eminent people in the field of environment engineering, environmental laws, environmental economics and environmental management. The committee may recommend names of two/three people in order of merit to the Minister (MoEF). *There should not be a gap of more than one month between the Selection Committee recommendations and the government decision*.

The Central Government may remove from the Chairman or Full-time member, following the norms used by other regulatory bodies like SEBI.

Expert committees[44] have recommended a fixed term for the Chairman and it is recommended that the Chairman be appointed for a period of 5 years or up to 65 years of age whichever is earlier.

4.1.3 Functions of Full-Time Members

The various units of the Authority will be headed by Full-Time Directors. Besides the Full-Time Directors will also chair EIA, CRZ and any other project based committees. Based on the organization structure (Figure 4.1), the key responsibilities of the Full-Time Directors are given in Table 4.1

Table 4.1: Divisional Responsibilities of Full-Time Directors

Chairman-- Board	Strategic Planning Division & Heading EIA committees
Full-Time Member—Technical 1 (Environmental Sciences/Physical Sciences/Life Sciences/public health Expert)	Survey & Research, Heading EIA Committees
Full-Time Member—Technical 2 (Environmental Sciences/Physical Sciences/Life Sciences/public health Expert)	Coastal Zone Management, Environmental Impact Assessment, Heading EIA Committees
Full-Time Member—Technical 3 (Environmental Sciences/Physical Sciences/Life Sciences/public health Expert)	Database & IT Divisions, Heading EIA Committees
Full-Time Member—Technical (Environmental Economist)	Law an Environmental Costs Division, Heading EIA Committees

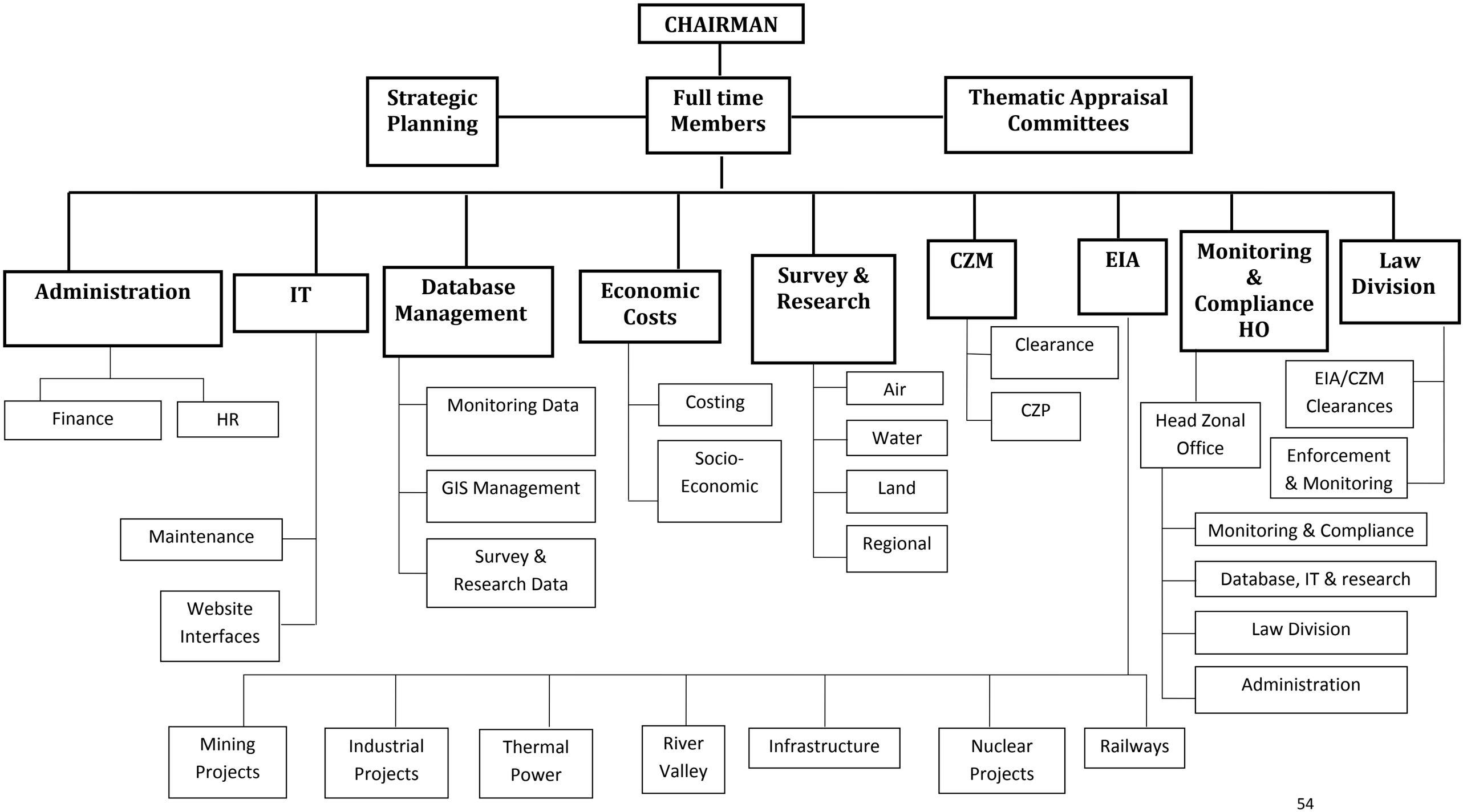
[44] Reports for the task forces on Governance, Transparency, Participation and Environmental Impact Assessment and Urban Environmental Issues, (Shekhar Singh Committee Report), Planning Commission, 2007

Member Secretary	Administration (Human Resource Management & Finance), Monitoring & Compliance.

4.2 Functional Structure

NEAMA will function through a Head Office and six zonal offices. The organization chart for NEAMA is contained in Figure 4.1.

Fig 4.1: Overall Structure NEAMA



4.2.1 Working of the Structure

The proposed NEAMA would involve three core processes, a) EIA Clearances, b) Post Clearance Monitoring and c) Coastal Zone Management. The Thematic Appraisal Committees (TACs), EIA division, Coastal Zone Management Division and Monitoring & Compliance Divisions would be responsible for these three core processes. Monitoring & Compliance would be handled predominantly by zonal offices and will be coordinated through the Monitoring & Compliance Division at the head office.

Table 2.2 in Chapter 2 points to several support functions that are considered crucial for the performance of core functions of NEAMA, they need to be represented in its structure. These functions are institutionalized as IT, Database, Economic Costs, Survey & Research, Law and Strategic Planning Divisions. In the subsequent sections, we detail the roles and responsibilities of each Division.

4.2.1.1 Thematic Appraisal Committees

Thematic Appraisal Committees are equivalent of the existing Expert Appraisal Committees (EACs). The main role and responsibility of the TAC would be to a) generate Terms of Reference for each project and b) To prepare impact assessment report for each project; using real time/time series scientific, economic, social, health and other data.

Lack of continuity and institutional memory are two key issues that have been highlighted in earlier chapters, which may be attributed to the lack of permanence of the existing EACs. For this reason, it is proposed that these committees may consist of 7 to 8 full time members (of the level of Additional Advisor and Advisor). Since, these TACs are required to have multiple skills and competencies, it is proposed that the TAC members may be drawn from different divisions of NEAMA like EIA, Survey and Research, Economic Costs, Database Management etc, to address the diverse issues that are required to be addressed in the EIA process.

Each member may have a fixed term of three years. Outside experts from empanelled Institutions may be invited as experts on case to case basis. Institutes of national and international repute

may be empanelled through a well-defined process. Additionally, the two terms should not be consecutive and a break of at least two years is recommended between two terms.

The tenure of these full-time TAC members should be in consonance with the prescription in 2006 notification, i.e., one tenure should be of three years, and each member could have not more than two tenures.

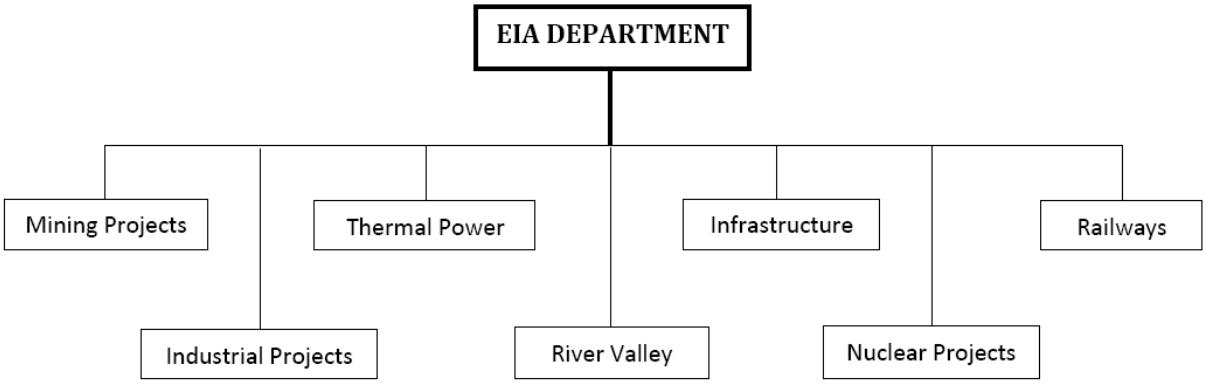
For the selection of the TAC Chairman and members, besides the qualifications given in Appendix VI of EIA notification, 2006, the conflict of interest clause as mentioned in section 4.1.2.1 above (Annexure IX) may be applicable to both the full and part-time members of TAC.

4.2.1.2 Environment Impact Assessment Division

This department will have some core employees who will do the maintenance and background work related to EIA's. It will perform the task of checking for data completeness and validation at different steps of the EIA process. Its specific role is given in Figures 5.1a, 5.1b, 5.1c, 5.1d in Chapter 5. Currently, there are six categories of projects that are identified, viz., Mining, Industrial, Thermal Power, River valley projects, Infrastructure and Nuclear Power. Our nalysis of international practices (EU, SEA in Chapter 2 section 2.1.2.3) shows that railways is included as a generic category for EIA, consequently, we propose that Railways be included in the list.

Subdivisions in EIA Department are given in Figure 4.2

Fig 4.2: Sub- Divisions of EIA Department



4.2.1.3 Coastal Zone Management Division

This division will be responsible for EIA at the ecosystem level focusing on delicate coastal zone ecosystem.

There will be two predominant responsibilities of the CZM division a) Preparation of Coastal Zone Management Plans and b) Regulating industrial/commercial activities in coastal areas, in consonance with the recommendations of Swaminathan Committee report (2009)[45]. Preparation of Coastal plans would require coordination with National Centre for Sustainable Coastal Zone Management, SCZMAs and other expert Institutions. The current National Coastal Zone Management Authority (NCZMA) would be subsumed in this division and it will have the mandate of oversight and coordination of SCZMAs across various coastal states. Regulation function would include granting clearances and monitoring of clearance conditions. This division would consist of two sub-divisions—a) Clearances and b) Coastal Zone Planning.

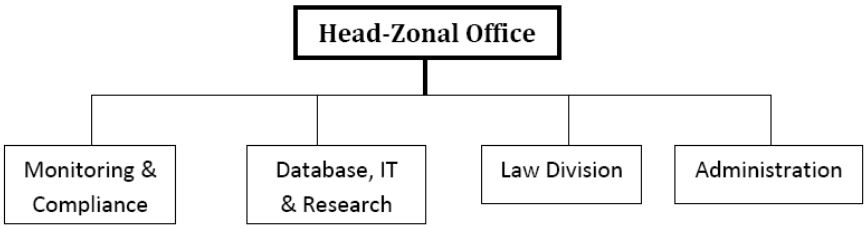
The current processes of CRZ regulation (Clearances) and Coastal Zone Management (Coastal Zone Planning) are contained in Figures 5.3, 5.4 and 5.5 in Chapter 5. Its linkages with other institutes/agencies are discussed in Section 5.2 of Chapter 5.

4.2.1.4 Monitoring, Compliance and Enforcement Division

The monitoring system would work through two-pronged approach inspections and self monitoring of EIA conditions and will be implemented predominantly through the six zonal offices. The head office would work as corporate centre being responsible for policy formulation and integration of different zonal offices. The structure of Regional Office is given in Figure 4.3

[45] Swaminathan M S, Nayak S, Narain S., Mauskar, J.M (2009). *Final Frontier: Agenda to protect the ecosystem and habitat of India's coast for conservation and livelihood security*. Report submitted to MoEF.

Fig 4.3: Subdivisions in Zonal Office



Zonal offices will have the mandate for post clearance monitoring, and management of self-monitoring (for detailed processes see Figures 5.3a, 5.3b and 5.3c in Chapter 5). Besides these core functions, regional offices would also be involved in Research, Database and IT management. Law division in zonal offices would handle the cases at regional levels.

Monitoring is proposed to be done through three well-established mechanisms (please see Figure 5.6a and b in Chapter 5)

a) Self monitoring
b) Inspections by the NEAMA zonal office staff
c) Inspections by authenticated and suitably qualified inspection agencies.

Enforcement is to be done on the basis of economic risks and costs. Economic costs division would estimate the economic cost of violation/digression or non-compliance, which will be implemented through the Law division of NEAMA.

Its linkages with different institutions are discussed in Section 5.2 of Chapter 5.

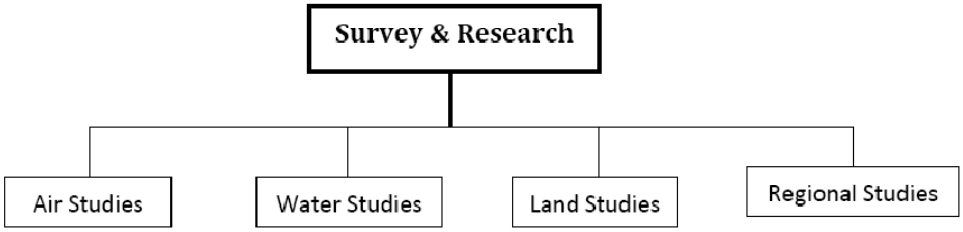
4.2.1.5 Survey and Research Division

This will form the core of scientific and technical expertise in NEAMA, the mandate of this division would be to a) conduct research and prepare databases for carrying capacity, standards, flora and fauna, regional/ecological scientific studies. Manned with environmental scientists this division would be the core research division of the proposed NEAMA.

The division will have scientists housed in technical sub-divisions like experts in air, water, and land subdivisions besides looking at the development of regional plans. This will provide

technical input into the EIA process. Its role is identified in Chapter 5. The subdivisions of this division are given in Figure 4.4

Fig 4.4: Sub-Divisions in Survey & Research



4.2.1.6 Economic Costs Division

This division again is core research division with a mandate for economic risks and costs assessments and conducting socio-economic impact assessments. Its role in the core processes is detailed in Chapter 5. This division would consist of two subdivisions—a) Costing and b) Socio-economic impact assessment. This division would be involved in assessing the economic cost of compliance conditions, which would be used to assess the amount or the Bank Guarantee (BG). In case of non-compliance, this division would assess the cost of non-compliance for imposing a fine.

4.2.1.7 Database Management

This division would be responsible for managing and collecting core scientific data, specifically it would focus on monitoring, GIS and survey & research data through its three sub divisions. This division will contain real time/time series data developed within NEAMA or sourced from outside and would be critical in providing the updated and valid scientific data for use in the impact assessment process. Besides, it will also analyze the monitoring data provided by the regional offices. Its role in EIA, CZM and monitoring and compliance is given in Chapter 5. The division through its authentic, valid and reliable data would help in achieving objectivity and predictability in the EIA reports.

4.2.1.8 Law Division

The mandate for this division would include handling legal cases related to impact assessment (including coastal zone) process and non-compliance in post clearance monitoring. For this purpose this division is divided into two sub-division, a) EIA and b) Monitoring & Compliance.

