

The Second Act:

Centre-State Conversations on Ecologically Sensitive Areas (2009-2012)

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Kalpavriksh
2012

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Abbreviations Used

AHEC	:	Alternate Hydro Energy Centre
BC	:	Breeding Centre
BDA	:	Biological Diversity Act
BMC	:	Biodiversity Management Committee
BR	:	Biosphere Reserve
BVIEER	:	Bharati Vidyapeeth Institute of Environmental Education & Research
CAMPA	:	Compensatory Afforestation Fund Management and Planning Authority
CEC	:	Central Empowered Committee
CIC	:	Central Information Commission
CPCB	:	Central Pollution Control Board
CR	:	Conservation Reserve
CRZ	:	Coastal Regulation Zone
DGF	:	Director General of Forests
DTEPA	:	Dahanu Taluka Environment Protection Authority
EIA	:	Environment Impact Assessment
EPA	:	Environment (Protection) Act
EPR	:	Environment (Protection) Rules
ERF	:	Environment Restoration Fund
ESA	:	Ecologically Sensitive Area
ESZ	:	Eco-sensitive Zone
GANDHI	:	Green Action for National Dandi Heritage Initiative
GEC	:	Gujarat Ecology Commission
GEER	:	Gujarat Environment Education and Research
GHAMCF	:	Garo Hills Anti-Mining and Conservation Forum
GoI	:	Government of India
HLMC	:	High Level Monitoring Committee

IAS	:	Indian Administrative Services
IBWL	:	Indian Board for Wildlife
ICZM	:	Indian Coastal Zone Management
IISc	:	Indian Institute of Science
JFM	:	Joint Forest Management
JFMC	:	Joint Forest Management Committee
KPCL	:	Karnataka Power Corporation Limited
LCL	:	Lavasa Corporation Limited
LSG	:	Local Self Governance
MAB	:	Man and Biosphere
MC	:	Monitoring Committee
MoEF	:	Ministry of Environment and Forests
NAPM	:	National Alliance of People's Movement
NBWL	:	National Board for Wildlife
NCR	:	National Capital Region
NGO	:	Non-government Organization
NGRBA	:	National Ganga River Basin Authority
NIO	:	National Institute of Oceanography
NP	:	National Park
NRCD	:	National River Conservation Directorate
NRSC	:	National Remote Sensing Centre
PA	:	Protected Area
RTI	:	Right to Information
SACON	:	Salim Ali Centre for Ornithology & Natural History
SEIAA	:	State Environment Impact Assessment Agency
SICOM	:	Society of Integrated Coastal management
SPCB	:	State Pollution Control Board
UNESCO	:	United Nations Educational, Scientific and Cultural Organization
WGEA	:	Western Ghats Ecology Authority
WGEEP	:	Western Ghats Ecology Expert Panel
WGTF	:	Western Ghats Task Force
WLS	:	Wildlife Sanctuary
WP	:	Writ Petition
ZMP	:	Zonal Master Plan



1. Introduction

In India, Ecologically Sensitive Areas (ESAs) have been declared as mechanisms for environment protection and land use planning using environmental criteria since the 1980s. These notifications have been issued under the Environment (Protection) Act, 1986 (EPA) using its Section 3 (2) (v) and Environment (Protection) Rules, 1986 (EPR) through its section 5 (1) (See Box 1). Many groups and individuals believe that these clauses of the EPA and EPR and the declaration of ESAs hold the possibility of realising landscape-level conservation in the country. However, over the years the provisions of ESAs have been used only by a few due to a range of unresolved issues related to the process of declaration, buy in of the local governments and issues of on- ground implementation of the notifications.

Broadly understood, Section 3 (2) (v) of the EPA, 1986 empowers the Central Government (in this case the Ministry of Environment and Forests) to take requisite measures to protect and improve the environment and prevent environmental pollution. It allows for the demarcation of areas in which certain industrial or infrastructure-related activities can be restricted or regulated. In addition to this, Section 5(1) of the EPR, 1986 specifies certain criteria (like topographic and climatic features, biological diversity, environmentally compatible use, extensive cultivation, proximity to the Protected Areas, etc.) that can be considered while prohibiting or restricting certain operations in different areas.

Until May 2009, eight ESA notifications and two draft ESA notifications had been issued by the MoEF. The notified ESAs included Murud-Janjira, Dahanu, Mahabaleshwar-Panchgani and Matheran in Maharashtra, Doon Valley in Uttarakhand, Aravalli hills in Haryana and Rajasthan, 15 km wide zone around the Numaligarh refinery in Assam and Taj Trapezium Zone around Taj Mahal in the town of Agra in Uttar Pradesh. Notifications related to Mount Abu (Rajasthan) and Sultanpur (Haryana) were in their draft forms and were subsequently finalised as has been discussed further in this study.

In the initial phase, the process of declaration of ESAs was largely driven by the efforts of environmental groups through direct lobbying with the Central Government, in particular the Ministry of Environment and Forests (MoEF). There was little engagement with the State Governments or the local communities residing in areas where the ESAs were being proposed, which would impose restrictions or regulate land use. Over the years, feedback and responses began to be sought at least from State Governments, and ESAs were not declared by the MoEF unless there was concurrence of the State Governments. Since the early 2000s civil society involvement with ESAs has been much more at the landscape-level. Civil society groups have also sought larger policy level interventions related to ESAs. The preparation of criteria for ESA declaration, institutionalising the review of ESA proposals as well as firming up the development of proposals have happened in the last decade. In certain cases, groups have invoked the powers of the Supreme Court and sought directives to declare an area or a kind of areas as ESAs. (Kapoor et al, 2009).

Section 3 of the Environment (Protection) Act, 1986 (EPA)

"(1) Subject to the provisions of this Act, the Central Government, shall have the power to take all such measures as it deems necessary or expedient for the purpose of protecting and improving the quality of the environment and preventing, controlling and abating environmental pollution. (2) In particular, and without prejudice to the generality of the provisions of sub-section (1), such measures may include measures with respect to all or any of the following matters, namely: (v) restriction of areas in which any industries, operations or processes or class of industries, operations or processes shall not be carried out or shall be carried out subject to certain safeguards."

Section 5 (1) of the Environment (Protection) Rules, 1986 (EPR)

"The Central Government may take into consideration the following factors while prohibiting or restricting the location of industries and carrying on of processes and operations in different areas: (i) Standards for quality of environment in its various aspects laid down for an area. (ii) The maximum allowable limits of concentration of various environmental pollutants (including noise) (iii) The likely emission or discharge of environmental pollutants from an industry, process or operation proposed to be prohibited or restricted. (iv) The topographic and climatic features of an area. (v) The biological diversity of the area which, in the opinion of the Central Government needs to be preserved. (vi) Environmentally compatible land use. (vii) Net adverse environmental impact likely to be caused by an industry, process or operation proposed to be prohibited or restricted. (viii) Proximity to a Protected Area under the Ancient Monuments and Archaeological Sites and Remains Act, 1958 or a Sanctuary, National Park, Game Reserve or closed area notified as such under the Wild Life (Protection) Act, 1972 or places protected under any treaty, agreement or convention with any other country or countries or in pursuance of any decision made in any international conference association or other body. (ix) Proximity to human settlements. (x) Any other factor as may be considered by the Central Government to be relevant to the protection of the environment in an area."

However, there are several notifications, which, for a variety of reasons, were never finalised or are still pending a final decision by the MoEF. Two such notifications related to Pachmarhi (Madhya Pradesh) and the Himalayas lapsed following the issuance of a draft. Other notifications that are still pending include the proposal for Sahyadri (covering contiguous stretches of Western Ghats in Karnataka, Maharashtra and Goa), Rishi Valley and Araku Valley (Andhra Pradesh), Kasauli (Himachal Pradesh) and Kodachadri (Karnataka, Kerala).

It is important to note that since the late 1990s, even as individual ESAs were being decided upon, the MoEF also took some overall policy decisions and steps related to declaration of ESAs. In 1999, a committee was set up under the Chairmanship of Mr. Pronab Sen, the then Advisor to the Planning Commission on Perspective Planning and Statistics and Surveys (*from now on the Pronab Sen Committee*), with an explicit mandate to frame parameters for designation of areas as ESAs. The Pronab Sen Committee submitted its report to the MoEF in 2000 in which it defined 'Ecological Sensitivity' and presented a list of primary and auxiliary criteria for designating ecological sensitivity and accordingly identifying ESAs. The report was an important step towards formalising the process of declaring ESAs across the country. In fact, several notifications which are presently pending were sent to the MoEF based on the format and criteria set out by this committee.

The MoEF also constituted a committee for assessing the ecological sensitivity of hill stations of India in March 2002, following which ESAs could be identified and declared for various hill stations across the country. The committee's report identified ecologically sensitive hill stations, recommended a freeze on certain kinds of activities in these areas and also proposed a model draft notification for hill stations. However, no further decisions were taken based on the recommendations of the Hill Stations Committee.

It was following the completion of the report of the Pronab Sen Committee that steps were undertaken to constitute an expert committee to review and recommend the proposals made to the MoEF for declaration of ESAs. The Mohan Ram Committee under the Chairmanship of Mr. H.Y. Mohan Ram, Retired Professor of Botany, University of Delhi, was formed on January 1, 2001. This expert body of six members functioned till July 2006, during which time ESA notifications such as Mahabaleshwar-Panchgani, Matheran and Mount Abu (draft) were put out. Since July 2006, there has been no committee in place to undertake these tasks or follow up on the Committee's earlier work. However, there have been two developments that have occurred related to ESAs. One is a Supreme Court's directive to declare ESAs around Protected Areas (PAs) which emerged out of an ongoing litigation related to non-compliance to environment regulation. The other is the setting up of the Western Ghats Ecology Expert Panel (WGEEP) to determine the ecological sensitivity of Western Ghats and conserve them, a result of persistent civil society demand for the same and a political intervention that responded to it. These are discussed in more detail in the subsequent sections.



2. About this Study

During the period of 2007-2009, Kalpavriksh had undertaken a research study to understand and document thoroughly the process and experiences of the declaration of ESAs in the country. The study *"Ecologically Sensitive Areas of India- The Story so far..."* traced the chronology of the notifications declaring ESAs and also reflected on the various mechanisms as well as methodologies through which each of these ESAs was declared, rejected or remain pending with the MoEF. The study tried to grasp the processes and negotiations through which ESA notifications came into being and pointed out key observations related to its institutional mechanisms and highlighted concerns related to implementation. The publication was an attempt to bring to light the context and specificities of eight ESAs which had been declared using the EPA, 1986. It also drew attention to certain policy level processes that had been put into place through individual and organisational efforts, court proceedings and government plan documents as well. In its conclusion, the study engaged with the concept of ESAs with all its limitations and strengths along with presenting some thoughts about its importance in the regulatory arena.

This report is an attempt to deal with these ESAs as they have evolved in policy and law post 2009 and understand the new developments and policy discourses that have emerged around ESAs. Some of these include:

- ◆ A status update on the implementation of the Supreme Court order dated December 4, 2006 around the declaration of ESAs around PAs,
- ◆ The constitution of and processes related to the WGEEP,
- ◆ Other ongoing processes of notification of ESAs by the MoEF.

While the first part of this study lays out the developments around ESAs that took place in the above mentioned time period, the latter part is composed of annexures dealing with the details of these developments like proposals submitted by the states for notifying ESAs around PAs, details of the notifications issued by the MoEF and information on the constitution and meetings of the WGEEP.



3. Ecologically Sensitive Areas around Protected Areas and Responses of the State Governments

Genesis of ESAs around PAs

The idea of creating ESAs as buffer zones around officially declared National Parks and Sanctuaries¹ is known to have come to public light in the early 2000s. One of its first official mentions was in the National Wildlife Action Plan 2002-2016. It states in section III (5.2): "*All identified areas around Protected Areas and Wildlife Corridors to be declared as Ecologically Fragile under the Environment (Protection) Act, 1986.*" Section XI (5.2) of the plan even stated that the above task should be completed by the MoEF by 2004.

Linked to this is section 9 of the Wildlife Conservation Strategy, 2002 which states that "lands falling within 10 km of the boundaries of National Parks and Sanctuaries should be notified as Eco-fragile Zones under section 3(2) (v) of the Environment (Protection) Act and Rule 5 Sub-rule 5 (viii) and (x) of the Environment (Protection) Rules."

This strategy was adopted in the 21st meeting of the Indian Board for Wildlife (IBWL)² that took place on January 21, 2002, under the chairmanship of the then Prime Minister Mr. Atal Bihari Vajpayee. The meeting was attended by the forest ministers from the states, members of parliament, non-officials, leading NGOs and senior officials of the Central and State Governments.

As a follow up, Mr. S. C. Sharma, the then Additional Director General of Forests (DGF) (Wildlife), MoEF issued letters on February 5, 2002 to all the states intimating them about the decision of the IBWL to notify areas within 10 km of the boundaries of National Parks and Sanctuaries and Wildlife Corridors as ESAs. It also sought specific ESA related proposals from the State Governments.

However, even before submitting individual proposals, many states and departments raised concerns over the 10 km limit for declaring ESAs. This issue was discussed in detail in the second meeting of the National Board for Wildlife (NBWL) on March 17, 2005. It was agreed in the meeting that the areas immediately outside the existing PAs in the country need conservation. However, it was stated

¹Areas are declared National Parks and Sanctuaries under the provisions of the Wild Life (Protection) Act, 1972. This is preceded by a due procedure which includes steps related to settlement of rights of communities who are impacted by the restrictions and/or relocation following the intentional notification.

²Indian Board for Wildlife was the highest body in the country established for advising the Central Government for laying down policy and issuing directives for proper management of PAs. It got its powers from the Wild Life (Protection) Act, 1972 (Amended in 1993). This board was functioning till it got replaced by the National Board for Wildlife, which was constituted on September 22, 2003 under the Wild Life Protection (Amendment) Act, 2002.

that the delineation of Eco-sensitive Zones³ would have to be site specific and relate to the regulation rather than prohibition of specific activities. The State Governments were to be consulted in this regard and their concurrence was to be obtained. The NBWL had observed that no enhancement of area should be done arbitrarily because of the potential conflict. What this meant was that the concurrence and involvement of the State Governments would be an essential component of identifying the area specificity of ESA declaration. Thus the area demarcated for ESAs in a state might differ from another. Also, the idea would not be to restrict activities as had been done in the past but to regulate them through existing laws. This has an important bearing if one links it to some of the proposals and notifications that have been discussed in the latter part of this study.

Following this decision, Dr. Alka Bhargava, Assistant Inspector General, MoEF sent letters dated May 25, 2005, to Chief Wildlife Wardens of all the states and union territories once again asking them to identify areas and submit detailed ESA proposals.

Objections received to the Notification of ESAs within 10 km Zone around the PAs

The states of Himachal Pradesh, Rajasthan and Goa expressed their concerns regarding the declaration of ESAs within 10 km of the boundaries of National Parks and Sanctuaries. While a variety of reasons were cited, excerpts from the letters sent by the State Government representatives to the MoEF are presented below:

- *Himachal Pradesh:* Mr. Pankaj Khullar, Chief Conservator of Forests (Wildlife), Himachal Pradesh, through his letter to Mr. S.C. Sharma, Additional Director General of Forests (Wildlife), MoEF on March 14, 2002 responded to the MoEF's letter by referring to this 10 km policy as a 'sweeping notification'. He gave the argument that the 10 km aerial distance in the hills will cover a substantial area. If the norm is adopted in Himachal Pradesh with its thirty two Sanctuaries and two National Parks, there will be no area left for development. He expressed his views that the concept of Buffer Zone/Eco-development Zone comprising the inhabited areas around PAs, precisely serves the purpose proposed for ESAs (i.e. mitigation of the adverse impacts of the habitations around PAs) and therefore this issue should be addressed first. There is no buffer zone in Himachal Pradesh as yet, except the eco-development zone of the Great Himalayan National Park. He suggested that appropriate eco-development strategies in buffer zones can greatly help conserve the PA better. However, buffer zones need to be identified and worked out on a case to case basis and their control should be with the Wildlife wings of the state. Subsequently, Eco-sensitive zones can be set up either overlapping with the buffer zones or even extending beyond them.
- *Rajasthan:* A letter from the Office of Additional Principal Chief Conservator of Forests and Chief Wildlife Warden, Rajasthan was sent to the Additional Director General of Forests (Wildlife), MoEF on October 13, 2003 raising objections. The first of these was that the spatio-temporal circumstances and contemporary ground realities in Rajasthan suggest that such a notification is not practically enforceable. It, further, went on to say that if this notification is applied in a uniform manner, it would affect a number of existing towns including Jaipur, Bharatpur, Sawai Madhopur, Kota, Udaipur and Mount Abu. It may aggravate the human-conservation conflict and generate a public opinion detrimental to the very objectives of conservation of biological diversity in Rajasthan. It was suggested that it would be better to declare areas ranging from 0 to 10 km around PAs as ESAs.

³The terms 'Eco-sensitive Zone' and 'Ecologically Sensitive Area' were used interchangeably till the report of the WGEEP came out in 2012 wherein the panel suggested the entire Western Ghats to be declared an Ecologically Sensitive Area with smaller Eco-sensitive Zones within it.

- *Goa*: A letter was sent from Mr. Pratapsingh Rane, the then Chief Minister of Goa, to Dr. Manmohan Singh, Prime Minister, India on March 27, 2006 in response to the MoEF's letter (dated November 07, 2003) to notify ESAs around PAs. It suggested that the delineation of the Eco-sensitive Zones has to be site-specific and relate to regulation rather than prohibition of specific activities. State Governments will have to be consulted in this regard and concurrence has to be obtained. This being an area of potential conflict with local communities, no enhancement of area should be done arbitrarily. Somehow, it was understood by the State Government that the notification of ESAs around PAs was an extension of the PAs. It was stated that if an extension of the limits of the PAs is to be carried out in a 10 km radius, 2/3rd of the available land in Goa state would fall under the wildlife area network. It would have implications on the socio-economic aspects of the state. The State Government felt that many activities related to infrastructural development would come to a standstill because of this and in turn affect the tourism (particularly the sprawling health tourism) industry in Goa. The letter further sought that Goa be exempted from the declaration of ESAs around PAs.

Supreme Court's Intervention

Even while the MoEF received responses from various State Governments, this issue was being dealt with in a Writ Petition (WP) (No. 460/2004 filed by Goa Foundation on December 17, 2004) filed before the Supreme Court dealing with a matter related to the industrial units operating without their mandatory environmental approvals. The Supreme Court, in its order, directed the closure of defaulting units operating in violation of environment laws. Besides this, the matter of notification of ESAs around PAs was also brought up by the Goa Foundation. The Supreme Court, paying heed to the letters sent by the MoEF on May 27, 2005 (asking State Governments to notify ESAs around PAs in their respective states), through its order on October 16, 2006, directed the MoEF to file an affidavit stating whether the proposals have been received pursuant to the above mentioned letter and have been referred to the standing committee of the NBWL or not. It was further directed that the states/ union territories which have not responded to the letter, should do the needful within four weeks of the communication of the court's decision to them by the MoEF.