4.2.1.9 IT Division

Several reports[46] have recommended developing infrastructure to increase transparency and on-line tracking of the applications. A strengthened IT Division with a clear mandate is recommended in NEAMA towards this goal. This support division would be responsible for automation of core and support processes, maintenance services and website maintenance and interfaces with the various stakeholders. Primary responsibility of this Division would be to automate the entire EIA and CRZ processes and to make the various decisions/ recommendations public by putting them on the website. This division would also be responsible for collection of data.

4.2.1.10 Strategic Planning Division

This division would be responsible for medium and long-term planning of the organization with a mandate for overall coordination, appraisal of current activities and strategic planning of proposed NEAMA.

4.3 Summary and Key Recommendations

1. The Chairman and Full Time Board Members are to be predominantly to be from technical/scientific or environmental economics or environmental management backgrounds and to be appointed by the Central Government.
2. Part-time members are to be drawn from various stakeholder groups. A representative from the civil society/NGO is to be present on the Board as a part time member.
3. Expert Appraisal Committees are renamed as Thematic Appraisal Committees (TAC) and are to consist of 8 full-time members drawn from different divisions of NEAMA (like Survey & Research, Economic Costs, database management, EIA and CRZ Divisions), to respond to the need of continuity and institutional memory. Drawing experts from different divisions would also address the need for including diverse skill sets in TACs. External

[46]Report of the High Powered Committee on Statutory Clearances, CPCB, April 2010

experts from empanelled Institutes/agencies may be invited on TACs on a case to case basis. TACs to be chaired by the Chairperson or full-time Members of the NEAMA.

4. NEAMA includes Survey & Research, Economic costs, Database Management divisions (for scientific data, analysis, interpretation and use), for scientific and analytical rigour which will to lead to objectivity and predictability.
5. It also has a dedicated IT division to make all the reports available on the website to increase the transparency. Monitoring, compliance and enforcement to be done through the six zonal offices of NEAMA.
6. Monitoring and enforcement of the CRZ regulations to be addressed by NEAMA in conjunction with the State/UT Coastal Zone Management Authorities.

CHAPTER 5

CORE PROCESSES AND ORGANIZATIONAL LINKAGES

This chapter is divided into two parts. The first part contains the existing and reengineered core processes and the second part deals with the linkages of the proposed NEAMA with other institutions/organizations.

5.1 Core Processes

As mentioned earlier, the proposed NEAMA would be performing three core functions, Environment Impact Assessment (EIA), Coastal Zone Management (CZM) and post clearance monitoring. In this chapter, we present the current process, the reengineered process based on the gaps identified in Chapter 2, for each one of them.

5.1.1 Environmental Impact Assessment

5.1.1.1 EIA: As Is (Current)

The EIA study document fulfills the requirements for environmental clearance from various agencies at the state level. These include State Pollution Control Board and State Environment Impact Assessment Authorities (SEIAA).

A prior Environment Clearance (EC) is needed for projects (those mentioned in schedule of EIA notification 2006) by relevant authority i.e., the Ministry of Environment and Forests (MoEF) for matters falling under Category 'A' and the State Environment Impact Assessment Authority (SEIAA) for matters falling under Category 'B'. This includes new construction work (including expansion), land preparation etc. The categorization is based on 'spatial extent of potential impacts on human health and natural and man-made resources'.

There are 4 stages in the whole EC process

- Screening (Only for Category 'B' projects and activities)
- Scoping
- Public Consultation

❖ Appraisal

An application is submitted by the project proponent (PP) to the relevant authority based on whether they fall within category A or B.

In Screening, SEIAA decides whether a project would require EIA or not. The guidelines for this decision are provided by MoEF from time to time to SEIAA.

In Scoping, the Expert Appraisal Committee (a committee of experts constituted by MoEF) , and SEIAA in case of Cat) determine the Terms of Reference (ToRs) on the basis of the information furnished in the prescribed application Form1 (prescribed in Appendix I of EIA notification 2006). The notification recommends a site visit by a sub- group of Expert Appraisal Committee or SEIAA concerned if considered necessary, however in reality these visits are very rarely made. Currently, consultants help the PP in generating the ToRs which are reviewed by the EAC and the final ToRs have to be conveyed to the PP within Sixty days failing which the ToR proposed by PP would be considered as the ToR for the EIA studies. The approved ToR is to be displayed on the website of the Ministry of Environment and Forests. The application can be rejected at this stage itself, the reasons for the rejections have to be communicated to the PP within 60 days.

The next stage is that of Public Consultation. This stage is designed to ascertain the effects of the proposed project on local groups and environment. It ideally has 2 parts

- a public hearing at the site or in its close proximity- district wise, to be carried out in a prescribed manner in Appendix IV of EIA notification 2006, for ascertaining concerns of local affected persons
- obtaining responses in writing from other concerned persons having a plausible stake in the environmental aspects of the project or activity.

The Public Hearing process is to be carried out by State Pollution Control Boards (SPCB) in the local area. The final proceedings have to be sent to the relevant authority within 45 days from the time a request has been made by PP for the same. In certain cases the public hearing process maybe carried out by an agency appointed by Center if SPCB is unable to perform it satisfactorily. The final report addressing the concerns arising out of Public Consultation is submitted by the PP to MoEF for project appraisal.

❖ Appraisal

An application is submitted by the project proponent (PP) to the relevant authority based on whether they fall within category A or B.

In Screening, SEIAA decides whether a project would require EIA or not. The guidelines for this decision are provided by MoEF from time to time to SEIAA.

In Scoping, the Expert Appraisal Committee (a committee of experts constituted by MoEF) , and SEIAA in case of Cat) determine the Terms of Reference (ToRs) on the basis of the information furnished in the prescribed application Form1 (prescribed in Appendix I of EIA notification 2006). The notification recommends a site visit by a sub- group of Expert Appraisal Committee or SEIAA concerned if considered necessary, however in reality these visits are very rarely made. Currently, consultants help the PP in generating the ToRs which are reviewed by the EAC and the final ToRs have to be conveyed to the PP within Sixty days failing which the ToR proposed by PP would be considered as the ToR for the EIA studies. The approved ToR is to be displayed on the website of the Ministry of Environment and Forests. The application can be rejected at this stage itself, the reasons for the rejections have to be communicated to the PP within 60 days.

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The Public Hearing process is to be carried out by State Pollution Control Boards (SPCB) in the local area. The final proceedings have to be sent to the relevant authority within 45 days from the time a request has been made by PP for the same. In certain cases the public hearing process maybe carried out by an agency appointed by Center if SPCB is unable to perform it satisfactorily. The final report addressing the concerns arising out of Public Consultation is submitted by the PP to MoEF for project appraisal.

The final Appraisal involves a detailed scrutiny by Expert Appraisal Committee of the final EIA report. The applicant in some cases may be invited for clarifications.

> *'On conclusion of this proceeding Appraisal Committee concerned shall make categorical recommendations to the regulatory authority concerned either for grant of prior environmental clearance on stipulated terms and conditions, or rejection of the application for prior environmental clearance, together with reasons for the same.' – EIA notification 2006*

This process has to be completed within 60 days of receiving the final EIA report from PP.

Final Acceptance or Rejection of EC depends on the recommendations of Expert Appraisal Committees. Their recommendations have to be considered and the final decision has to be conveyed to the PA within 45 days.
Mostly the recommendations are accepted as it is. In case there is a disagreement it is re-sent to the Expert Committee for reconsideration, the committee has to reply within 60 days and the authority then has to convey its decision within 30 days. In case these deadlines are not met the PA authority can assume the final recommendations of Expert committee as grant/rejection of EAC.

The process flow of the current EIA process (as given by MoEF) is contained in Figure 5.1

5.1.1.2: EIA: To Be (Proposed)

The existing process is reengineered in response to the problems of lack of transparency, and objectivity and quality of EIA reports. To begin with, the Project Proponent (PP) submits the Application Form (AF) alongwith Pre-Feasibility study to MoEF which passes it on to NEAMA for carrying out the technical EIA evaluation.

As the process occurs in distinct phases, it has been divided into four phases. The reengineered processes are contained in Figures 5.2a, 5.2b, 5.2c & 5.2d. Changes proposed in the new EIA processes have been highlighted in these figures.

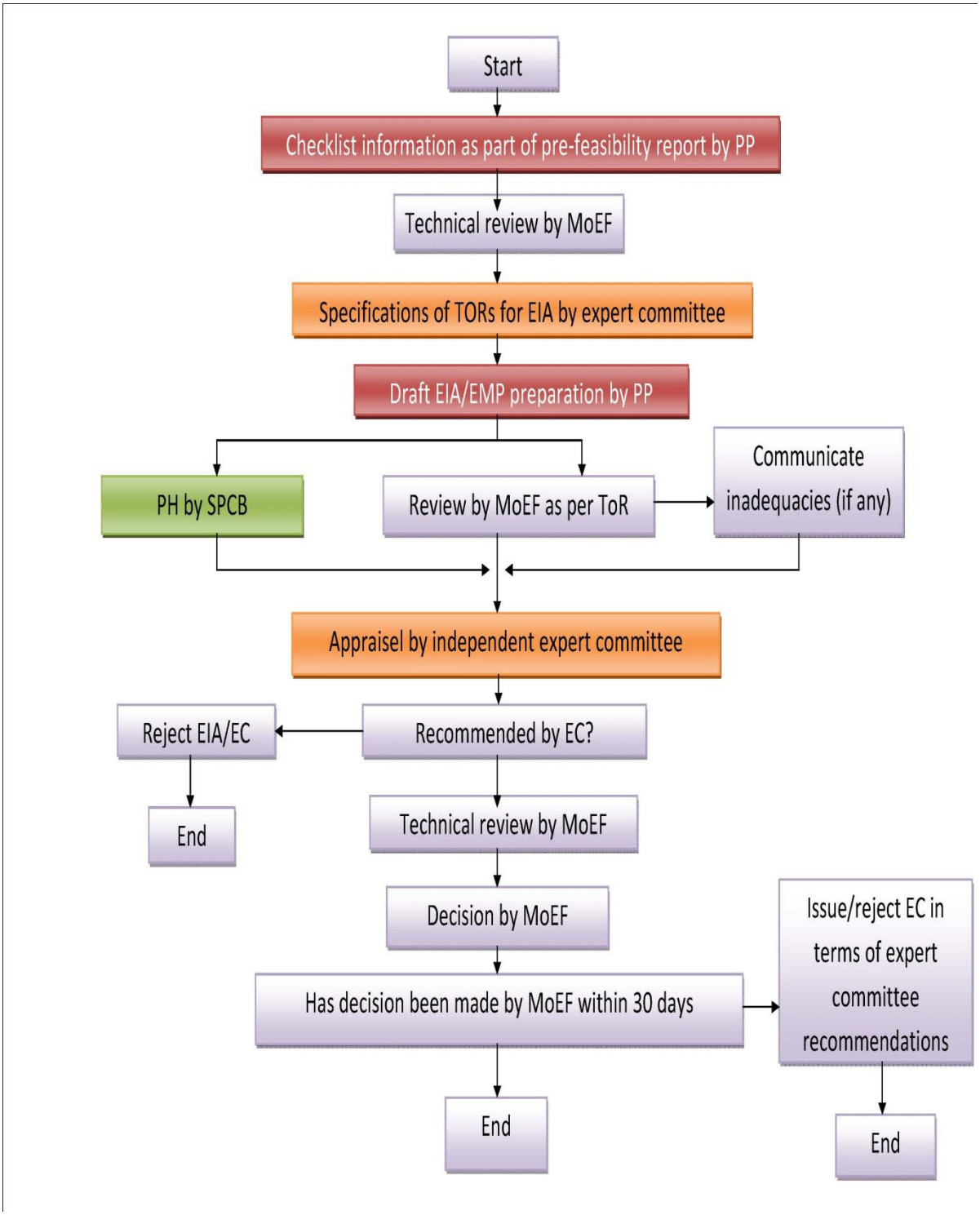


Figure 5.1: Current EIA Process (as given by MoEF)