After the Supreme Court's order on October 16, 2006, the MoEF filed an affidavit which was discussed in the court hearing on December 4, 2006. Here, the MoEF mentioned that despite repeated reminders, the State and Union Territory Governments had not responded, except for Goa which had submitted its proposal by then. Further, even that proposal was not in full conformity with what was sought by the MoEF. Important details like description of the boundaries of the proposed ESA, legal status of rights, entitlements of local communities in the region, livelihood generation of the local people, etc. were missing in the proposal. The State Government had not made any suggestion on the activities to be regulated and prohibited in these ESAs. Therefore, the Supreme Court passed another order on December 4, 2006 asking the MoEF to give a final opportunity to the states and union territories to respond to its letter and send in appropriate proposals in this regard. It directed the MoEF to clearly mention in its communication to them that if the proposals are not sent within a period of four weeks of receipt of the communication from the ministry, the court may have to consider passing orders for implementation of notification of the areas within 10 km of the boundaries of the PAs as ESAs. The Supreme Court also mentioned that the MoEF would refer those cases to the standing committee of the NBWL, for which environment clearance has already been given where activities are within the 10 km zone.

On December 19, 2006, the MoEF sent letters to all the states and union territories intimating them about the Supreme Court order of December 4, 2006. A meeting was organized held with all the Chief Wildlife Wardens by the MoEF, on January 31, 2007, where it was communicated to them that each state had to file an affidavit in the Supreme Court regarding the submission of their proposals notifying ESAs around the PAs of their respective regions, failing which the results could be adverse.

Another set of letters was sent to the State Governments on February 2, 2007, as a reminder of the same.

This was followed by a process of a few State Governments sending their proposals to the MoEF for declaration of ESAs based on the radius that was acceptable to them. Details of these are mentioned in the subsequent sections. [Source: Record of Proceedings, Writ Petition No. 460 of 2004 (Goa Foundation vs. Union of India, Supreme Court of India, December 12, 2006); Correspondence between MoEF and State Governments, February 2002 to December 2008]



4. Submission of Proposals by the State Governments notifying Ecologically Sensitive Areas around Protected Areas

Table 1: History and Current Status of Proposals submitted by the States to the MoEF for notifying ESAs around PAs as of March 31, 2012

S.No	State	Time of Proposal Submission	Status	Protected Areas	
				*Total	Proposed ESA
1.	Goa	1st: Early 2006 2nd: May 2008	Pending	7	3
2.	Assam	1st: Early 2007 2nd: September 2009	Pending	19 19	1 3
3.	Sikkim	1st: Early 2007 2nd: April 2011	Pending	8 8	8 8
4.	Karnataka	1st: March 2007 2nd: April 2011	Pending	26 26	26 5
5.	Chhattisgarh	March 2007	Not considered	14	14
6.	Mizoram	May 2007	Not considered	9	2
7.	Haryana	Early 2008	Draft	10	9
8.	Kerala	February 2008	Not considered	20	16
9.	Gujarat	4 Proposals: February 2009 1 Proposal: No information available	Draft	26	4+1
10.	Meghalaya	March 2010	Pending	5	4
11.	Jharkhand	December 2010	Notified	12	1

(*As per the official websites of the Department of Forests and Environment of various states)

As mentioned above, till February 2007, only the Government of Goa had sent in its ESA related proposal to the MoEF. However, as intimated by the MoEF to the Supreme Court in proceedings of the WP 460 of 2004 (i.e the Goa Foundation case), details such as description of the boundaries of the proposed ESA, legal status of rights of local communities in the region, resource base of the region, etc. were missing in the proposal. Also, the State Government had not suggested anything on the activities to be regulated and prohibited in these ESAs. The same was intimated to the Government of Goa by the MoEF through a letter in early 2007.

Following the meeting of the MoEF with the Chief Wildlife Wardens of all states/union territories, the Governments of Karnataka, Assam, Sikkim, Chhattisgarh and Mizoram also sent in their proposals to the MoEF in the first half of the year 2007. However, the MoEF felt that the proposals from Karnataka, Sikkim, Chhattisgarh and Assam were not as per the format suggested by the Pronab Sen Committee Report on identifying parameters for designating ESAs in India. The same was intimated to the respective State Governments in October 2007. Mizoram sent in its proposal to the MoEF in May 2007. However, no response had been received on the matter by the Government of Mizoram till June 2010. Another proposal that does not seem to be prepared as per the Pronab Sen criteria and therefore may not have been considered by the MoEF, was the proposal from the State of Kerala, which was sent to the MoEF in February 2008. [Source: Copies of correspondence between MoEF and State Governments regarding the submission of proposals for notifying ESAs around PAs, February 2002- December 2008]

The highlights of the proposals of some of the State Governments are as follow: (*Appendix I has complete details of the states mentioned below*).

Proposal from Government of Goa:

As mentioned earlier, Goa was the first state to submit its ESA related proposal to the MoEF, post the order of the Supreme Court. However, the proposal was considered not in conformity with the specifications of the MoEF. This was communicated by the MoEF to the State Government, following which a revised proposal was sent in May 2008. Of the seven PAs in the state, the Government of Goa proposed to notify ESAs around three of them. While for one Sanctuary (Cotigao Wildlife Sanctuary) the proposed area is of up to 6 km radius, for the other two (Bondla Wildlife Sanctuary and Dr. Salim Ali Bird Sanctuary) the area is of a radius of 1 km for one and even lesser for the other from the respective PA boundaries. No provisions for monitoring, regulating tourism, change of land use and zoning were suggested in this proposal. As for mining activity, it was to be prohibited only during the night hours. The proposal is still under MoEF's consideration.

Proposal from Government of Haryana and Notifications:

In early 2008, the Government of Haryana also submitted its proposal to the MoEF. The Proposal covered nine of the ten PAs of the state. The State Government also proposed ESAs around its two Conservation Reserves (Saraswati and Bir Bara Ban) and a Breeding Centre for pheasants (Morni Wildlife Sanctuary). The only PA which was not included in the proposal submitted by the state was Khol-Hi-Raitan Wildlife Sanctuary. While delineating areas up to 5 km radius outside the boundary of the PAs for most of the ESAs, the regulations were proposed on activities like mining, setting up of industries, construction, etc. in certain parts of the ESA and not in the entire ESA. The MoEF decided against going ahead with all the notifications together and sought to put out the draft notification for the Sultanpur National Park first. If this was approved then others could follow. [Source: Internal file noting received from the MoEF as RTI response, July 2008 to April 2011].

The Sultanpur Draft Notification was issued in January 2009 followed by the final notification in January 2010. Meanwhile, in June 2009, the MoEF came up with draft notifications for rest of the eight

PAs and also for Khol-Hi-Raitan Wildlife Sanctuary that was left out by the Haryana Government. The draft notifications were on the lines of the Mahabaleshwar-Panchgani and Matheran ESA notifications⁴ of 2000 and 2003, respectively. Provisions like preparation of zonal master plan and constitution of monitoring committee were also included in the draft notifications. These drafts received disagreements from the Town and Country Planning Department of Haryana as part of the notifications fell into the Agricultural, Residential or Public and Semi-public Zones as demarcated in the draft or final development plans of the regions. The department sought the exclusion of these regions from the proposed ESA on the grounds that the development plans were gazetted prior to the ESA notifications, and therefore they should be given preference. Due to these disagreements, the drafts were still being deliberated upon and could not be finalized within the stipulated one year time frame. The draft notifications lapsed and the revised proposals were submitted by the State Government in September 2010. The revised proposals, besides other changes, have reduced the ESA limits from 5 km to 3 or 1 km for most of the PAs in Haryana. The MoEF issued the draft notifications based on the same in July 2011 which were open to public suggestions at the time of writing this report.

Proposal from Government of Gujarat and Notifications:

The Government of Gujarat submitted its proposal for the declaration of ESAs around four of its twenty six PAs to the MoEF in February 2009. These are: Purna Wildlife Sanctuary, Girnar Wildlife Sanctuary, Narayan Sarovar Wildlife Sanctuary and Vansada National Park. The proposal lays regulations/restrictions on tourism, setting up of industries, mining and change of land use in the ESAs. However, the proposal does not mention anything on the monitoring mechanism and the extent of the ESAs varies for individual National Parks/Sanctuaries. The proposals have been considered by the MoEF and issued as draft notifications in July 2011. The MoEF issued another draft notification for declaring an ESA around Marine National Park and Marine Sanctuary of Kachchh region in March 2012, for public comments. This was not finalised at the time of writing this report.

Proposal from Government of Assam:

The Government of Assam submitted its proposal for notifying ESAs around PAs in Assam in September 2009, with the MoEF. The proposal covered three of the nineteen PAs of the state including Kaziranga National Park, Bordoibam Beelmukh Proposed Bird Sanctuary and Panidihing Bird Sanctuary. As in the case of Haryana, this proposal also draws a lot from the previous notifications for the Matheran and Mahabaleshwar-Panchgani ESAs. It brings in provisions for regulation on tourism, developmental activities, mining and other such environmentally degrading activities. It even provides for the monitoring mechanism, preparation of zonal master plan and zoning of the ESA. The proposal is pending with the MoEF for consideration.

Proposal from Government of Meghalaya:

In March 2010, the Government of Meghalaya proposed to the MoEF to notify ESAs around four of its five PAs. Balpakram National Park, Baghmara Wildlife Sanctuary, Siju Wildlife Sanctuary and Nokrek National Park were covered under it. Here, the management of ESAs was proposed to have the involvement of the local tribal communities. Constitution of a monitoring committee and categorization of developmental activities were suggested by the State Government.

⁴The key features of the Mahabaleshwar-Panchgani and Matheran ESA notifications were the provisions for the regulation of ground water extraction and traffic movement, constitution of monitoring committee, heritage conservation, preparation of zonal master plan and tourism plan, ban on quarrying, mining and tree felling, solid waste segregation, etc.

Proposal from Government of Jharkhand and Notification:

In December 2010, the Government of Jharkhand sent in its proposal for the notification of a belt of up to 5 km width around Dalma Wildlife Sanctuary as an ESA. The proposal advocates the setting up of only non-polluting industries and non-establishment of any new wood-based industries within the ESA. However, similar to the proposals from the State of Haryana, the proposal limits mining, construction, crushing and other such activities only in certain zones of the proposed ESA. Remaining provisions are similar to what was provided in the ESA notifications of Mahabaleshwar-Panchgani and Sultanpur. Preparation of a zonal master plan and constitution of a monitoring committee were also suggested in the proposal. The draft notification was issued by the MoEF on May 2, 2011. While mining and crushing will be completely banned in the Eco-sensitive Zone (ESZ), new construction activities are banned only till 300 m from the boundary of the Sanctuary. The draft notification seems like an attempt to fine-tune the proposal as per the NBWL guidelines (see section V) for notification of ESAs around PAs by the states. The notification was finalized in March, 2012. The MoEF and the State Government had stated earlier that the other notifications declaring ESAs around other PAs of the state would follow after the finalization of this notification. Now that the notification has been finalized, the ESA notifications for rest of the PAs of the state are expected soon.

Proposal from the Government of Sikkim

The Government of Sikkim submitted its proposal for notifying ESAs around PAs in early 2007, but the proposal was not considered by the MoEF because it was not as per the criteria outlined by the Pronab Sen Committee. The proposal was re-submitted to the MoEF in April 2011. While the State Government proposed notification of ESAs around all the eight PAs of the state, for most of them, the ESAs do not spread beyond 200 m from the boundary of that PA. Based on the MoEF guidelines for notifying ESAs around PAs, the proposals recommended a ban on polluting industries, regulations on setting up of new hydroelectric projects, saw mills, preparation of a zonal development plan and so on.

Proposals from the Government of Karnataka

The Government of Karnataka submitted its first proposal to the MoEF in March 2007. While in this proposal, the State Government covered all of the PAs, the proposal was not considered by the MoEF due to its non-adherence to the format prescribed by the Pronab Sen Committee. The Government of Karnataka sent in its proposal to the MoEF again in April 2011. The new proposal covered only five of the PAs (Dandeli-Anshi Tiger Reserve, Bandipur National Park, Ranganathittu Bird Sanctuary, Melkote and Arabithittu Bird Sanctuary) and included clauses like preparation of zonal master plan, constitution of monitoring committee, regulations on setting up of industries, etc. Based on this proposal, a draft notification for notifying Bandipur Tiger Reserve as an ESA has been issued by the MoEF in September 2011. At the time of writing this report, the notification was open for public suggestions.

Proposal from Government of Odisha

As per the information shared by Biswajit Mohanty, Secretary, Wildlife Society of Odisha, Cuttack, the proposal for notifying ESAs around PAs in Odisha was forwarded by the Chief Wildlife Warden to the State Government in 2007. Initially, areas of 10 km width were identified to be notified as ESAs around PAs but later they were revised. For Karlapat Wildlife Sanctuary, the area was reduced from

a radius of 10 km to 5 km; for Hadagarh Wildlife Sanctuary, only 2 km wide belt was proposed to be notified as ESA; for Balukhand Wildlife Sanctuary and Konark Wildlife Sanctuary, it got reduced to only 1 km. It was observed that a decrease in the area of a proposed ESA around a PA is preceded by a development project proposal around that PA. Till May 2012, the proposal did not move ahead and was still with the State Government of Odisha.



5. Guidelines for declaration of Eco-Sensitive Zones around National Parks and Wildlife Sanctuaries

Evidence indicates that even after repeated requests from the MoEF and directions of the Supreme Court from 2005 to 2010, not many State Governments came up with proposals for declaration of ESAs, around the PAs. Either in response to this or as a parallel process to expedite the declaration of ESAs in late 2010, the MoEF had initiated the process of drafting a set of guidelines which could facilitate the above. A formal set of guidelines were put out in February 2011. On February 9, 2011, Prakriti Srivastava, Deputy Inspector General (Wildlife), MoEF, communicated formulation of these guidelines to the Wildlife Wardens of all states and union territories, requesting them to send in their proposals based on these guidelines at the earliest.

The guidelines, while giving a brief description about the backdrop against which they got notified, mentioned statutory provisions like Wild Life (Protection) Act, 1972, Environment (Protection) Act, 1986 and Environment (Protection) Rules, 1986 that give powers to NBWL to issue such guidelines.

According to these guidelines, the purpose of declaring ESAs around PAs is to create shock absorbers or buffer zones and provide a transition zone for wildlife. They have been envisaged to minimize the effects of "developmental" activities on the PAs. The guidelines also reiterate the earlier contention of the Wildlife Conservation Strategy, 2002 that these ESAs should serve as regulation zones and not prohibition zones.

Regarding the spread/limits of these ESAs, the guidelines state that areas around many National Parks and Sanctuaries have heavy developmental activity and pressure and in some cases PAs are located and/or surrounded by urban areas. Therefore, the boundaries of these Eco-sensitive Zones have been kept flexible to account for area-specificity. The guidelines add that the width of the Eco-sensitive Zones and regulations in them may differ from one zone to another. However, a cap of 10 km has been suggested for the ESAs, with the possibility of including corridors, ecologically important patches and linkage areas even if they fall beyond 10 km of the PA boundaries. The guidelines further allow for having differential width and a graded set of regulations within an ESA around one PA. For declaring ESAs around PAs, the guidelines also argue against the aptness of the parameters identified by the Pronab Sen Committee for declaring ESAs in India. Along with this, the ESA guidelines outline a detailed procedure that should precede the notification of an area as an ESA (details given below).

The Sultanpur ESA notification (referred in Appendix I) has been provided as a model notification for states' reference and guidance. It has been emphasized that the guidelines are only indicative and the State Governments can formulate case-specific regulations and provisions using these guidelines as a basic framework while declaring ESAs around their PAs.

Procedure for notifying ESAs around PAs (as per the Guidelines, February 9, 2011)

The procedure suggested by the guidelines, necessitates the preparation of an inventory of different land use patterns, activities, types and number of industries operating and important corridors around each PA. It further suggests that the information on physical boundaries of the proposed ESA, its biodiversity values, resource base and livelihood implications of its notification, list of activities to be regulated and/or prohibited in the ESA should be delineated.

It also suggests that a committee can be formed with the concerned Chief Wildlife Warden, an ecologist, an official from the local self-government and an official from the concerned revenue department, to advise on the following:

- Extent of ESAs to be proposed,
- Management of the ESA,
- Thematic activities to be included in the Master Plan for the region.

The Chief Wildlife Wardens could group the activities as: prohibited, restricted with safeguards and permissible limits. An indicative categorization of activities has been provided with the guidelines as below:

- Prohibited: commercial mining, setting up of polluting industries and saw mills, use of firewood, large hydroelectric projects, use/production of hazardous substances, tourism related activities like hot-air balloons over-flying the PA and discharge of effluents and solid waste.
- Regulated: felling of trees, establishment of hotels and resorts, drastic change of agricultural systems, commercial use of natural water resources and ground water, erection of electric cables, fencing of hotel premises, use of polythene bags by shopkeepers, widening of roads, night movement of vehicular traffic, introduction of exotic species, damage to hill slopes and river banks, air and vehicular pollution and sign-boards and hoardings.
- Permitted: ongoing agricultural and horticultural practices by local communities, rainwater harvesting, organic farming, use of renewable energy sources and adoption of green technology for all activities.

However, the guidelines clarify that the activities to be regulated/permitted in an ESA have to be PA specific. Also, the extent upto which they would be regulated/permitted would be PA specific.

The proposal, once finalized by the State Government, should be forwarded to the MoEF for consideration and due notification.



6. Delineation of Ecologically Sensitive Areas in Western Ghats

The Western Ghats also known as the Sahyadris, is an extremely ecologically fragile and biodiverse mountain range along the western side of India. It runs north to south along the western edge of the Deccan Plateau, and separates the plateau from a narrow coastal plain along the Arabian Sea. The range starts near the border of Gujarat and Maharashtra and runs approximately 1600 km through the states of Maharashtra, Goa, Karnataka, Tamil Nadu and Kerala ending at Kanyakumari, the southern tip of India.

The Western Ghats provide catchment to complex river systems and drain almost 40% of Indian landmass. They are home to four tropical and subtropical moist broadleaf forest ecoregions – the north-western ghats moist deciduous forests, north-western ghats montane rain forests, south-western ghats moist deciduous forests and south-western ghats montane rain forests. In 2006, India applied to the UNESCO MAB for the Western Ghats to be listed as a protected World Heritage Site and recently, in July 2012, it received that status. The area is one of the world's ten "Biodiversity Hotspots" and has over 5000 species of flowering plants, 30% of which are endemic to the ghats, 139 mammal species, 508 bird species and 179 amphibian species. At least 325 globally threatened species occur in the Western Ghats, many of which are endemic to the region (Krishnaswamy et al, 2006). The Malabar large spotted civet, lion-tailed macaque, great Indian hornbill, Nilgiri wood-pigeon are a few of them. The endangered purple frog discovered from the Western Ghats in 2003 is considered to be a living fossil.