Figure 5.2a: Proposed EIA Phase I-- Generation of ToRs

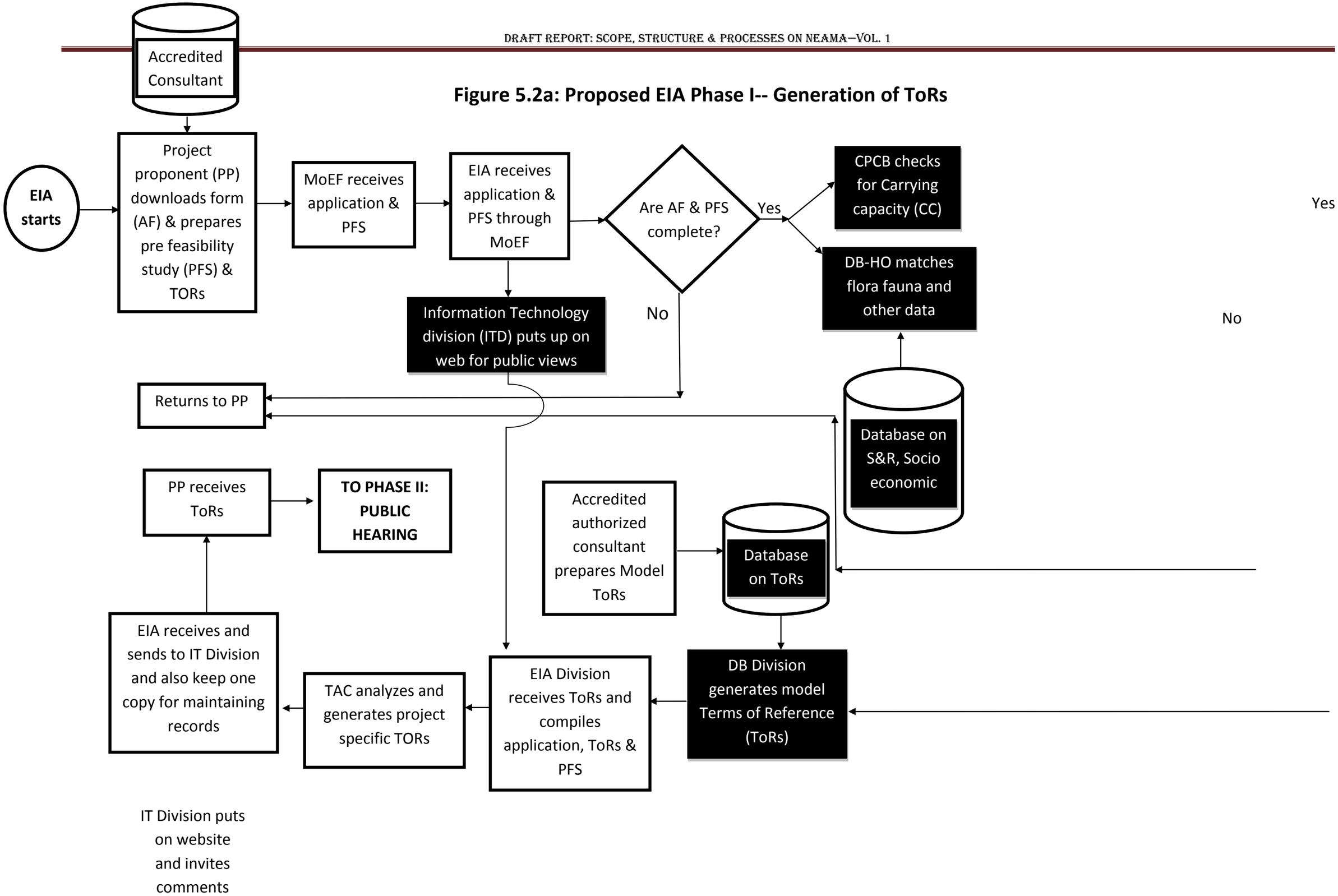
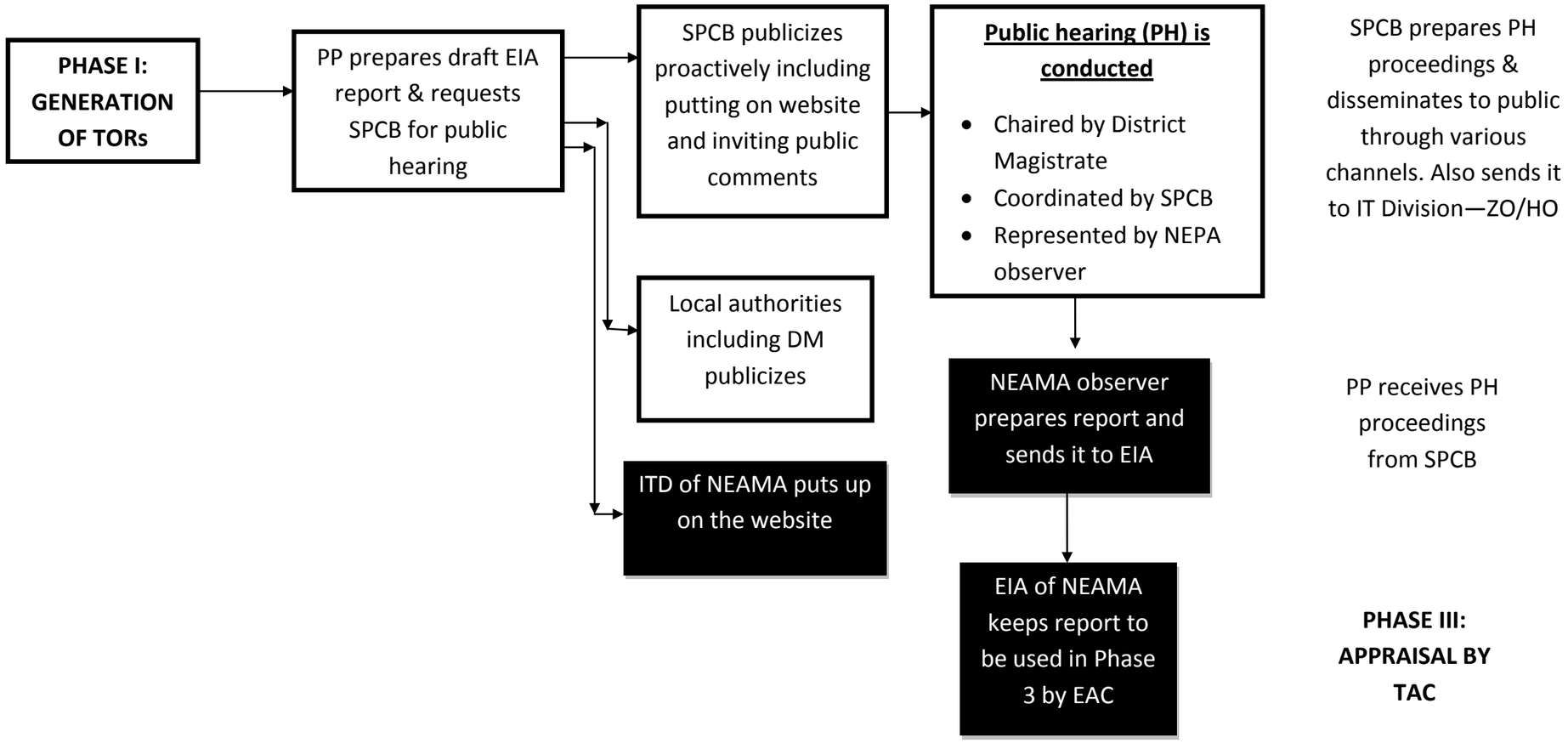


Figure 5.2 b: Proposed EIA Phase II--Public Hearing



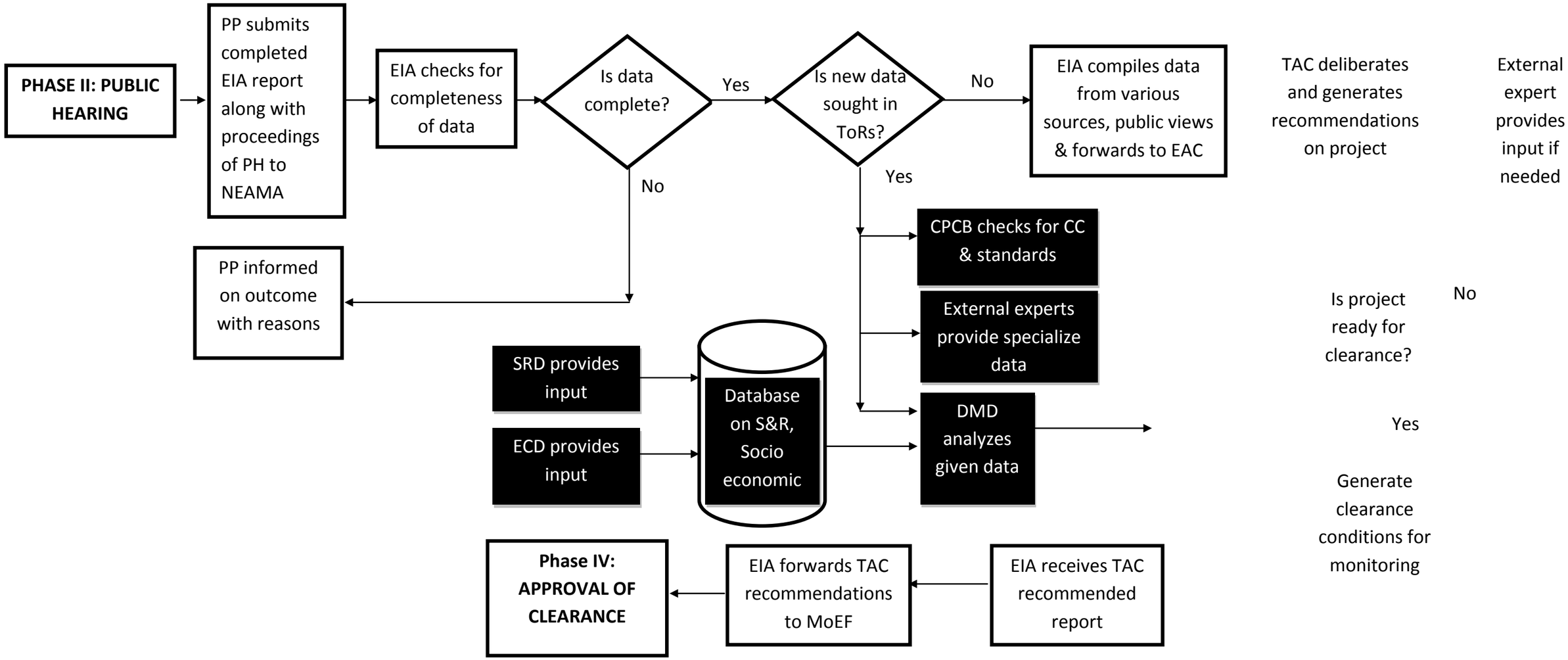


Figure 5.2c –Proposed EIA Phase III--Appraisal by TAC

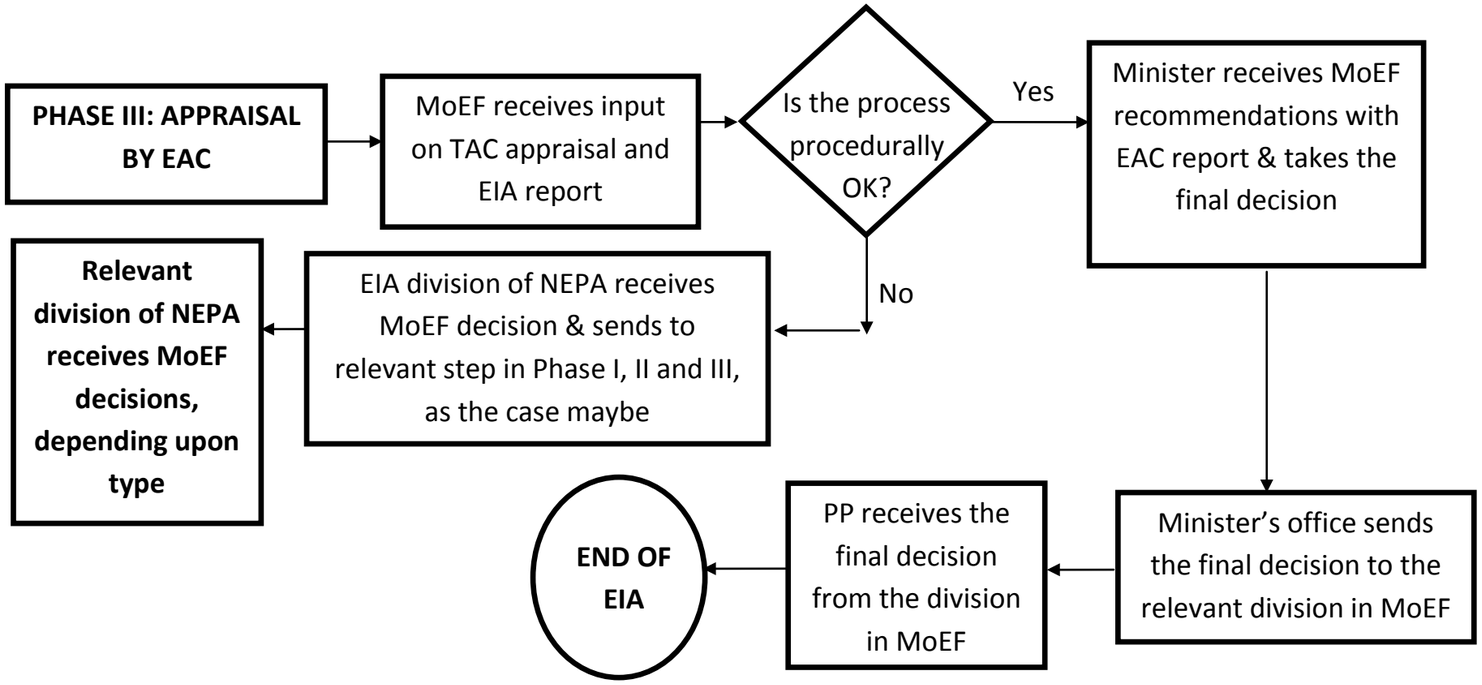


Figure 5.2d: Proposed EIA Phase IV--Final Approval by MoEF

We discuss changes incorporated in each step in detail.

Figure 5.2a delineates the first phase of proposed EIA process, which is concerned with scoping (generation of ToRS). The highlighted parts of the diagram indicate changes that have been proposed in the new process. As recommended by experts earlier[47], at the very initial stages, the application is put up on the website and made available to public for comments and information. Besides it can also be used as a warning signal for the project proponent at an early stage of project proposal. One of the major issues in generating ToRs has been validation of the data. In the new proposed process, using the databases from survey & research, economic costs divisions and external sources like FSI, CPCB provides for checking the validity and reliability of the data provided. As was mentioned earlier, PP takes th help of consultants in preparing draft ToRs and Pre-Feasibility Studies (PFS). It is recommended that this may be done by empanelled and certified (by NEAMA) consultants. If consultants are found using incorrect data or any other malpractice, there may be a provision for blacklisting them[41]. Finally, our proposed process includes generation of model ToRs which provides for consistency and objectivity at this stage of the EIA process. This would fulfill the objective of improving the quality of EIA reports and bringing in consistency/objectivity using reliable and valid data.

In the second phase (Figure 5.2b), which is concerned with public hearing, a NEAMA observer is included, who independently sends a report on public hearing to NEAMA. Presence of an in-house representative would present a firsthand account of the proceedings and discussions. The observer report would be useful in interpreting the public hearing proceedings. Besides the proceedings of public hearing are put up on the NEAMA website (by the IT division) preferably in all national languages[48], which again helps increasing the transparency of the process.

Third phase (Appraisal), too, has been reengineered to make the approval process, scientific, objective, reliable and transparent. It can be seen in Figure 5.2c that extensive scientific data is used for preparation of EIA reports. The EIA reports too are put in public domain to enhance the transparency of the EIA processes. Besides, the project proponent is required to give a Bank

[47] Report of the High Powered Committee on Statutory Clearances, CPCB, April 2010
[48] Reports for the task forces on Governance, Transparency, Participation and Environmental Impact Assessment and Urban Environmental Issues, (Shekhar Singh Committee Report), Planning Commission, 2007

Guarantee objectively linked to the total cost of compliance conditions. This would ensure a) compliance on the part of the project proponent and b) imposition of realistic and monitorable conditions by the TAC. Finally, in line with best international practices, the approval (or otherwise) is given by the Minister in the fourth phase of the EIA process.

Overall, the new reengineered process responds to the issue of objectivity, reliability, transparency and the quality of EIA reports.

5.1.2 Coastal Zone Management

As was mentioned in Chapter 4 Coastal zone management may be seen as performing two core processes a) clearance and b) preparation of coastal zone management plan. The proposed 2010 notification has a comprehensive view of the two processes.

5.1.2.1: CRZ: As Is (Current)

The current CRZ clearance process is given in Figure 5.3. It can be seen that currently, there is no data validation either at the level of SCZMA or at MoEF (NCZMA). Due to insufficiency of data, there have been violations of CRZ area which include destruction of CRZ I area (mangroves, coral reefs etc.); illegal constructions in No Development areas of CRZ III and other such issues. It needs to be pointed out here that regulation of Coastal Zone (clearances) is highly dependent on preparation of detailed coastal zone plans, and validated data.

5.1.2.2: CRZ: To Be (Proposed)

In response to these issues a reengineered clearance process is proposed in Figure 5.4. Three proposed changes are significant. First, databases are used for granting CRZ clearances, making the process objective and reliable. Second, the proposal is put on line to increase the transparency of the processes. Finally, only those coastal zone projects come to NEAMA for approval that require EIA clearance as well, the others get processed by SCZMA's.

5.1.3.1: CZMP: To Be (Proposed)

The proposed CZMP 2010 notification, identifies a detailed process of coastal zone planning, based on this proposed notification, the process of preparing the coastal zone plans is given in Figure 5.5. The highlighted (in dark) parts reflect the new additions proposed in the process.

The proposed process incorporates the key recommendations made by Swaminathan committee report (2009[49]). Extensive use of GIS based datasets, and expertise for development of Coastal Zone Management Plans has been included in the process. The services of the newly set up National Center for Sustainable Coastal Management (NCSCM) may be used for preparing draft coastal zone management plans. The process of development of coastal zone plans includes public participation, which makes it more inclusive in nature and responsive to local needs. Finally, publication of the clearances at various stages on the NEAMA website responds to the need to be transparent.

As can be seen in the process, State/ Union territory Coastal Zone Management Authorities play a very significant role in both Coastal Zone Management Plans and Clearances. Hence it is very important to strengthen them with manpower and other allied resources for the Coastal Zone Management to be effective.

[49] Swaminathan M S, Nayak S, Narain S., Mauskar, J.M (2009). *Final Frontier: Agenda to protect the ecosystem and habitat of India's coast for conservation and livelihood security*. Report submitted to MoEF.