Proposals to declare large stretches of the Western Ghats have been submitted by various groups since the year 2000. Two separate proposals for the Sahyadri ESA and Kodachadri ESA in the Western Ghats region were considered by MoEF's Mohan Ram Committee⁵ in the year 2004. But the Mohan Ram Committee suggested that due to the extent of these ESAs which spread over more than one state, notifying the entire stretch as ESA would lead to administrative problems. Instead, small areas in the Western Ghats should be notified as ESAs. [Kapoor et al, 2009].

Following attempts of the Save the Western Ghats Network (comprising of researchers, activists, scientists and citizens of the Western Ghats) and other concerned groups and individuals to revive these proposals and also consider an overall protection regime for the Western Ghats, Mr. Jairam Ramesh, the then Minister of Environment and Forests announced the setting up of the Western Ghats Ecology Expert Panel (WGEEP) in March 2010. The panel, chaired by Dr. Madhav Gadgil, was established

⁵The Mohan Ram Committee was constituted by the MoEF in 2001 to examine the proposals for designating areas as Ecologically Sensitive and to review the existing areas. (For details refer: *India's Ecologically Sensitive Areas- The story so far...*)

to recommend measures to the Government to preserve, conserve and rejuvenate the Western Ghats. This step was taken keeping in mind the inter-state nature of the geographical spread of the ghats and the conflicts of views that may arise between different State Governments. (See Appendix III for the composition).

Western Ghats Ecology Expert Panel (WGEEP):

The MoEF announced the constitution of the WGEEP on March 4, 2010. This fourteen member panel comprising of ecologists, representatives of NGOs, scientific institutions and representatives of the MoEF was set up for a term of one year. According to their Terms of Reference, the tasks that were assigned to WGEEP are as follows:

- Assessment of the current status of the ecology of the Western Ghats region,
- Recommendations for conservation, protection and rejuvenation of the Western Ghats,
- Demarcation of areas within the region to be notified as ESZs under the EPA, 1986 and suggesting management strategies for them,
- Recommendations of modalities for the establishment of the Western Ghats Ecology Authority (WGEA) under the EPA, 1986.
- To deal with any other relevant environment and ecological issues pertaining to Western Ghats region, including those which may be referred to it by the Central Government in the MoEF.

It had been envisaged that the panel would submit its interim report within six months, i.e. by September 2010. However, the panel decided to carry out a comprehensive and consultative process prior to finalising its recommendations and observations, which included public meetings, commissioning papers⁶, discussions as well as inviting public submissions and comments. The WGEEP finalised its report over twelve meetings between March 2010 and May 2011 (Details given in Appendix III). It was only in October 2011 that the WGEEP submitted its report to the MoEF which was then subsequently sent out to the State Governments for their comments. However, this report is still being considered by the MoEF and was not made available for public comments officially till the Central Information Commission (CIC) intervened. G Krishnan, a Kerala based activist filed an RTI application and two appeals seeking the summary of the WGEEP report. However, the ministry denied access reasoning that this would have implications on the economic interests of the states. Overruling the MoEF's decision, the CIC directed the MoEF on April 9, 2012 to make the report public. It even stated in its order that all reports of any commissions, panels or committees should be published by the MoEF within a month days of it receiving them. The MoEF challenged this directive in the Delhi High Court but the court upheld the CIC's decision. The MoEF, on May 24, 2012, uploaded the report on its website for public comments for a period of forty-five days. At the time of finalising this study, the panel report was available on the MoEF website for comments. [Source: Nothing secret about Panel reports, Krishnaraj Rao, India Together, April 14, 2012]

Significant Discussions and Decisions of the Panel

The discussions that took place in the twelve meetings of the WGEEP can be broadly categorized under the following subheads:

1. Preparation of a Digital Database and Website: This was one of the first agenda items discussed by the WGEEP. A detailed list of what information has to be collected was prepared with potential sources indicated. This included reports available with the MoEF, collection of information through

⁶ The list included 80 themes, for example mining, wildlife poaching, river pollution, Protected Areas network, different ecosystem types, biodiversity, EIA process, tourism, etc.

consultations with experts and scanning of published material in English and other regional languages. Experts who would be able to contribute to the database were also identified and contacted. Along with this, a questionnaire was designed to collect information from the concerned Forest Departments and District Administrations of the Western Ghats states. Suggestions from Panchayati Raj Institutions⁷ were also sought. The information was consolidated into a website with financial support from MoEF and was operational by June 2010. It can be viewed at www.westernghatsindia.org. This entire exercise was predominant in the discussions in the meetings of the panel in the first three months of its constitution. However, the website that is being maintained by the WGEEP does not seem to have clear focus. Important documents like minutes of the meetings of the panel are not available on the website.

2. **Consultations and Brainstorming Sessions:** The WGEEP, since its inception meeting, had planned for consultations and brainstorming sessions with a cross-section of people and organisations. The themes, participants and schedule of the brainstorming sessions were finalized in the second meeting. During these sessions, a range of issues was brought to the notice of the WGEEP, both with respect to the environment regulatory procedures, cumulative impact assessments as well as impacts of specific projects on the Western Ghats ecosystems and livelihoods of people living there. Sessions also brought to the notice of the panel various issues with the forestry programmes that have been implemented in the region as well as concerns regarding the relationship between the state forest departments and forest-dependent communities. Specific sessions were also held related to water, river basin planning and land use policies in various states of the Western Ghats.
3. **Site Visits and Public Consultations:** The WGEEP also undertook specific site visits where public hearings and consultations were organized. The panel discussed the site visit plan and public consultation processes in the second meeting. The panel members were allotted the task of preparing detailed plans for the six states: Gujarat, Maharashtra, Kerala, Karnataka, Goa and Tamil Nadu. As part of this, the WGEEP met with different interest groups including the Western Ghats Task Force (WGTF)⁸ and Karnataka Forest Department. There were several recommendations which emerged from these consultations including the need for a land use policy for the ecoregion, ban on mega power projects, legal protection of sacred groves as well as strengthening local institutions set up under different statutes as well as through the constitution. The WGEEP also met with representatives of the industry to ascertain their point of view.
4. **Meeting with the Members of Parliament:** In the fifth meeting of the panel held in Delhi on August 17, 2010, under the chairmanship of Mr. Jairam Ramesh, Minister of State (Environment and Forests), the members of parliament from the six states raised their concerns regarding the declaration of ESAs in their respective regions. Members of parliament gave specific recommendations related to both the WGEEP and also how projects such as Athirapally Hydroelectric project

⁷ Panchayati Raj, the local self-government system, ensures direct participation of people at the grassroots level. In 1956, the Balwant Rai Mehta Committee appointed by the National Development Council, recommended that the institutional structure of Panchayati Raj should have a 3-tier system including Gram Panchayat, Panchayat Samiti and Zila Parishad at village, block and district level respectively with Gram Sabha that includes all the members of any given Panchayat. It also suggested that all social and economic programmes be channelized through them. This system was first adopted by Rajasthan in 1959 followed by other states. Later the 73rd constitutional amendment of the year 1992 made the Panchayati Raj Institutions the tiers of self-governance below the level of states in the federal set up. They were given the authority to make laws for social and economic development of the villages and it was suggested that they be constituted through elections. This way the power was decentralized down to the village level.

⁸ The Western Ghats Task Force was constituted by the Government of Karnataka in September 2008, with the mandate to develop policies and programmes and advise the State Government for ensuring conservation and sustainable development of Sahyadri region.

in Kerala or the issue of mining in Kerala need to be dealt with. These were responded to by the then minister and subsequently incorporated in the WGEEP report. (Additional points related to this are added in Appendix III).

Some of the key steps and recommendations of the WGEEP are:

Demarcation of the Boundary of the Western Ghats: The panel proposed to demarcate the geographical boundaries of the Western Ghats on the basis of slope, elevation and continuity of hilly tracts. The chairman emphasized that a layered, nuanced and participatory approach would be taken for the same so that the boundaries are not discontinuities. The delineation of the spatial limits of the Western Ghats was discussed in the twelfth meeting of the panel. One of the members of the panel, Professor R.Sukumar, Chairman, Centre of Ecological Sciences, Indian Institute of Sciences, Bengaluru, had highlighted that the demarcation should be done on an ecological basis and should encompass all the talukas, which are covered under the government definition of Western Ghats. In the report, the panel delineated the Western Ghats ecoregion as a stretch of 1490 km from Tapi valley in the north to Kanyakumari in the south of India. It comprises an area of 174,700 km². Though the boundaries of the Western Ghats are not in concurrence with individual district limits, individual talukas have been considered as the administrative unit for the panel's recommendations on ESA demarcations.

Criteria for Identification of ESZs in Western Ghats: This was one of the foremost tasks emphasized by the then Minister, Environment and Forests, Mr. Jairam Ramesh. Based on the criteria brought out by the panel, the actual identification of ESZs could be carried out. The WGEEP reviewed the criteria earlier put forth by the Pronab Sen committee⁹ and observed that it cannot be made applicable to the Western Ghats due to operational problems. If it was applied to this ecoregion in its current form, the entire Western Ghats would need to be declared as an ESA which would not be realistic. Instead the resilience of an ecosystem could be used as a meaningful criterion for ESZs in the Western Ghats.¹⁰ It further said "since ESAs such as Matheran and Mahabaleshwar-Panchgani were not notified based on comprehensive assessments, the basis and precedence of assessment of ESAs in the Western Ghats should be the Nilgiri Biosphere Reserve, Tamil Nadu." Finally a two-way process was agreed upon for identification of ESZs in the Western Ghats:

- areas known for their ecological value (e.g. Shola forests, forests adjacent to PAs, catchment of river origins, wildlife corridors, sacred groves, etc.) and
- areas based on a matrix of biological (biodiversity and habitat richness, species and taxon rarity, ecological resilience and colonial breeding sites), geo-climatic (topographic features, climatic features and hazard vulnerability) and socio cultural values (stakeholder perception on ESA and evolutionary-historic and cultural-historic values of the area).