Figure 5.3: CRZ – Clearance (Present)

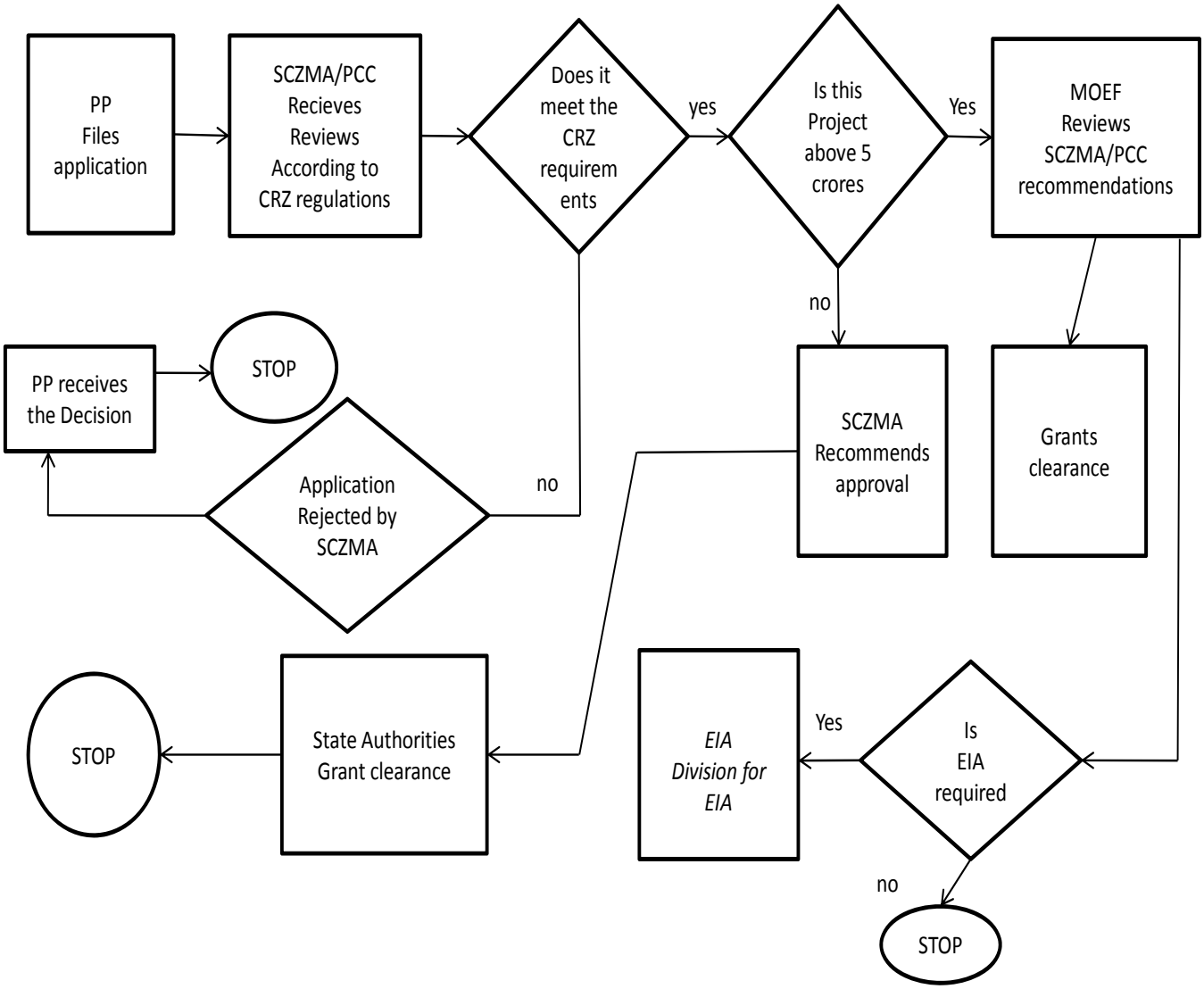


Figure 5.4: CRZ Clearance – PROPOSED

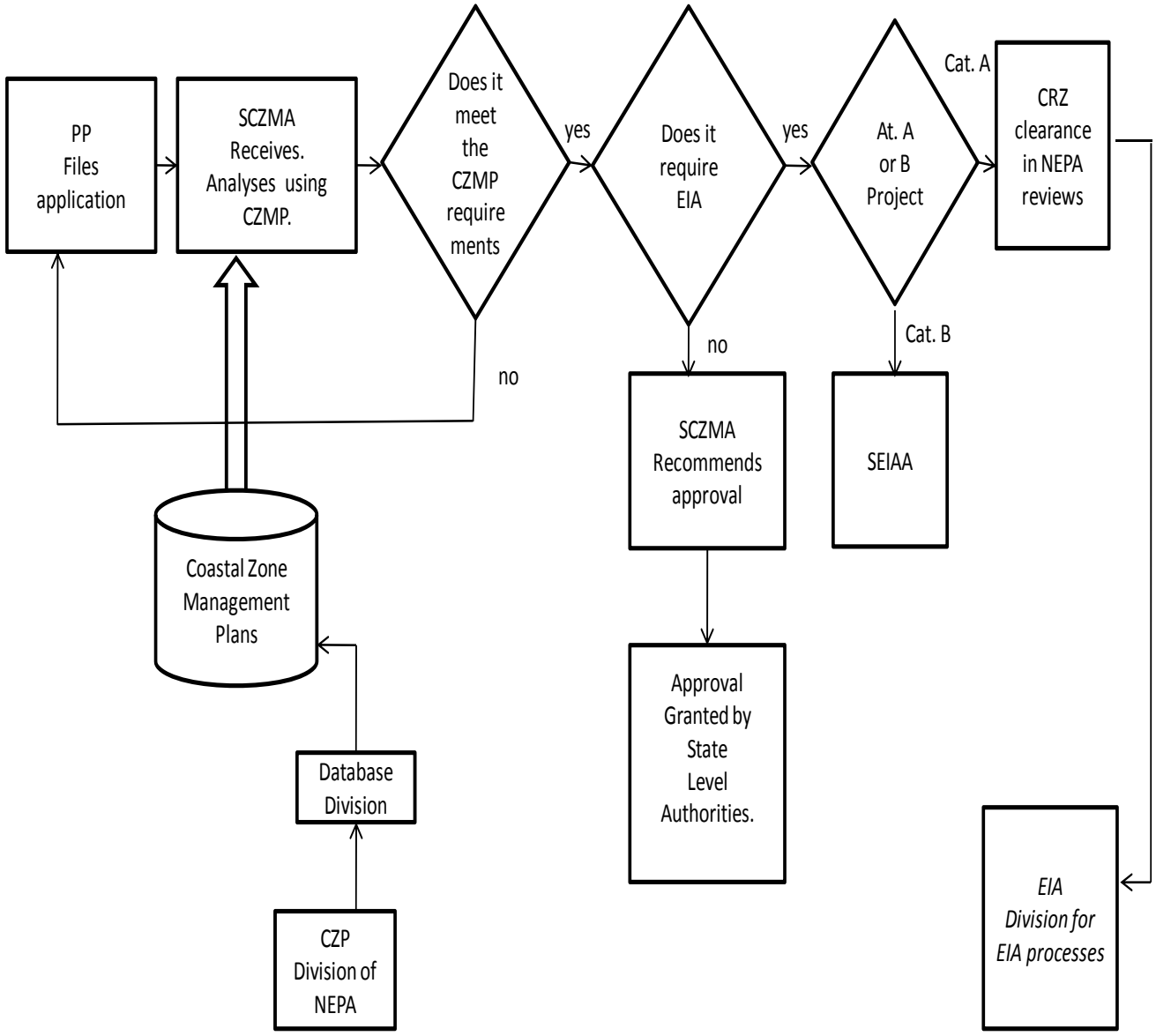
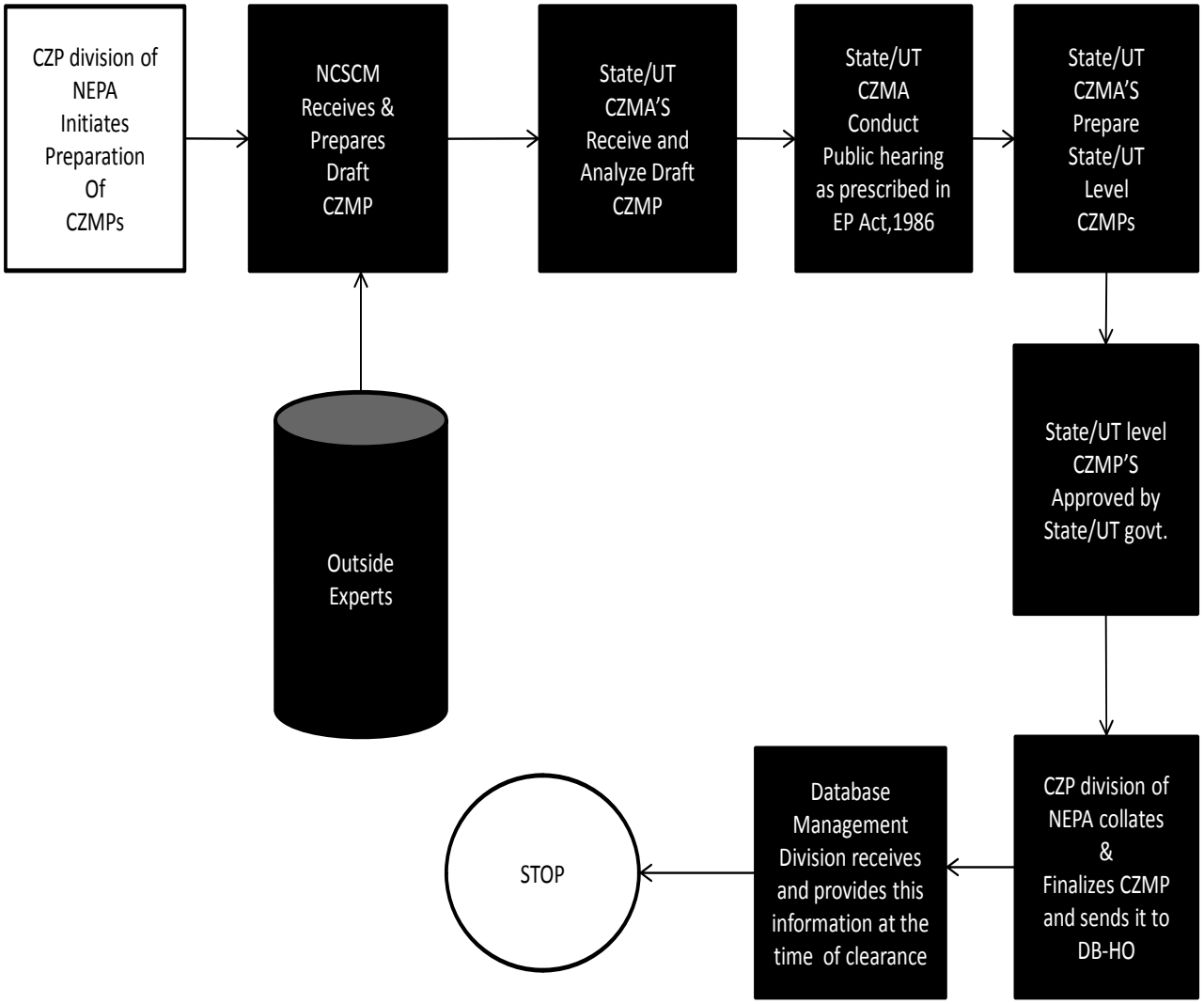


Figure 5.5: CZMP – Proposed (based on proposed 2010 notification)



5.1.3 Monitoring: EIA and CZM

Monitoring has to be done with respect to the independent database, environmental standards and the conditions imposed in the clearance. The proposed process for monitoring applies both to EIA as well as CZM activities. A half yearly compliance report has to be submitted by PA to regional MoEF offices. These have to be displayed on MoEF website. The MoEF regional offices are also entrusted with monitoring compliance with the clearance conditions. In case of non compliance a report is sent to PA and MoEF. The action is undertaken by MoEF.

In the new proposed process, compliance with monitoring conditions is enforced through a) self-compliance reports and b) onsite inspections. The proposed process details these steps.

At the moment, there is no standardized process of post clearance monitoring and each regional office follows its own process. In response to this problem and the others mentioned in Chapter 2, the monitoring, compliance and enforcement process is conceptualized as occurring in three phases, Figures 5.6a, 5.6b and 5.6c contain the details of the defined process.

The reengineered process are in tune with both the letter and the spirit of the 2006 notification. The notification requires filing of self monitoring reports and their publication on the website. Phase I starts with the EIA report (along with compliance conditions), prepared by the TAC, being uploaded on the website and made available to the relevant zonal/regional office. Figure 5.6a details the steps involved in filing the self-monitoring reports and publishing them on the website. Defaulters at this level are given one-warning and if they still don't comply, legal action is proposed.

Phase 2 focuses on inspection. Inspections are proposed to be carried out through a) in-house experts as well as, b) inspections by authenticated and suitably qualified inspection agencies. Figure 5.6b details the process and requires the inspection team/empanelled auditors to write an inspection report on compliance. These reports are compiled and made public (on the website) by the zonal/regional office.

Finally, the last phase is concerned with enforcement, where the process for initiating legal action is detailed. The determination of fine/penalty is to be done by assessing the risks and costs of non-compliance.

5.1.4: Enforcement

Enforcement of self-monitoring report would require six-monthly reports (as recommended in EIA notification 2006) to be submitted by the organization. If the report is not submitted, the organization would be given a warning, subsequent to which the organization has to submit a report within 15 days of the warning notice. If the organization still fails to submit a report, a fine as determined by the economic costs division, will be levied on the organization. Figure 5.6c shows the enforcement process. For non-compliance, economic cost of non-compliance is to be assessed and charged from the organization for non-compliance. An amendment in the E(P) Act, 1986, may be needed for this purpose. In addition, directions under Section 5 of the Act, including directions of closure in extreme cases, may also be issued.

Figure 5.6a: Compliance & Monitoring (Phase 1: Self Monitoring)

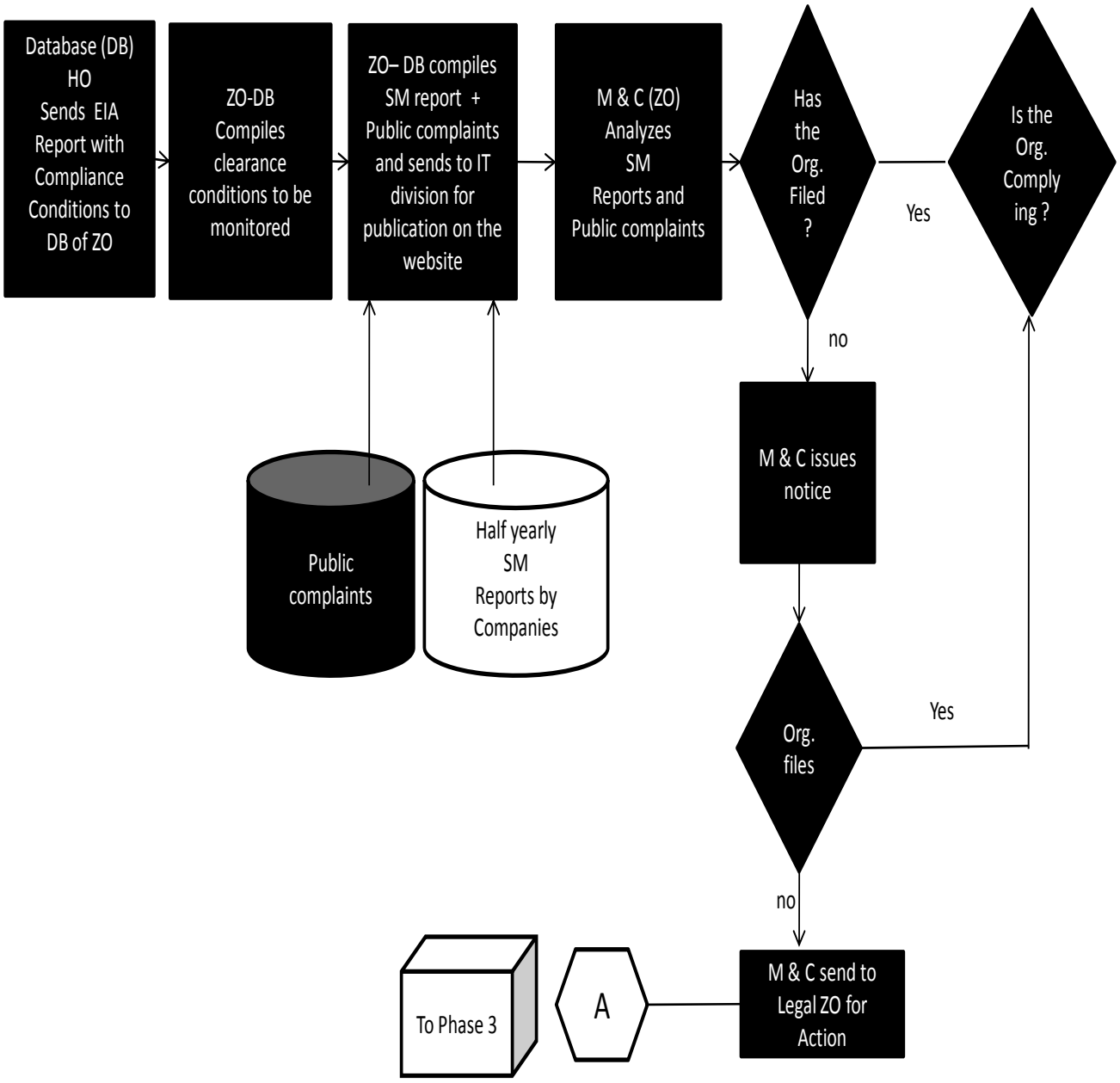
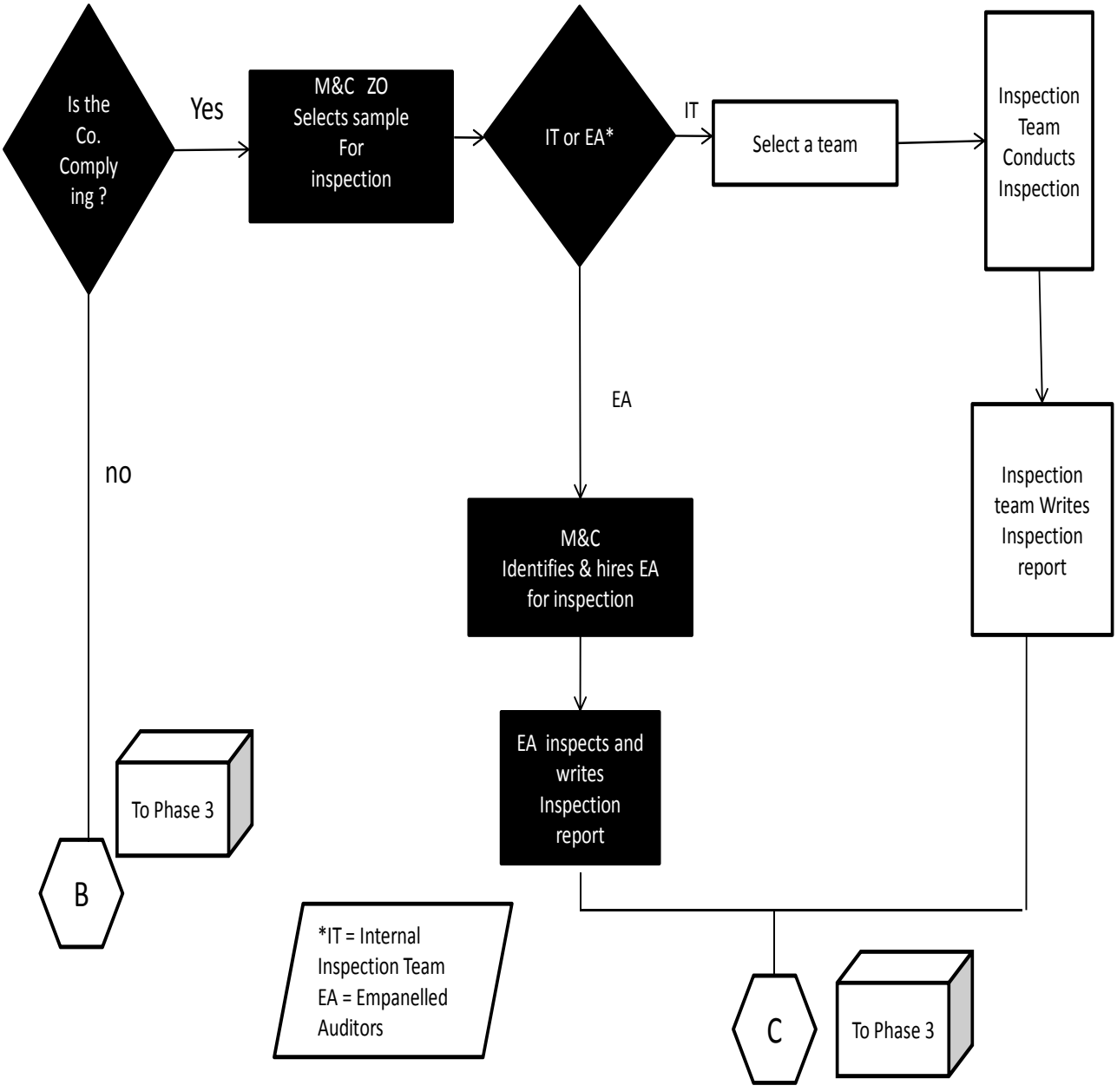


Figure 5.6 b: Compliance & Monitoring (Phase-2: Compliance)



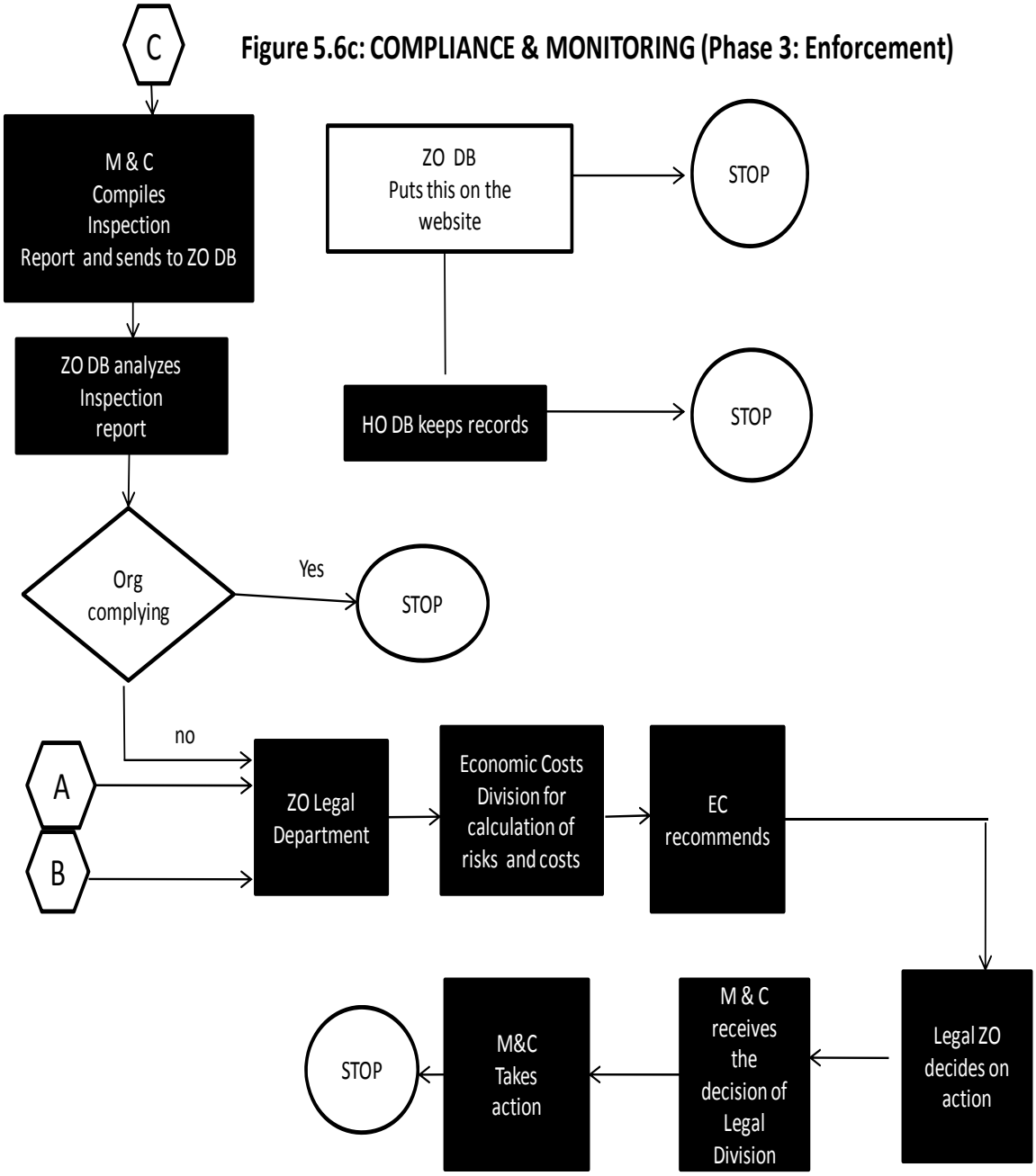


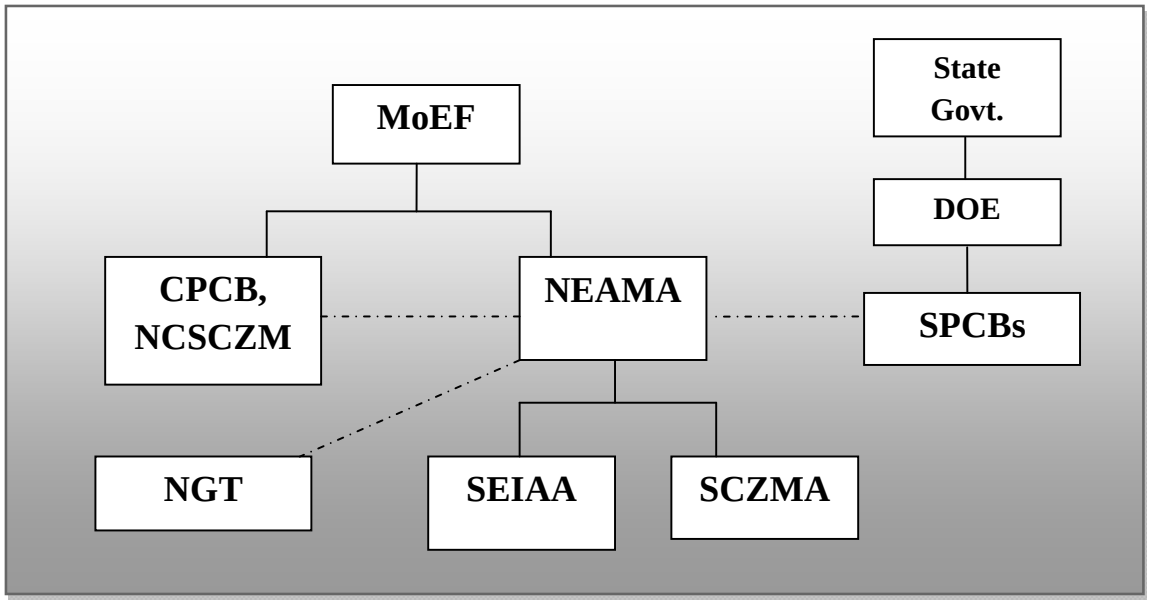
Figure 5.6c: COMPLIANCE & MONITORING (Phase 3: Enforcement)

5.2 Linkages

Before identifying the details of relationship of NEAMA with other organizations/agencies, we first look at the involvement of various agencies in the three core processes a) EIA, b) Coastal Zone Management and c) Compliance, Monitoring and Enforcement.

It can be seen from Figures 5.2 a,b c, 5.4, 5.5 and 5.6a,b,c &d and d that NEAMA interacts with various agencies in these process. There are some organizations that provide informational inputs in terms of scientific data like CPCB, Forest Survey of India, National Center for Sustainable Coastal Zone Management (NCSCZM). Various organizations involved are pictorially shown in Figure 5.7.

Figure 5.7: Linkage of NEAMA with Other Organizations



Note. ——— *Direct relationships,*- - - - - *Indirect Relationships*

Broadly, major environmental governance mandate in the country may be understood as follows

i. Legislation, policy making and final administrative approval to EIA/CRZ projects is to be the responsibility of Ministry of Environment & Forests.

ii. Pollution assessment (including monitoring and survey, standards for ambient environment) research & development and coordination of State level Pollution Control Boards to be the responsibility of Central Pollution Control Board (CPCB).

iii. EIA/CRZ clearance process and post clearance monitoring of these conditions by NEAMA.

iv. Adjudication (judicial) to be the responsibility of the NGT.

v. At the State level, implementation of environmental laws, rules and regulations (particularly for pollution control under Air & Water Act) to be the responsibility of State level Pollution Control Boards.

5.2.1 Relationship of NEAMA with MoEF

Administrative Reforms Committee Report (2008) identifies the issue of linkages between an autonomous body and the government ministry. Since NEAMA has been hived off from MoEF for the purpose of carrying out government policies, a close link between the two is essential while respecting the autonomy and independence of NEAMA. Specifically,

i. The final approval of EIA (after being processed by NEAMA) to be done by MoEF
ii. The final approval of Coastal Zone Plans and CRZ Clearances (after being processed by NEAMA) to be done by MoEF
iii. The appointment and approval of the Chairman/Members of the Board of NEAMA to be done by MoEF
iv. MoEF will provide funds to NEAMA.
v. MoEF will have the power to supersede NEAMA in case of disagreements.
vi. Monitoring and evaluation of NEAMA to be done by MoEF

5.2.2 Relationship of NEAMA with CPCB

Presently the Environment Protection Act, 1986 is duplicating the provisions of Water (Prevention & Control of Pollution) Act, 1974 and Air (Prevention & Control of Pollution) Act, 1981. The CPCB is presently implementing the provisions of Water (Prevention & Control of Pollution) Act, 1974 and Air (Prevention & Control of Pollution) Act, 1981 as its statutory

jurisdiction and implementing the Environment Protection Act, 1986 as per delegation of powers by MoEF. Pollution assessment including monitoring and survey, standards for ambient environment as well as for discharge and emissions, research& development of cleaners technologies and laboratory management and rendering advice to development ministries and polluters for compliance with standards through waste minimization practices, are the responsibilities of CPCB. It is also partially responsible for post commission monitoring of discharge standards.

As is clear in the EIA processes (Figure 5.2a and 5.2c), CPCB would be required to provide carrying capacity and other scientific data required for generating ToRs and preparing EIA reports. It is proposed that the EIA division of NEAMA might liaison with CPCB for getting the required data.

5.2.3 Relationship of NEAMA with State Pollution Control Boards

State Pollution Control Boards being local bodies are at the cutting edge and having been in the field, they have access to resources and knowhow. They are responsible for giving Environmental Clearances and post commissioning monitoring of discharge levels. Their focus areas include air quality, water quality, noise pollution, clean technology and handling of hazardous waste.

Broadly, NEAMA would interact with SPCBs in the following three areas.