Based on the above, a graduated approach for ecological sensitivity spanning from less sensitive to highly sensitive was recommended to be adopted.

⁹ The Pronab Sen Committee, constituted by the MoEF, through its report in the year 2000, outlined a set of parameters for identifying Ecologically Sensitive Areas in India. (For details refer: *India's Ecologically Sensitive Areas- The story so far...*)

¹⁰ During the course of the discussions, G. V. Subramaniam, Advisor, MoEF, said that notifying the entire Western Ghats as ecologically sensitive would cause problems for the EIA process and many projects which were earlier under category B, would now be category A projects. He also opined that this would result in a lot of power being centralized to the union government which might not prove good. After much deliberation, it was decided that the Western Ghats would be declared an ecologically significant area within which ecologically sensitive areas would be identified. The panel members would be divided into state specific groups and each group will demarcate the ecologically sensitive areas in their respective states and provide guidelines for their participatory development and planning. [Source: Minutes of the meetings of the WGEEP]

Western Ghats Ecology Authority (WGEA): In the very first meeting of the WGEEP, a decision was taken to adopt the design and functioning of Dahanu Taluka Environment Protection Authority (DTEPA) as a model concept for WGEA. Following discussions with the authority members and visits to Dahanu, the WGEEP recommended that the WGEA be a statutory authority. Other than this, the WGEEP looked at the Loss of Ecology Authority, Chennai and Bhure Lal Environment Protection (Prevention and Control) Authority to decide on the modalities of formation of WGEA. It opined that the powers of the authority would need to be more than that of a recommendatory body and the authority should be able to take action. The report corroborated the earlier stand of WGEEP that it should be a statutory authority with six state level authorities in its network. These state level authorities should be appointed jointly by the State Governments and MoEF. They should closely interact with state biodiversity boards, state pollution control boards and state planning boards. It further suggests that in the already existing ESAs of the Western Ghats, the High Level Monitoring Committees (HLMCs) be replaced by District Ecology Committees. They would work in collaboration with District Level Zila Panchayat/Zila Parishad Biodiversity Management Committees (BMC).

Eco-sensitivity Assessment and Zonation of the Western Ghats: Based on a mapping exercise carried out by the Salim Ali Centre for Ornithology and Natural History (SACON), Hyderabad, the WGEEP's zonation criteria was developed. Based on geospatial tools, SACON suggested that for working out the criteria for demarcating ESAs in the Western Ghats, the area would be divided into grids of suitable size (5' × 5' and 3.5' × 3.5' for vegetation) depending on the data available and vastness of the area. Then the mapping of other factors like resilience, vegetation, biodiversity, etc. would be done for the grids. In the later meetings, what followed, was a categorization of the Western Ghats into five zones with different levels of ecological sensitivity and thus a different set of regulations and permitted/restricted/prohibited developmental activities.

However, in the final report the panel proposed that the entire Western Ghats be declared an ESA with three categories of Ecologically Sensitive Zones (besides the existing PAs in the ecoregion) where certain activities would be regulated or prohibited. These zones are: ESZ1 (regions of highest sensitivity), ESZ2 (regions of high sensitivity) and ESZ3 (regions of moderate sensitivity). These zones will have graded regulations. Upper limits to the percentage of the total areas of the Western Ghats in each were set in the following manner:

- Area under (PA+ ESZ1): <60% of the total area of Western Ghats in the state,
- Area under (PA+ ESZ1+ ESZ2): <75% of the total area of Western Ghats in the state,
- Area under (ESZ3): ~25% of the total area of Western Ghats in the state.

The panel also stated that these zones should be declared after due consultations with the local communities.

Management of ESZs: The panel recommends that the demarcation of ESZs and the regulatory and management regime for them should be based on inputs from local communities and local bodies. It suggests that to safeguard Western Ghats from further damage, the MoEF, on priority basis, should notify ESZ1, ESZ2 and ESZ3 as proposed by the panel at taluka level. It has proposed a set of guidelines regarding land and water use, agriculture, biodiversity, setting up of industries, mining, transport, etc. The creation of Special Economic Zones, new hill stations, new non-agricultural land use (except justified extensions of village settlements to accommodate local population rise) and use of plastic have been proposed to be banned in all zones. It further suggests that no new mining leases and red and orange category industries¹¹ should be allowed for ESZ1 and ESZ2 and

¹¹The categorization of industries as red, orange and green was first introduced in the Doon Valley ESA Notification. Polluting industries and industries that discharge liquid effluents are kept under red and orange categories respectively.

existing mining activities should be phased out from ESZ1 by 2016, while continuing them with strict regulations in ESZ2; however, new mining and red and orange industries may be permitted in ESZ3 with strict regulations. Also, no large storage dams, new large wind projects and thermal power plants are to be allowed in ESZ1. Ban on Genetically Modified Organisms and promotion of organic agriculture have been suggested for all zones.

Role of Biodiversity Management Committees (BMCs): The WGEEP has observed that the formation of BMCs and people's biodiversity registers in the entire Western Ghats region would facilitate the management of ESAs as well. The possibility of having BMCs as a focal point for administration of ESAs was discussed, while the concerns were raised regarding ineffective functioning of BMCs in Karnataka and Tamil Nadu. For this, detailed discussions were carried out with the National Biodiversity Authority, Chennai, the nodal agency responsible for the implementation of the Biological Diversity Act, 2002 under which the BMCs are to be set up. Appreciating the role of BMCs in Udumbanchola taluk in Kerala, the panel suggested in its report that WGEA should constitute BMCs at all levels: Gram Panchayat, Zila, Taluka Panchayat level and Nagarpalika levels and these BMCs should be adequately empowered. The possibility of BMCs being assigned the role of Ecology Committees (as against the HLMCs) has also been highlighted by the panel in its report. It proposed this on the grounds that BMCs are statutory authorities whereas already existing HLMCs are 'ad-hoc' committees.

Projects requiring Environment Impact Assessments (EIA): Regarding environmental clearances to infrastructure and industrial projects as mandated by the EIA Notification, 2006, the panel recommends the inclusion of wind mills and small scale hydroelectric projects in the list of projects that require environment impact assessments.

ESA Proposals: The report, in particular, mentions two ESA proposals that the panel found noteworthy: (i) Gramsabha resolutions from 25 villages from Sawantwadi and Dodamarg talukas of Sindhudurg district (ii) proposal for a "Maharashtra Sahyadri Ecologically Sensitive Area" by DEVRAAI, an NGO from Kolhapur drawing from extensive research conducted at Shivaji University.

Mining in Goa: The WGEEP, in its report, recommended that Cumulative Impact Analysis for all existing developmental activities (including mining) should be carried out in Goa under the supervision of the National Institute of Oceanography with the involvement of local bodies, organizations and communities.

ESAs around PAs: The WGEEP responded to this point on a specific request made by the MoEF. During the discussions it emerged that according to the Government of Goa, the reason for not notifying any area around three of its Sanctuaries as ESA is the scarcity of land for development in the state. The panel observed that since ESAs don't restrict development this should not be an issue. This position was communicated in various meetings of the panel. In its final report, the WGEEP states that it could not gather much information from the states on the status of notification of ESAs around PAs. Nevertheless, it reckoned that the implementation of this Supreme Court directive by the states has been sluggish.

It is important to note that though the WGEEP shared its report with the MoEF in October 2011, it was not made available publicly. The MoEF, instead, shared the report with the concerned states to get their opinions on it first. However, till January 2012, none of the states except Karnataka had replied to the MoEF with their opinion on the report. Karnataka did not fully accept the report and the recommendations of the panel. After repeated reminders by the MoEF, the other states followed suit and rejected most of the recommendations of the report like Karnataka did. Kerala's response, for example, mentions that the zonations suggested by the panel were totally faulty and unreliable. It requested the MoEF not to burden it with another authority and therefore wanted the MoEF to do away with WGEA. The Maharashtra Government also rejected the report in its letter to the MoEF in

MoEF asked the WGEEP to give its suggestions on a few projects like Gundia Hydroelectric Project and Puyankutti Hydroelectric Project in Karnataka, Athirapally Hydroelectric Project in Kerala and projects in Ratnagiri and Sindhudurg in Maharashtra.

Gundia Hydel Power Project:

The site visit to Gundia Hydel Power Project was undertaken on September 16, 2010 by some of the panel members. Despite proper intimation of the proposed visit to the State Government, Karnataka Power Corporation Limited (KPCL) alleged that it was a 'secret' site visit. The panel visited Kaginahare forests where a 21 km long underground tunnel has been proposed by KPCL. The presence of important plant species and evidence of constant elephant movements were noted in the forest. The panel interacted with various stakeholders and organizations after visiting the project location. Suggestions were sought from all stakeholders, particularly local people who are closely associated with the project site.

The panel felt that the EIA reports of the project were faulty. In its final report, the panel mentioned that the project is environmentally unviable and should not be granted environmental clearance.