SPCBs are responsible for conducting public hearings for big projects. Proceedings (minutes) of these meetings are to be used by NEAMA. The EIA division of NEAMA may interact with SPCBs for this purpose

Currently, SPCBs use accredited labs for testing their samples. SPCB's labs can also be used by NEAMA for sample testing (as a part of post clearance monitoring). The Regional offices of NEAMA (Monitoring & Compliance Division) may interact with SPCBs for this purpose.

Finally, we have proposed the use of empanelled experts for conducting inspections. SPCB's local expertise can also be used in empanelling competent auditors for carrying out inspections. Alternately, SPCB's staff may also be used for inspections as a part of monitoring.

5.2.4 Relationship of NEAMA with State Coastal Zone Management Authorities

SCZMAs would be under the control of NEAMA and NEAMA would have the oversight powers to direct and control SCZMAs, when required. It is recommended that the NEAMA shall have the administrative powers of appointing Chairman and members of the Boards of SCZMAs.. The funding for SCZMAs may be through NEAMA. This would provide NEAMA a direct control over SCZMAs. NEAMA may have the power to issue policy directives to SEIAAs in general and personnel related issues. This would help in bringing homogeneity in SCZMAs of different states.

SCZMAs are expected to play a key role both in the preparation of coastal zone clearances (see Figure 5.4). SCZMAs would be the first point of contact for a project proponent in coastal zone, which will do the first screening. SCZMAs would examine the first set of documents as listed in Para 4.2 of the proposed 2010 Coastal Zone Management Notification and forward the applications to NEAMA, wherever applicable. Their decision at this level would be crucial in deciding whether the project comes to NEAMA or gets clearance at the level of SCZMAs.

SCZMAs also play a very important role in the preparation of CZMPs. They would be responsible for the preparation of regional coastal zone plans, which will be integrated by NEAMA to prepare national level coastal zone management plans. SCZMAs would also be responsible for conducting public hearing and putting up its proceedings in public domain (website).

Finally State/Union Territory CZMAs are responsible for identifying violations of 1991 notification and taking necessary action against them.

State/Union territory Coastal Zone Management Authorities play a very important role in the management of coastal zones and they need to be strengthened.

5.2.5 Relationship of NEAMA with State Environment Impact Assessment Authorities (SEIAA)

Just like SCZMAs, SEIAAs would also be directly under the control of NEAMA and NEAMA would have the oversight powers to direct and control SCZMAs, when required. Currently, the state Departments of Environment act as secretariat for these authorities and some expenses of

these authorities are met by the State governments. Most of the decisions like the appointment of the Chairman and Members is usually done jointly by State and Central Governments. It is recommended that the NEAMA shall have the administrative powers of appointing Chairman and members of the Boards. The funding for SEIAAs may be through NEAMA. This would provide NEAMA a direct control over SEIAAs. SEIAAS would benefit from the highly specialized technical expertise of NEAMA in conducting EIAs at their level. NEAMA may have the power to issue policy directives to SEIAAs in general and personnel related issues. This would help in bringing homogeneity in SEIAAs of different states.

SEIAAs be brought under the administrative and financial control of NEAMA.

5.2.6 Relationship of NEAMA with National Centre for Sustainable Coastal Zone Management (NCSCZM)

NCSCZM is set up with four groups of objectives a) Scientific & Research b) Social, c) Knowledge and d) Policy. Under these objectives, NCSCZM is supposed to carry out research related to ecosystem goods and services of the coast, undertake coastal impact assessments for the protection, conservation, rehabilitation and management of the coast, and to provide information to general public and MoEF. NCSCZM is envisaged as a technical body for carrying out scientific enquiry in coastal areas. The specialized competencies of the Institute in Coastal Zone Management may be used by NEAMA.

A major task of NEAMA would be to prepare Coastal Zone Plans. As can be seen in Figure 5.5, the job of preparing the first coastal zone management plan will be entrusted to this Centre. The CZM division of NEAMA may coordinate with NCSCZM for the preparation of draft CZM plans.

NEAMA would take the proposed draft from NCSCZM and send it across to SCZMAs for incorporating regional plans.

NCSCZM may also help NEAMA in providing experts for TACs (constituted specifically for Coastal Zones).

It can also be an accredited Center for providing authenticated (reliable & valid) data to project proponents for projects in coastal areas.

5.2.7 Relationship of NEAMA with National Green Tribunal (NGT)

NGT was set up to ensure effective and expeditious disposal of cases relating to environment protection, and is an appellate forum for environment related cases, enforcement of legal rights, and providing relief and compensation to damages to person and property (using polluter pays principle). It has jurisdiction over all environment related civil cases. This implies that all cases filed by or against NEAMA (in matters of environment protection), would be handled by NGT. Typically the cases from NEAMA would include cases on defaulters at different stages. Since NEAMA would have the authority to impose fines (commensurate with the offence) on the project proponent, the proponent could make an appeal in the NGT.

5.3 Summary & Key Recommendations

1. The appraisal of projects for EIA/CRZ clearances and review of coastal zone management plans is proposed to be done by NEAMA. Based upon the recommendations of NEAMA, the approval or otherwise shall be done at the level of MoEF.
2. Model ToRs are to be generated with the help of in-house Survey & Research, Economic Costs and Database Management divisions of NEAMA.
3. The entire process would be automated. Transparency in the EIA, coastal zone clearances and preparation of Coastal Zone Management plan, is sought to be increased by putting up a) ToRs (for every project), b) Minutes of public hearing meeting (for every project), c) Final EIA report with clearance conditions, d) Self monitoring reports e) Reports of inspections done by NEAMA staff and empanelled inspectors, on the NEAMA website.
4. There are well-defined steps in the process that use realtime as well as time series scientific data (from both in-house expert divisions and outside experts) for validating the data provided by the project proponent and decision-making.
5. Project proponents may get authenticated data (from accredited institutions/agencies like CPCB, FSI and NCSCZMA) on payment of fee.
6. Calculation of economic cost of compliance conditions is required to be a part of the EIA report. To ensure compliance, it is recommended that the project proponent be asked to furnish a Bank Guarantee (objectively linked to the total cost of compliance conditions). This would ensure a) compliance on the part of the project proponent and b) imposition of realistic and monitorable conditions by the TAC.

7. Services of NCSCZM may be taken for preparation of draft Coastal Zone Management plans.
8. Public hearing is to be included in the process of preparation of Coastal Zone Management Plans.
9. It is proposed that a NEAMA observer be present in public hearing meetings and the report of these observers be considered along with the minutes of the public hearing meetings.
10. Monitoring, compliance and enforcement is to be the responsibility of NEAMA. Monitoring is to be done though three mechanisms a) six-monthly self-monitoring report; b) inspections by the NEAMA staff; and c) inspections by authenticated and suitably qualified inspection agencies. The information on compliance and enforcement should be made available on the website of NEAMA and MoEF in public domain for social audit. Monitoring has to be done with respect to the independent database, environmental standards and the conditions imposed in the clearance."
11. By way of monitoring and enforcement, a warning is to be issued in the instance of failure to submit self-monitoring report in time. If the organization still does not respond, an economic fine is to be levied. For non-compliance, economic cost of non-compliance is to be assessed and charged from the organization for non-compliance. An amendment in the E(P) Act, 1986, may be needed for this purpose. In addition, directions under Section 5 of the Act, including directions of closure in extreme cases, may also be issued.
12. Given the mandate of NEAMA, National Coastal Zone Management Authority (NCZMA) would be subsumed in NEAMA.
13. Authenticated data on air and water quality to reside with CPCB, on forest with the FSI and on coastal regime with the NCSCZMA.
14. Additionally, in view of the ambiguity in the functioning and control of State Environment Assessment Authorities (SEIAAs) and State/ Union Territories Coastal Zone Management Authorities, an additional objective of NEAMA would also be the coordination and guidance of these two bodies.

CHAPTER 6

RESOURCE REQUIREMENTS

This Chapter assesses the manpower and financial resources required by NEAMA.

6.1 Manpower Requirements

As has been pointed out by several committees, an organization with the mandate of NEAMA must be science-based and must reflect diverse skills required for the processes. Our manpower forecasts are governed by these two guidelines. Table 6.1 reflects the diverse skill-set of the manpower in NEAMA.

6.1.1 Manpower Estimates: Division Wise

There are 10 divisions in the Head Office (Pl see Figure 4.1) besides the 6 zonal offices. The divisions at HO comprise Thematic Appraisal Committees (TAC), EIA, Coastal Zone Management (CZM), Monitoring and Compliance Database Management, Economic Costs, Survey & Research, Law, Strategic Planning, Administration and IT Divisions. The proposed organization requires diverse skills in different divisions.

The logic for determining the manpower and the actual manpower in each one of these divisions is discussed subsequently.

Thematic Appraisal Committees are to consist of senior (Additional Adviser & above level) people from diverse backgrounds. These committees will consist of people drawn from different divisions in NEAMA (like Survey & Research, Economic Costs, Database Management, EIA, CZM, Law, Administration, Monitoring & Compliance (HO) and IT). In line with the present practice eight TACs are envisaged. Of these, one will look at coastal zone projects. Each committee would consist of eight in-house (drawn from different divisions) experts and each expert would have a term of 3 years. There will be *64 senior scientists/officers* involved in the TAC with dual responsibility; i.e, looking after their own divisions and appraisal as a part of TAC. These experts *will be housed in different divisions* and will be reflected in the manpower estimates of those divisions.

Table 6.1: Skill-Mix in NEAMA

Division	Admin.**	IT***	Database	Eco. Costs	S & R	CZM	EIA	M&C	Law	SPU
Skills Required	Human Resource Management Financial Management	Programming Networking Website Development & Management	GIS Systems Data Analysis & interpretation	Economic Risks & Costs Assessment Socio-economic impact assessments	Medium wise scientific research (Air, Water & Land) Region wise scientific studies Ecological Studies	Scientific Studies of Marine Systems Ecological Studies of Marine Systems	Sectoral Expertise in Mining, Industrial projects, Thermal Power, River Valley, Infrastructural, Nuclear and Railways	Engineering Sample Collection Sample Testing	Legal expertise in EIA & Enforcement	Strategic Management skills of Forecasting, Making strategic and operationsl plans
Generic Competencies	General (HR & Financial) Management	IT programmers	GIS specialists	Economists & Sociologists	Environmental Scientists	Marine Scientists	Sector Expertise	Environmental Engineering	Law	Strategic Management

Besides, these full-time members, outside experts may be invited on a case to case basis. These experts would have to be from Institutions/agencies, duly approved and empanelled by NEAMA through a well defined process. Additionally, it is recommended that for projects in Coastal areas, experts from the location of the project (geographical area) may be invited on the committee

The core logic used for calculating manpower requirements in *EIA and CZM* is the number of applications received each year and manpower required per project. Based on data gathered from the IA division, about 2500 applications are received for EIA. Each project is with NEAMA for 2 months. Using these figures, estimated manpower for EIA division would be 50. Same logic is used for CZM division as well, which has about 250-300 projects per year. However, CZM has additional responsibility of preparing coastal zone management plans, the estimated manpower in this division is 20.

For *monitoring and compliance*, we have considered the number of clearances granted per year (~1440, based on data from IA division). On an average a project is in pre-commissioning stage is for three years and each year two inspections would be the ideal. This would lead to total of 8640 inspections (ideally required to be done). The frequency of visits may be based on the pollution potential of the industry. Assuming not all will be inspected twice (there will be self monitoring data) and some of the inspections will be done by empanelled experts. About one-fourth of the inspections would be done by in-house experts and considering each team of expert consists of four members and each team can conduct about 5 inspections in a week, the required manpower is calculated. This would also ensure that all clearances are inspected at least once a year and some are inspected twice as well.

Survey and Research (S & R) is the biggest division in sync with our philosophy of NEAMA being driven by scientific and analytic tool driven. Manpower for this division is estimated based on the classification of research into air, water and land as three mediums. Our discussions with experts led to the conclusion that data collection and analysis of air as a medium require half the manpower as compared to the analysis water and land. Thus we used a ratio of 1:2:2 for estimating manpower in these sub-divisions. Using the number of monitoring stations for air and number of persons per monitoring station as the base, we estimated the manpower required to be

20-21 for the air wing of survey and research. Using 1:2:2 ratio, the total manpower for S & R worked out to be 104.

The manpower in the other two research related divisions, i.e., *Economic Costs and Database*, was estimated to be approximately 1/3 of S & R. Thus manpower in Economic Costs was estimated to be 35, for database additional manpower for handling the technology was added to Economic Costs and it was estimated to be 40.

Staffing for *Law* division is based on legal cases in EIA, CZM and Monitoring and Compliance. Based on the number of cases likely to be filed (approx. 25% of total clearances, based on an OECD report) and the number of case to be handled per person, the manpower for Law division is estimated to be 41. Manpower estimates for the *IT* division were calculated on three core functions, i.e., uploading the EIA and monitoring data (calculating all the reports that are to be uploaded and the number of clearances sought per year and the monitoring data), handling public feedback/complaints and maintenance of the in-house IT systems and the website. We would like to mention here that since all the core processes will be automated, there will be an initial requirement for setting up the system, which we have taken as one-time cost. The permanent manpower in IT division is based on the assumption that it will mainly be involved in maintenance function and uploading the required data. On this basis, total manpower in IT division is estimated to be 21. *Strategic Planning Unit (SPU)* is staffed keeping in mind the medium and long term-goals (mentioned in Chapter 3). This would require implementing the objective of including EA in ecosystem level plans and in national planning and the manpower is estimated to be 24.

Manpower in Administration Division is estimated as 5% of the total manpower.

Table 6.2 presents the division-wise distribution of manpower.

6.1.2: Manpower Estimates: Level-wise

Hierarchically, manpower is segmented into Group A level officers (Advisors, Additional Advisors, Deputy Advisors and Deputy Directors) and Office Staff (Group C consisting of LDC, UDC and Assistants and also technical staff in divisions like S&R, Economic Costs, and database Management). Table 6.3 presents level wise manpower in each division. It needs to be mentioned that contrary to convention the top is not very narrow; this is because all the TACs consist of the Advisor and Additional Advisor level officers. In all, there are 185 Group A officers and 270 Group C officers. The Group C employees also include technical staff (like junior and senior investigators in S & R, Economic Costs and Database Management).

In addition to this we have also estimated Group C personal of PA/PS and Stenos based on the total number of officers which works out to be approx. 130. All Group D services are to be outsourced; hence they are not reflected in the manpower.

Table 6.2: Manpower Requirements for Different Divisions

	DIVISION	**MANPOWER**
	EIA	50 (Head Office)
	Monitoring& Compliance	93 (15 Head Office + 78 Regional Offices)
	CZM	20 (Head Office)
	Survey & Research	104 (86 in Head Office + 18 in Regional Offices)
	Economic Costs	35 (Head Office)
	Law	41 (23 in Head Office + 18 in Regional Offices)
	Database Management	40 (16 in Head Office + 24 in Regional Offices)
	Strategic Planning	24 (Head Office)
	IT	21 (9 at Head Office + 12 Regional Offices)
	Admin (HR & FA)	27 (~5% ∑a to i) (15 in Head Office + 12 in Regional Offices)
	Support Staff --(PA/PS, Steno)	130 (118 in Head Office + 12 regional Offices)
	TOTAL	**585 (411 in Head office + 174 Regional Offices)**

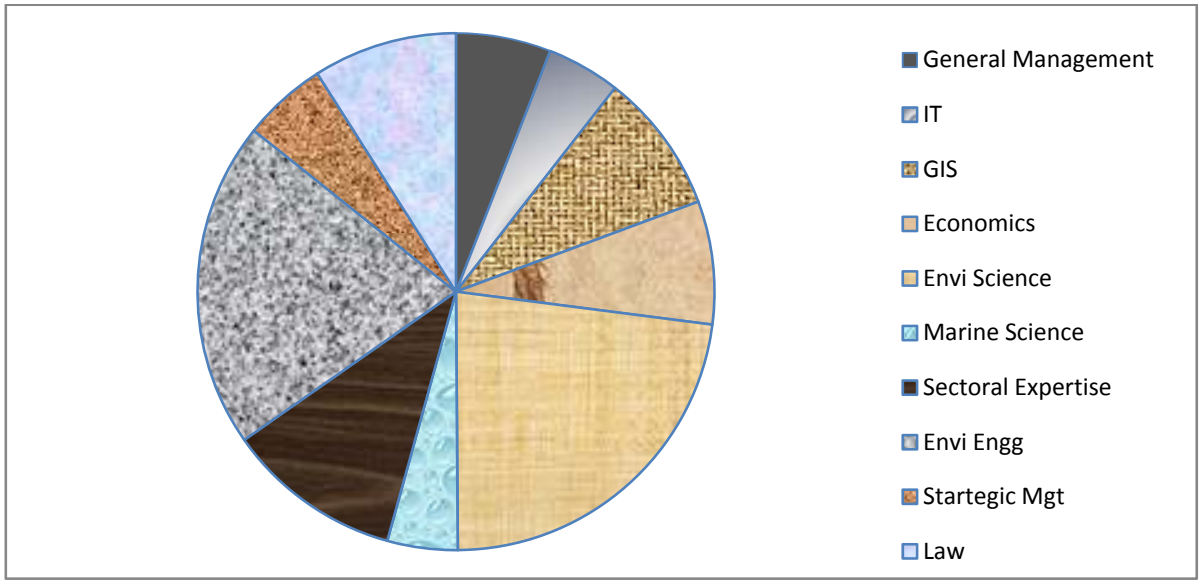
Table 6.3: Level-wise Manpower in Different Divisions

	Admin.	**IT**	**Database**	**Eco. Costs**	**S & R**	**CZM**	**EIA**	**M & C (Regional)**	**M& C (HO)**	**SPU**	**Law**	**TOTAL**
LEVELS/NUMBERS	Administrative Advisor(1)	IT Advisor(1)	Database Advisor (2)	Economic Advisor (2)	Scientific Advisor (4)	Marine Advisor (1)	Impact Assessment (IA) Advisor (2)		Administrative Advisor(1)	Strategic Advisor(1)	Legal Advisor(2)	17
	Administrative Addl. Advisor (3)	IT Addl. Advisor (3)	Database Addl. Advisor (6)	Economic Addl. Advisor (6)	Scientific Addl. Advisor (12)	Marine Addl. Advisor (3)	IA Addl. Advisor (6)	Supt. Engineer (6)	Addl. Advisor (3)	Strategic Addl. Advisor (3)	Legal Addl. Advisor (6)	57
	Administrative Deputy Advisor (3)	IT Deputy Advisor (3)	Database Deputy Advisor (6)	Economic Deputy Advisor (6)	Scientific Deputy Advisor (12)	Marine Deputy Advisor (3)	IA Deputy Advisor (6)	Executive Engineers (12)	Deputy Advisor (3)	Strategic Deputy Advisor (3)	Legal Deputy Advisor (6)	63
	Administrative Deputy Director (3)	IT Deputy Director (3)	Database Deputy Director (6)	Economic Deputy Director (6)	Scientific Deputy Director (12)	Deputy Director (3)	IA Deputy Director (6)			Strategic Deputy Director (3)	Legal Deputy Director (6)	48
Grp. III (Office Staff)	12	11	20	15	64	10	30	60*	8	14	21	270
TOTAL	**22**	**21**	**40***	**35***	**104***	**20**	**50**	**78**	**15**	**24**	**41**	**455**

*Note. * = These Divisions, having a focus ob research would also include (Scientific technical staff like Junior Investigators / Senior Investigators)*

Figure 6.1 gives the approximate proportion of people with different skills (competencies) in NEAMA.

Figure 6.1: Proportion of Diverse Skills Employed in NEAMA



6.2 Financial Requirements

Financial costs are divided into recurring and one—time (capital) costs. NEAMA is to become fully functional in 3 years and both the costs are distributed over three years. Besides the actual estimates .06% is added to the cost towards inflation.

6.2.1 Recurring Costs

The recurring component of the cost will be fully operational in three years, with 30% being used in the first year, 65% (30 + 35) in the second year and 100% (65 + 35) in the final year.

Salaries constitute the first component of the recurring cost. Based on the levels identified in Table 6.2, the salaries are benchmarked against Central Government pay scales. Pay scales of Secretary and Additional Secretary are used for Chairman and Board members respectively. Salaries include the cost of inviting external experts on TACs, empanelled inspection agencies (Rs. 6000000/- per annum), along with the cost of Group D staff (Rs. 1200000).

Second component under recurring head is the rent for the hired space. It is assumed that the zonal offices of proposed NEAMA will operate from the current regional offices of MoEF, hence the rent of Head Office only is included towards rent. Rent is calculated taking about 100 sq. ft. per person (on an average) at the rate of Rs. 128 per sq. ft (in commercial areas).

Travelling constitutes the third component, which is predominantly for inspections (monitoring & compliance) by the regional offices. Estimating the cost of per inspection to be approx. Rs. 1000/-, the cost of travel is estimated. About 30% is added to this as additional cost of travelling.

Using standard protocols, supplies, telephones etc. are calculated as Rs. 100/-per person. Other utilities are calculated at Rs.50 per person. Maintenance is 15% of the rent. Miscellaneous expenses are calculated as 3% of the recurring cost. Table 6.4 contains details of the recurring cost.

6.2.2 One-Time (Capital) Costs

Fixtures & equipments are the first component of one-time cost, which predominantly includes cost of equipments for monitoring. One set of monitoring instrument is estimated to be Rs. 180000/- per instrument. Multiplying this by the number of inspection team gives us an estimate of the cost of instruments and fixtures. Cost of office furniture is assessed at an average rate of Rs.15000/- per employee. Vehicles are required for inspections as well as for officers. Cost of vehicles is calculated based on vehicles required for people for the rank of Jt. Secretary and above, vehicles required for inspections and for key divisions (total number 94).

Table 6.4 : Recurring and Capital Costs for Setting up NEAMA (in Rs.)

Recurring Costs	**Monthly Expenses**	**Yearly Expenses**	**Year 1 Costs**	**Year 2 Costs**	**Year 3 Costs**
Salary of Chairman + 3 board members	6,30,000	75,60,000	75,60,000	80,13,600	84,94,416
Manpower Costs (Salaries + Outsourced Employees)	2,45,20,100	29,42,41,200	8,82,72,360	20,27,32,187	33,06,09,412
Rent	52,65,000	6,31,80,000	6,31,80,000	6,69,70,800	7,09,89,048
Travelling expenses	3,74,400	44,92,800	13,47,840	30,95,539	50,48,110
Supplies	58,500	7,02,000	2,10,600	4,83,678	7,88,767
Telephone	1,17,000	14,04,000	4,21,200	9,67,356	15,77,534
Other utilities	29,250	3,51,000	1,05,300	2,41,839	3,94,384
Maintenance	7,89,750	94,77,000	94,77,000	1,00,45,620	1,06,48,357
Miscellaneous	9,53,520	1,14,42,240	1,14,42,240	1,21,28,774	1,28,56,501
Subtotal	**3,27,37,520**	39,28,50,240	**11,78,55,072**	**27,06,73,815**	**44,14,06,530**
One-Time (Capital) Costs		**Cash Needed to Start**	**Year 1 Costs**	**Year 2 Costs**	**Year 3 Costs**
Fixtures and equipment		27,00,000	10,80,000	8,10,000	8,10,000
Office Furniture		87,75,000	35,10,000	26,32,500	26,32,500
Vehicles		5,61,00,000	2,24,40,000	1,68,30,000	1,68,30,000
Outsourcing Cost of Developing IT systems		2,00,00,000	80,00,000	60,00,000	60,00,000
IT Equipment		5,00,98,245	2,00,39,298	1,50,29,473	1,50,29,473
Cash		1,37,673	55,069	41,302	41,302
Other		41,30,197	16,52,079	12,39,059	12,39,059
Subtotal		14,19,41,115	4,25,82,335	4,96,79,390	4,96,79,390
TOTAL ESTIMATED CAPITAL INCLUDING RECURRING COSTS			**16,04,37,407**	**32,03,53,206**	**49,10,85,920**

As mentioned earlier, initial development of IT system will have to be outsourced to an expert agency. The estimated cost of developing the IT software infrastructure is estimated based on two components-- automation of the core processes of EIA, Monitoring and CZM; automation support functions; and customization of technical softwares. Cost of IT equipment is calculated based on the logic of cloud computing at lower levels and stand alone equipments at higher levels. This also includes cost of Enterprise Resource Planning (ERP) systems. Other expenses are estimated at 3% of the total one-time (Capital) costs. Cash is reserved at .1% of the total one-time cost excluding building construction for miscellaneous expenditures. Table 6.4 gives the details of one-time cost. This cost, too, is distributed over 3 years, with 40% of expenses the first year and 30% each in the second and third years.

6.3 Summary and Key Recommendations

1. NEAMA must be science-based and must reflect diverse skills required for the processes. Our manpower forecasts are governed by these two guidelines.
2. Total strength of 585 people (including Grp A, B & C). Group D services to be outsourced.
3. Division-wise manpower estimate to approximate the following a) EIA = 50, b) CZM = 20, c) Monitoring & Compliance = 93, d) Survey & Research = 104, e) Economic Costs = 35, f) Law = 41 , g) Database = 40 , h) Strategic Planning = 24, i) IT = 21, and Admin. = 27.
4. In all, there are 185 Group A, and 400 Group C staff.
5. Financial estimates include recurring and capital costs. Recurring cost include manpower costs (salaries + cost of external experts + cost of outsourced Group D staff), rent (for office space), travel, supplies, telephone, other utilities, maintenance,and other miscellaneous costs. Capital (one-time) costs include fixtures & equipments, office furniture, vehicles, outsourcing cot of developing IT systems, IT equipment, cash and other.
6. NEAMA is assumed to be fully functional in three years. Recurring costs are distributed as 30% in the first year 65% in the second and 100% in the third year. Capital costs are distributed as 40% in the first and 30% each in the second and third years.
7. Total estimated cost in year 1 is Rs. 16,04,37,407/- (with Rs.11,78,55072/- recurring and 4,25,82,335/- as capital costs), in year 2 is Rs. 32,03,53,206 (with Rs.27,06,73,815/- recurring and 4,96,79,390/- as capital costs) and in year 3 is Rs.49,10,85,920/- (with Rs.44,14,06,530/- recurring and 4,96,79,390/- as capital costs).

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ANNEXURE-I

TERMS OF REFERENCE FOR CONSULTANCY TO PREPARE PROJECT REPORT ON ESTABLISHMENT OF NATIONAL ENVIRONMENT PROTECTION AUTHORITY (NEPA)

1. BACKGROUND

The rapid growth in the last decade in India, particularly in industrial, infrastructure, mining and transportation sectors is exerting pressure on ecological carrying capacities and environmental management. The accelerated migration, urbanisation and growing population coupled with changing lifestyles are also posing newer challenges. Sustainable development requires that economic growth is harmonised with the imperative of justice as well as environmental concerns.

1.2 To cope up with the issues of pollution and environmental degradation, India has at present an institutional framework at National and State levels. The Central Pollution Control Board (CPCB) along with 28 State Pollution Control Boards(SPCBs) and 6 Pollution Control Committees(PCCs) in UTs were constituted under the Water (Prevention and Control of Pollution) Act, 1974 for implementation of Pollution Control Laws. The main functions of the CPCB are to advise the Central Government on matters pertaining to abatement of pollution, co-ordinate the activities of SPCBs, provide technical assistance and guidance, research and development etc.

1.3 The Government has delegated powers under Section 5 of Environmental (Protection) Act,1986 to CPCB to issue directions for prevention and control of pollution. The primary responsibility for implementation of Acts, rules and regulations relating to abatement of pollution vest with the SPCBs and PCCs. The SPCBs/PCCs adopt the mechanism of issuing consents and authorisation to industries and local bodies; undertake inspections for verification of compliance and enforcement.

1.4 The Ministry grants environmental clearances to the development projects after appraisal of the Environment Impact Assessment to ensure that the developmental activities are in conformity with the environmental norms stipulated under the E(P) Act, 1986. As per the EIA Notification, 2006, developmental projects requiring prior environmental clearances have been

identified based on their impact potential. These projects are categorised broadly into two categories 'A' & 'B'. Category 'A' projects are those whose impact potential is large and such projects require environmental clearance from MoEF while category 'B' projects are cleared by the State Environment Impact Assessment Authorities (SEIAAs) notified under the E(P) Act. The conditions stipulated while granting EIA clearances are monitored by the six regional offices of the Ministry.

1.5 In spite of having the above mentioned institutions and stringent penal provisions in various statutes, the hiatus between environmental laws and their enforcement is widening in the country. Several studies have identified the institutional weakness in compliance and enforcement as a critical factor, and suggested strengthening the framework of environmental governance.

1.6 Therefore, Ministry of Environment & Forests (MoEF) proposes to set up an independent 'National Environment Protection Authority' (NEPA) with the basic mandate of effective enforcement of the Environment (Protection) Act, 1986.

1.7 It is proposed that NEPA should have national level stewardship in environmental management. It will also have a synergistic relationship with the existing institutions like CPCB, SPCBs and PCCs.

1.8 In this context, Ministry of Environment & Forests proposes to engage a reputed Organisation as consultants to prepare a project report on the establishisment of the NEPA.

2. OBJECTIVES OF THE ASSIGNMENT

The purpose of the assignment is to prepare a detailed project report on the establishment of NEPA. The report should provide a clear blue print for the new entity which should include the following:

2.1 Organisational structure

2.2 Functional areas

2.3 Powers under various statutes

2.4 Business process documentation

2.5 Manpower requirement

2.6 Infrastructure requirement

2.7 Financial implication

2.8 Relationship with existing institutions

3. SCOPE OF WORK

The Consultant is required to:

3.1 Study the various regulatory functions being discharged by the MoEF on the environment side including, inter alia, grant of environmental clearances under EIA Notification, 2006 and CRZ Notification,1991 and monitoring thereof.

3.2 Study the present compliance-enforcement mechanism comprising of CPCB with its regional offices, Regional Offices of MoEF, SPCBs/PCCs and NCZMA/SCZMAs.

3.3 Delineate the role of NEPA and the specific functions to be performed by NEPA with particular reference to the Environment (Protection) Act, 1986.

3.4 Define clearly the relationship of NEPA with existing institutions, i.e., CPCB, SPCBs/PCCs, MoEF, State EIA authorities, National and State CRZ authorities.

3.5 Recommend the powers to be conferred on NEPA under various statutes to perform its mandate effectively.

3.6 Frame the organisational structure and the detailed organogramme of NEPA, including the composition of the governing body.

3.7 Document the business processes of NEPA .

3.8 Assess the manpower and infrastructure requirements of NEPA.

3.9 Determine the financial implication of setting up of NEPA.

4. DELIVERABLES AND TIME SCHEDULE

a) **Inception Report**: It shall be submitted on completion of 2 weeks of signing the contract. It would give the details of work carried out and a detailed work plan along with firm time schedules for the period of consultancy. It should contain the detailed methodology for preparation of the report, identification of data requirements, programme of field visits and outline of the final report. Five copies of the Inception report shall be submitted along with two copies on CD and a presentation will be made to MoEF by the Consultant.

b) Interim Report: It shall be given within 2 months of signing the contract. The interim report shall contain all the deliverables outlined in the scope of work prepared after due research and consultation and a second presentation will be made to MoEF.

c) Final Report: Final report shall be submitted on completion of the study, i.e., at the end of 3 months from signing the contract. The report should contain the final recommendations incorporating the inputs given by MoEF and other experts on the report and should contain all details as per the requirement of the scope of work. Twenty printed copies of the final report shall be submitted along with five copies on CD.