Athirapally Hydropower Project:

A public consultation on the Athirapally Hydroelectric Project took place on January 29, 2011, preceded by a visit of the panel to the area. It was noted during the visit that the rights of the tribals as per the Forests Rights Act have not been recognized in the area as yet. In its report, the WGEEP recommended to the MoEF: "Vazhachal area should be protected as such and the permission for the proposed hydroelectric project at Athirapally should not be given. The Chalakudy river should be declared as a fish diversity rich area, to be managed on the pattern of 'Conservation of biodiversity rich areas of Udumbanchola taluk' in Kerala."

Ratnagiri and Sindhudurg:

In the course of the panel's meetings, the issue of proposed projects in Ratnagiri and Sindhudurg was brought up a few times. While twenty one Gram Panchayats of Sindhudurg expressed their willingness to be a part of an ESA, the vice president of the Zila Parishad of Kolhapur shared that they did not want Kolhapur to be declared as an ESA. Given this backdrop, a field visit was carried out in October 2011 to the area. It was noted during the field trip that the monitoring of the implementation of pollution laws that was being carried out was inadequate and the EIAs being conducted were also flawed. Later on, on the suggestion by the panel's chairman, twenty two Gram Sabhas of the region came up with a tentative management plan for their proposed ESA. The panel, in its report, recommended an indefinite moratorium on new environmental clearances for mining in ESZ1 and ESZ2. It also added that careful cumulative impact analysis should be undertaken for all ongoing development activities in the area.

On August 26, 2010, MoEF, through an office memorandum, had put a moratorium up to December 31, 2010, on consideration of EIA projects under EIA Notification, 2006. All the applications seeking EIA clearance received by the MoEF and Maharashtra State Environment Impact Assessment Agency (SEIAA) after August 16, 2010 for Ratnagiri and Sindhudurg were put under this moratorium. On January 3, 2011, the ban was extended till June 30, 2011 and then till August 30, 2011, pending the receipt of the report of WGEEP. However, projects of "national importance", projects located in notified industrial estates involving zero discharge and improved technologies and those which were received by the MoEF for environment clearance before the ban was first imposed have been excluded of it.

Also the ban on sand mining in non-CRZ areas of Ratnagiri and Sindhudurg was lifted through an office memorandum dated April 25, 2011, issued by Ms. Nalini Bhat, Advisor, MoEF. This was done after the intimation from the Government of Maharashtra about the acute shortage of sand availability affecting infrastructure projects. The ban has been lifted for two years, subject to constitution of a monitoring committee with representation from concerned departments and organizations, independent local experts and NGOs for ensuring compliance of environmental requirements.

A note was prepared by the Chairman of the WGEEP, Prof. Madhav Gadgil, and then issued by the MoEF inviting suggestions and recommendations from the public on the management of ESAs in the Western Ghats in November 2010. In the note, the chairman quoted Matheran and Zila Parishad of Kolhapur as examples where people are not supporting the ESA notifications. He said that in both the areas, notifications are being imposed upon the people and are being implemented in a top-down fashion. He professed the role of public participation in the process of identification of ESAs and in the designing of an appropriate set of regulations that should be implemented in these ESAs.

The note went on to mention that the Pronab Sen Committee has not really been instrumental in making ESAs popular because it did not say anything on the management of ESAs. On behalf of WGEEP, he proposed that ESA management plans be made with the active involvement of the concerned Gram Sabhas, Gram Panchayats, taluka level Panchayats, Zila Parishads and municipal bodies.

February 2012, terming it impractical. It particularly objected to the classification of forty-three of its talukas as ESZ1. It had reservations about having another regulatory body in the form of WGEA. [Source: “Centre awaits states’ opinions on Western Ghats”, The Navhind Times, January 14, 2012; “State rejects Western Ghats Panel report”, K.S. Sudhi, The Hindu, February 20, 2012, Kochi, Kerala; “Government rejects Western Ghats Panel report as impractical”, Ketaki Ghoge, Hindustan Times, March 31, 2012, Mumbai, Maharashtra].

At the same time there has been a concerted campaign by several civil society groups to push both the MoEF and State Governments to accept the recommendations of the WGEEP.



7. Other Developments around Existing ESA (Non-PA)

(The section covers only major developments pertaining to ESAs that took place from June 2009 to April 2012, the time period between the initial ESA report and this report)

1. Finalization of Draft Mount Abu ESA Notification

Mount Abu Draft ESA Notification was gazetted on October 28, 2008 and was finalised and issued on June 25, 2009. The final notification was similar to the draft notification, if looked at broadly. Certain changes have been made in the constitution of the monitoring committee for the ESA, while removing the upper cap of ten for the number of members of the committee, the final notification added two local residents and two NGO representatives (as against one local resident as mentioned in the draft notification). [Source: Mount Abu ESA Notification, June 2009, MoEF]

2. Reconstitution of Matheran ESA Monitoring Committee

Matheran ESA Monitoring Committee was constituted by the MoEF on January 1, 2004 for a term of two years, to ensure the compliance of the provisions given in the Matheran ESA notification. However, after the expiration of the term of the monitoring committee on December 31, 2006, it was not renewed. The monitoring committee was reconstituted on August 27, 2009 for a period of two years. The new constitution had lesser members from the State Government. They have been replaced with more representation from citizen's groups and local people. The committee constituted a retired IAS officer, a conservation architect, a member each from Bombay Environment Action Group, Mumbai and PARISAR, Pune; representatives from Department of Environment and Department of Urban Development, Government of Maharashtra; representatives from Central Pollution Control Board and MoEF, local representation in the form of a hotelier from Matheran and the Collector, Raigad, Maharashtra. The committee's term got over in August 2011 and it was reconstituted again in 2012. [Source: Order to reconstitute Matheran Monitoring Committee, August 2009, MoEF]

3. Notification of Dandi ESA

An area of 225.86 km² comprising Dandi and five adjacent villages in the state of Gujarat were proposed to be notified as an ESA in the draft notification gazetted by the MoEF on October 13, 2010. The draft was finalized and notified on April 26, 2011. The notification is as per the project launched by the MoEF in July 2010 under the auspices of the World Bank by the name Green Action for National

Dandi Heritage Initiative (GANDHI). The notification, besides having provisions for regulation of setting up of industries, mining, tourism, livelihood generation, promotion of eco-tourism, integrated coastal zone management and provides for villages to become carbon neutral. [Source: Dandi ESA Notification, April 2011, MoEF]

4. Draft Bhagirathi ESA Notification

The MoEF issued a draft notification for declaring the 135 km stretch of river Bhagirathi starting from Gaumukh to Uttarkashi and up to 100 m from both banks of the river as an ESA on June 17, 2011. Activities like setting up of a hydro plant above the capacity of 25 MW, mining, quarrying, setting up of polluting industries, etc. would be banned once the notification came into effect. Preparation of a zonal master plan, setting up of a monitoring committee, regulation of noise pollution, protection of hill slopes, etc. have also been suggested in the draft. The draft notification came after MoEF received a lot of flak on its study report on assessment of cumulative impact of hydropower projects in Alaknanda and Bhagirathi basins up to Devprayag that was prepared by the Alternate Hydro Energy Centre (AHEC), Indian Institute of Technology Roorkee with the support of the National River Conservation Directorate (NRCD) for MoEF in June 2011. The step is a follow up to the decision of the National Ganga River Basin Authority (NGRBA) of November 2010 not to build any hydropower projects in the 135 km stretch of Ganga from Gaumukh to Gangotri, but the draft notification only bars large hydropower projects. [Source: Bhagirathi Draft ESA Notification, June 2011, MoEF]



8. Concluding Observations

There continues to be a need to take a serious look at the processes that are followed to declare ESAs till date, especially when it comes to it being people-oriented and having a sound scientific basis. The first set of notifications related to Murud-Janjira, Numaligarh and Doon valley were certainly issued through Central Government directives. However, some change was to be visible when it came to Mahabaleshwar-Panchgani and Matheran. These were essentially being pursued by a set of concerned individuals who made attempts (however inadequate) to seek responses to the draft notification and also tried to raise awareness about the need for the notification and its implementation. Each notification came out of a different set of negotiations and trade-offs which are important to understand in their historical context. This is not to uphold the nature of these processes, but to recognize that different ESAs have been declared in different contexts and at different times. Thereby, there are lessons for any future processes related to ESAs, whether those relating to the Supreme Court's directives or what has been proposed by the WGEEP recommendations.

While we extensively dealt with the pre-2009 scenario in Kalpavriksh's first study on ESAs, we include here some observations from what can be understood as the second act of drama around ESAs in India:

1. ***New Phase of Formalising ESAs:*** The last five years of ESAs have been fairly dynamic with newer processes directing the manner in which ESAs are to be identified and declared in the country. While there are severe limitations to the process, there seemed to be a phase in the MoEF where the declaration of ESAs saw an upward swing. From 1989 to 2007, India had eight ESAs, the Pronab Sen Committee guidelines identifying ESAs and Mohan Ram Committee to examine ESA proposals. Out of these, the latter two came about in the last decade. In the last five years, the MoEF declared four new ESAs (Mount Abu, Sultanpur, Dandi and Dalma) (see table below). The Ministry has also constituted a region specific panel: the WGEEP for the Western Ghats ecoregion. The MoEF has further formalised the ESA process by issuing a set of guidelines for declaring ESAs around PAs. Nine draft ESA notifications (ESAs around PAs of Haryana) were issued, which lapsed and were reissued last year. Recently, the draft Bhagirathi ESA notification, five draft notifications for declaring ESAs around PAs of Gujarat, and a draft Bandipur ESA notification have also come up. The Supreme Court directive to declare ESAs around PAs has had a huge role to play in the notification of many of these, but has not been able to influence the quality and depth of these notifications.
2. ***Criteria Building for ESA:*** In 2000 the Pronab Sen Committee brought in parameters which could be used to identify areas of ecological sensitivity. While this was a significant opportunity, it was argued that the committee's criteria looked at only ecological sensitivity. The criteria did not have the scope of incorporating environmental sensitivity of a region which could encompass anthropogenic

pressures on an area, as well. This could have been a crucial area of debate for ESAs in the future if it were truly to emerge as a land use planning tool based on environmental considerations. Even as the Pronab Sen committee's criteria have remained largely underutilized, newer processes like the WGEEP have questioned the scientific basis of the criteria and proposed its own. The WGEEP also questioned the fact that the Pronab Sen Committee did not address the issue of management of ESAs. Even though their mandate included the need "to evolve an appropriate methodology for regulating various activities in ESAs", what the committee set forth was a set of criteria which could be used inter-changeably or altogether. This had provided an excellent opportunity for the state and local administrations to consult local people to come up with individualistic case-specific management plans and regulatory mechanisms. It was left to the people/civil society groups to come up with their own location specific management plans and compositions which had the flexibility and strength of being site specific. Ironically, the declaration of ESAs around PAs also does not utilise this criteria.