The time-table for the deliverables is as follows:

Activity	Time schedule (from date of signing the contract)
Inception report	2 Weeks
Interim report	8 Weeks
Final Report	12 Weeks

5. REVIEW OF WORK OF THE CONSULTANT:

Apart from periodic review and approval of the draft reports, MoEF will review the work on a weekly basis for the successful implementation of the project. The Consultant would be required to submit a weekly progress report to the designated Nodal Officer of MoEF.

6. KEY PROFESSIONAL STAFF AND REQUISITE EXPERTISE

The Consultant shall constitute a multi-disciplinary team with the following composition to undertake the study:

i) **Team Leader (Management Expert):** Should be a management professional having experience in leading a multi-disciplinary team and should have undertaken projects of similar nature involving institutional development.

ii) **Technical Expert**: Should have expertise in the field of Environmental management/governance and should have adequate exposure to the existing institutional framework in the field of environmental management in India.

iii) **Legal Expert**: Should be well versed with Environmental Laws and Policy in India and should be able to provide the legal framework for NEPA.

Apart from the above experts, the team may have requisite support staff as needed. The key professional staff will be required to devote at least 100 man-days together for completing the project task.

7. PAYMENT SCHEDULE FOR THE CONSULTANT:

The Consultants shall receive payments as per the following schedule subject to timely submission of reports and approval of the Ministry :

i) 25% of contract value : On acceptance of Inception Report

ii) 25% of contract value : On acceptance of Interim Report

iii) 30% of contract value : On submission of Final Report

iv) 20% of contract value : On approval of the Final Report.

8. SUPPORT FROM MoEF:

The Consultants will be given 'Authorisation Letter' by MoEF for facilitating easy access of data from various Divisions of MoEF, CPCB, SPCBs etc. MoEF will also provide available documents and organise feedback sessions where interaction between the concerned officials and the Consultant can be undertaken.

ANNEXURE II

Discussion With Industry Representatives On

National Environment Protection Authority

On

16th April, 2010 At Indian Industry House, 172, Jorbagh, Lodi Road, New Delhi

S.No.	Name	Organisation
1	Mr R B Mathur	JSW Steel
2.	Mr V Shastri	JSW Steel
3.	Mr Robinder Kaul	SRF Chemicals
4.	Mr Yogesh Mittal	SRF Chemicals
5.	Mr R K Kapur	Usha Martin
6.	Mr Mahesh Thapar	Adani Group
7.	Dr S K Jain	NTPC
8.	Mr R C Kukrati	NTPC
9.	Mr S K Dam	IOCL
10.	Mr Sandeep Shrivastava	Ambuja Cement
11.	Mr Y K Saxena / Mr K K Sharma	Jubilant Organsys Ltd.,
12.	Prof. Kanika Bhal	IIT, Delhi
13.	Prof. Ravi Shankar	IIT, Delhi
14.	Mr Ankit Gupta	IIT, Delhi
15.	Mr Ankit Ratan	IIT, Delhi

ANNEXURE III

SUMMARY-INDUSTRY PERCEPTIONS & RECOMMENDATIONS

Meeting with Industry representatives at CII on April 16, 2010

General Perceptions & Recommendations

- ✓ SPCBs do not perform advisory functions.
- ✓ Most of the pollution problems are from small scale industries so they should be more assisted on technology and there should be a special focus on them for pollution control.
- ✓ Single window system should be stressed upon to save time and energy.
- ✓ Standards should be set in accordance of the technological up gradation of industries.
- ✓ Industry and government can work together but then processes and working structure should be designed in that way.
- ✓ All the processes should be very well defined with time lines and then no one should have the freedom of overshooting these time lines like what happens in EIA.
- ✓ Right now in all the boards (SPCBs), there are no accountabilities. So roles and responsibilities of authorities should be very well defined.
- ✓ For fly ash, best solution is to put it back into the coal mines but when you ask permission for it then inter ministerial problems pop up.
- ✓ Some of the clearances which should be by forest division should not be given by environment department as the two departments might have divergent views.
- ✓ There should be specific time period till when post clearance monitoring should be done as after a time this monitoring makes no sense.
- ✓ Whatever issues have to be raised should be raised at the TOR stage.
- ✓ Committees do not consider cost implications for the industry while suggesting something.
- ✓ There should be less no. of bureaucratic steps involved in the processes of NEPA.

EIA Related Problems & Recommendations

- ✓ If theapplication is not correct and some query is asked then whole process starts from zero. Even sometimes this has been wrongly used to delay the projects.
- ✓ Public hearing has to be done in 45 days but it at least takes 3-4 months because of many state level problems like their workload, elections etc.
- ✓ At times because of ministry's overload, they do not give TOR in time.
- ✓ There can be model TOR given on the website then company directly apply through the website and ministry can directly clear it and there should be no presentation at this stage. And if there are some important implications coming out of the project then ministry can always call the applicant for presentation as an exceptional case.
- ✓ By this website system it will all save lots of money and time as if ministry has to reject an application on some grounds then why to call and waste time, they can directly reject the application.
- ✓ When there was no TOR system the quality EIA analysis was much better from present state.
- ✓ Authenticity of experts is also questionable as most of the people are retired and not up to date with current technologies.
- ✓ Sometimes there are no problems in the projects but committee still forces to pin point the problems in the projects if they want to delay the projects.
- ✓ Knowledge deficiency of consultants is also there and they just do copy paste.
- ✓ There are some of the data which is very difficult for industries to get but very easy for ministry like the list of flora and fauna of the region so this they should do.
- ✓ For the expansion of existing projects, there should be no public consultation as ministry can always see if a company has performed well or not. As during expansion public consultation wastes lots of energy and resources and it also provides opportunities for inhibitory groups to create problems.
- ✓ Right now there are 10 members in the committee, there should be 20 out of which 10 should be every time new and rotation period of members should be 1 year which is currently 5 years.

- ✓ There are frequent and abrupt changes in the notifications because of which even the applications which have been reached at the almost final stage have to go through the entire process all over again. So there should be a provision that if an application has reached up to a particular stage then it cannot be send to stage zero.
- ✓ NEPA should also have regional offices which can clear category B projects.
- ✓ Sometimes state officials ask documents from central government which takes up a lot of time, so here IT can help.
- ✓ NEPA can also bring uniformity in the standards and processes of various SPCBs.
- ✓ After SEPI they are delaying till august rather they should tell us the norms so that we can then bring the technologies. Also if the area is critically polluted then giving no clearance is not the answer as they should first punish those who are not following the norms and polluting.

Hazardous Substance Management Related Issues:

- ✓ Many states do not have TSDF facilities to store hazardous waste.
- ✓ Some of the states give authorization for hazardous waste and some do not so there should be a well defined uniform process and time line for that.
- ✓ All states have different standards for hazardous waste which create lots of problem in the operation as companies have plants all over the country.
- ✓ In hazardous waste problems there is no advisory function from the government side but everything is on the policing side.
- ✓ Trans state movement of hazardous waste is a big problem right now.

CRZ Related Recommendations:

- ✓ Right now MOEF has specified 5 agencies for mapping whose hands are full so more agencies should be allowed for this purpose.
- ✓ Rules for CRZ are being changed very quickly where government should give at least 10 years to see the result of previous rules.
- ✓ Benchmark should be revised as Rs. 5 crores benchmark does not make any sense now, limit should be corrected with time

ANNEXURE IV

Summary Interview –Civil Society Representative

Ritwick Dutta, Environment Resource Center

- Even though tiger conservation act had built up independence in boards and in reporting mechanism, no independence in reality.
- Forest clearances not considered in EIA, thus in big projects EIA is insufficient. Further as there is a forest department in most nodal areas forest and EIA should be combined; this will increase compliance monitoring as there will be optimal use of govt. staff.
- EIA committees have people with conflict of interest as Chairman/Members. Thus it should be ensured that members in committee have no conflict of interest. E.g. a chairman of a mining committee while at the same time he had been the owner of a mining firm. Chairman of existing thermal committee is also the chairperson of EAC mining committee.
- Thus selection procedure of EAC should be specified. There should be no conflict of interest. NGO representation should be ensured on the board. At the same time not all NGOs are independent hence funding agency should also be specified for nominating the NGOs(there should be no conflict of interest in funding agency).
- There are 40-50 EIA in a day's meeting. Delhi High court in an order said that can't do more than 5 EIA in a day.
- While the number of experts is excess, the quality of knowledge is lacking thus contemporary knowledge should be ensured.
- To overcome the compliance work staff shortage – the monitoring can be outsourced to authorized officers , as happens in the case of forest officer. Training can simply be provided to the forest officers to monitor EIA compliance.
- EIA procedure doesn't recognize Panchayats. Panchayats have no say in public hearing or otherwise. With such a robust representative body present at local level, it should be better used in public hearing.

- There are too many vague terms in EIA , which are molded by PP as per convenience. Thus specific composition of EIA should be designed which is industry specific and common minimum standards should be set for each industry/area.
- Time taken per project during one meeting for the PP to show his presentation when calculated turns out to be 2 min. ref: ERC journal
- There should be identification of Eco Sensitive areas similar to CEPI index. Thus there will be a trusted database of areas which are eco-sensitive. Right now PPs are able to pressurize local authorities and hence notify areas as per their convenience. Even in some cases when the EAC had demarcated an areas as Eco-sensitive (through a field visit) , the state administration over- ruled their judgment and the final clearance was provided on basis of state administration.
- The last step where a technical review is done by Moef should be excluded as leads to projects getting EIA clearance even when EAC has rejected their proposal or modifying of conditions occurs in MoEF.

ANNEXURE V

Summary Interview EAC Member-- Dr. Manju Mohan, Prof. IIT Delhi

She is part of the expert committee for industries. She doesn't think that committees are overburdened. On the other hand she does feel that the member Secretary has whole lot on his hands and should have extra staff. She didn't feel that quality of appraisal was affected by larger number of projects as they take up only limited projects in each meeting. Accreditation of EIA consultants is a good idea and se thinks that evaluation of consultants is very important.

She thinks that there should be a common mechanism for data collection which can be an accredited agency. Thus the baseline data can be provided in a certain area by the said agency to all projects and hence there would be no ambiguity. The agency can be set up by MoEF or it can also alternatively be a private agency. This data can be bought by each firm when applying for EIA. This would also allow a common data set for research and thus allow for an additional benefit from the venture.

She thinks a comprehensive EIA is needed for each region similar to CEPI index. This will make the work a whole lot easier and also accurate.

She feels public hearing is a lacuna in the whole process and is a problem for industries as well. Post clearance monitoring is another area which is very weak and thus making recommendations is fruitless if they are not being followed.

During the presentations all members are present. The presentations can go on for 2 days.

She did not know the criteria for selection but she was approached by MoEF to be a part of the board.

FW: Human Resource Data for EIA in Australia

Back to me

MacCallum, Catherine Add to contacts
To 'kanika@dms.iitd.ac.in', 'ktbhal@hotmail.com'

Always show content from Catherine.MacCallum@epa.wa.gov.au

Hi Kanika,

I apologise for the delay in getting a response to you and I hope the informatic useful to you. I have links to some documents that will probably help you with information you are interested in.

The EPA has released the 2009-10 Annual Report:

http://www.epa.wa.gov.au/docs/3274_EPAandOEPA-AnnualReport-0910.pdf

The EPA has also published a strategic plan:

http://www.epa.wa.gov.au/docs/3254_StrategicPlan20810(2).pdf

These documents are all available on the EPA's website: www.epa.wa.gov.au

The information on budgets and full time equivalent (FTE) staff are available o Treasury and Finance website:

http://www.dtf.wa.gov.au/cms/uploadedFiles/State_Budget/Budget_2010_1
You will need to go to Part 17, and the Office of the Environmental Protection (OEPA) budget data. Note that the figures for staff are such that Policy staff ar with EIA staff.
The OEPA provide services to the EPA and was newly created in November 20(

Kind Regards

Catherine

Catherine MacCallum
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Strategic Policy And Planning Services
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From: Kanika Tandon Bhal [mailto:ktbhal@hotmail.com]

From: Kanika Tandon Bhal [mailto:ktbhal@hotmail.com]
Sent: Thursday, 9 September 2010 8:51 AM
To: Policy and Coordination
Subject: FW: Human Resource Data for EIA in Australia

As you will notice from my signature, I am a Professor of Management in the In
of technology, Delhi. Currently, I am involved in helping the Indian Governmen
environment and Forests in setting up an organization for EIA and post clearan
The best way to do this would be to learn from the existing best practices. Tho
a lot of secondary published data but we are not able to get factual informatior
issues, if you can help me in giving rough estimates of the following quickly, it
immense help.
a) Total Manpower involved in EIA (if possible its composition in terms of envir
scientists/engineers, economists, legal experts etc.)
b) Source of funding for EIA
c) Approx Annual budget for EIA

A quick response on this would indeed be very helpful to us in working out the
proposed Agency

With best regards
Kanika

_____
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_____

ANNEXURE VII

Guidelines for Developing Code on Conflict of Interests for Members/Chairman of Board[50]

"Conflict of interests" may be taken to mean any personal interest or association of a Member/ Chairman, which is likely to influence the decision of the Board in a matter, as viewed by an independent third party. The codes apply to Full-Time Members (FTM) and the Chairman of the Board

General principles

- A Member shall take all steps necessary to ensure that any conflict of interests to which he may be subject to does not affect any decision of the Board.
- A Member shall disclose his interests which may conflict with his duties.
- A Member shall not exploit to his personal advantage, any personal or professional relationship with regulated entities (public or private sector organizations, government departments, ministries etc.) or any employee of such entities.

Process

- A Member, who is directly or indirectly interested in any matter coming up for consideration at a meeting of the Board, shall disclose the nature of his interest at such meetings.
- A Member shall not take part in any deliberation or discussion of the Board with respect to such matter except to the extent of professional advice if sought by the Board.
- No Member shall hear or decide any matter where he has a conflict of interest.
- A Member shall seek determination from the Chairman if he has a doubt whether there is a conflict of interests or not.
- Chairman shall seek determination from the Board if he has a doubt whether there is a conflict of interests or not.
- If the Chairman or the Board, as the case may be, determines that there is a conflict of interests, the Member or Chairman shall refrain from dealing with the particular matter.
- The Chairman or the Board, as the case may be, shall assign that matter to another Member or a Committee of Members.

Acceptance of gifts

- A FTM shall not accept any gift by whatever name called, to the extent possible, from a regulated entity.

[50] Taken from SEBI' Code on Conflict of Interest for Members of the Board

- A FTM shall hand over the gift, if he receives any and the value exceeds Rs. 1000/-, to the NEAMA.
- Other disclosures

Disclosures

A Member shall disclose the following:

- any post, other employment or fiduciary position which a Member holds, or has held in the past 5 years in connection with any regulated entity;
- any other significant relationship, including a professional, personal, financial or family relationship held in connection with a regulated entity;
- any honorary position, by whatever name called, in any organisation.

Procedure for public to raise conflict of interests

- Any person, who has reasonable ground to believe that a Member has an interest in a particular matter, may bring the same with material evidence to the notice of Member Secretary to Board.
- The Secretary to the Board shall place the details before Chairman in case of a Member and before the Board in case of Chairman.
- The Chairman or the Board, as the case may be, shall determine if the Member or Chairman has an interest which is likely to affect the decision by him.
- The Member or the Chairman, as the case may be, shall refrain from dealing with that particular matter if the Chairman or the Board determines that there is a conflict of interests.
- The Chairman or the Board, as the case may be, shall assign that matter to another Member or a Committee of Members.