Table 2: Chronology of Events around ESAs from May 2009 to April 2012¹²

June 2009	Mount Abu Final ESZ Notification
June 2009	Eight Draft ESA Notifications around PAs of Haryana (lapsed in June, 2010)
January 2010	Sultanpur ESZ Final Notification
March 2010	Constitution of Western Ghats Ecology Expert Panel
October 2010	Dandi Draft ESZ Notification
February 2011	National Board for Wildlife (NBWL) Guidelines for declaring ESAs around PAs
April 2011	Dandi Final ESZ Notification
May 2011	Dalma Draft ESZ Notification
June 2011	Bhagirathi Draft ESZ Notification
July 2011	Four Draft ESA Notifications around PAs of Gujarat
July 2011	Nine Draft ESA Notifications around PAs of Haryana
September 2011	Bandipur Draft ESA Notification
February 2012	Notification for ESA around Marine National Park and Sanctuary, Gujarat
March 2012	Dalma Final ESZ Notification
April 2012	Report of the Western Ghats Ecology Expert Panel

3. **Reviewing the Role of Authorities:** ESA notifications have allowed for different sets of authorities to regulate and manage the stipulations laid out. In case of DTEPA, the creation of a statutory authority with a retired judge like Mr. C.S. Dharmadhikari as its chairperson played a substantial role in making it a success. The implementation of the Dahanu ESA notification and the associated management processes has hinged heavily on the powers and initiative of this authority. However, two decades down the line several people in Dahanu are viewing the land use restrictions in a negative manner and feel that these restrictions are stopping them from developing. They have also begun to question the rigidity of the authority as well as the notification. In other instances like Mahabaleshwar-Panchgani or Matheran this has not been the case. It is, therefore, useful that while the WGEEP has taken the DTEPA model as a basis for setting up the ecology authority for the Western Ghats, it has broad based the scope and functions of the authority. However, it still relies fairly strongly on government institutions and newer village level bodies for the ESA management. Further, how cross-sectoral and inter-state integration will be achieved is still not clear even through processes like the WGEEP.

¹²This study was finalised in April 2012.

4. ***PAs Remain the Centre of Conservation Attention:*** In the last few years, the notification of ESAs other than around PAs has not been a priority within the MoEF. Moreover, the process of dealing with the pending proposals continues to be very slow. MoEF's laggard way of dealing with ESA proposals is evident from the fact that many proposals (Himalayas, Hill stations, Pachmarhi, Sahyadri, Kodachadri, Rishi Valley, Araku Valley and Kasauli) received during the last decade are either pending or stand rejected till date. In fact, since 2006 there is no committee in place to review the ESA proposals which are outside the purview of the Supreme Court order of notifying ESAs within 10 km around PAs. This clearly indicates the Centre's (even Supreme Court's) fixation with conservation in and around PAs.
5. ***Scope for Landscape level Conservation Not Realised:*** There has been a long standing demand around the use of the ESA process towards achieving landscape level conservation. Initial proposals for the Western Ghats were also put forth with this intent but the Mohan Ram Committee thought these to be unfeasible (Kapoor et al, 2009). The WGEEP process, also, instead of proposing larger landscapes as ESAs, recommends Eco-sensitive Zones. While this might be a pragmatic approach, it once again leads us to a situation where ESAs could remain small and disconnected islands of conservation and land use planning. It also reaffirms the earlier hesitation of the Central Government to declare large stretches as ESAs and making them an important basis for eco-regional planning.
6. ***Inadequate Process in New Guidelines:*** The guidelines on declaring ESAs around National Parks and Sanctuaries provide some interesting recommendations like ban on polluting industries, mining and other harmful activities in the ESAs. They also reiterate the need to make "case-specific" regulations for different ESAs. The guidelines, however, do not mandate an open and transparent process based on principles of free prior informed consent which is becoming essential in policy matters today. Since ESAs are directed towards regulating land use, it needs to follow a process which allows for local engagement and inputs. While this was missing in practice in the declaration of the initial ESAs prior to 2009, it has not found a place even in the final set of guidelines put forth by the MoEF.
7. ***No Innovation in Formats:*** Although the new guidelines provide limited scope for case specificity of ESAs, it does not reflect in the notifications that have been brought out by the MoEF based on State Government proposals. Case specificity can be seen in these notifications only in the form of reduced expanse of the proposed ESAs. Since the guidelines provide the Sultanpur ESA Notification as a model notification that other states can refer to while proposing ESAs around their PAs, the same content has been used while drafting these notifications with very few changes. This seems to be a regression from the progress that had been made in allowing for site-specific concerns and thematic aspects to become part of ESA notifications. While there were severe limitations of process and implementation of the earlier notifications, this was a crucial aspect which does not seem to be part of even the present notifications emerging out of MoEF and State Governments.
8. ***State-Centre Inter-play in Declaration of ESAs:*** The recent process of demarcating ESAs and drafting regulations relies largely on the determinants agreed upon by the State Governments, including the identification of the areas that deserve ESA status. The State Governments, in turn, are not following a process of identification and proposing regulations, which would involve a wider set of people. The entire process, then, becomes limited to State-Centre interplay. At the same time the State Governments have been particularly contemptuous and in disagreement with the suggestions of the WGEEP. This is especially the case when it comes to restriction on mining, hydropower generation and an overarching authority for the Western Ghats emanating from a central legislation. One reason for this lies in the fact that the State Governments view the Centre as an iron handed conservationist which is seeking to declare ESAs through centrally laid out laws or through the

directives of the Supreme Court. This makes the buy in of the State Governments to the idea of ESAs difficult.

9. ***State's Reluctance in Notifying ESAs:*** Whether it was for notifying ESAs around PAs or within the Western Ghats, the State Governments have expressed their disagreement in different ways. When it comes to the WGEEP process, there has been an open lack of acceptance to the recommendations made by the panel by several State Governments. When it comes to the ESAs around PAs, the response is not as blatant but still not forthcoming. Out of the twenty-eight Indian states, the number of states which have sent in their proposals for notifying ESAs around PAs has not even crossed ten. This is an indication towards the wider problem of State-Centre rift wherein states are not willing to give away any more of their land for the conservation schemes put out by the Centre. States are not being made a part of the process of drafting guidelines or working out criteria for identification and notification of ESAs, but are given directives by the Centre to notify areas based on them. This has evoked distrust among states and has caused them to be resistant to even genuine possibilities of ESAs.
10. ***Region Specific Expert Panels and their Limitations:*** The terms and process brought forth for the Western Ghats and the WGEEP have presented possibilities of how similar exercises can be undertaken for different regions as well. However, the acceptability of this report once again depends on State Governments where eco-regional planning or regulation might not be on a high priority. This continues to remain a crucial issue to reckon with while undertaking similar exercises in the future.

References:

- ♦ MoEF. January 2002. Minutes of the 21st meeting the Indian Board for Wildlife (Extracts). New Delhi
- ♦ Supreme Court. December 12, 2006. Record of Proceedings, Writ Petition No. 460 of 2004 (Goa Foundation vs. Union of India). New Delhi
- ♦ State Governments- Karnataka, Mizoram, Sikkim, Chhattisgarh, Assam. May 2007- February 2008. Proposals received by the MoEF from various states regarding notification of ESAs around PAs. New Delhi
- ♦ Government of Goa. May 2008. Proposals to the MoEF for notification of ESAs around PAs. Goa
- ♦ February 2002 to December 2008. Correspondence between MoEF and State Governments. New Delhi
- ♦ Government of Haryana. 2008. Proposals to the MoEF for notification of ESAs around PAs. Haryana
- ♦ Government of Gujarat. February 2009. Proposals to the MoEF for notification of ESAs around PAs. Gujarat
- ♦ Kapoor, M., K. Kohli, M. Menon. 2009. *India's Ecologically Sensitive Areas- The story so far...* New Delhi
- ♦ MoEF. June 3, 2009. Draft ESA Notifications for PAs of Haryana. New Delhi
- ♦ MoEF. June 2009. Mount Abu ESA Notification. New Delhi
- ♦ MoEF. August 2009. Order to reconstitute Matheran Monitoring Committee. New Delhi
- ♦ Government of Assam. September 2009. Proposals to the MoEF for notification of ESAs around PAs. Assam
- ♦ Government of Meghalaya. March 2010. Proposals to the MoEF for notification of ESAs around PAs. Meghalaya
- ♦ MoEF. October 2010. Draft Dandi ESA Notification, New Delhi
- ♦ MoEF. February 2002-December 2010. Correspondence between MoEF and State Governments regarding the notification of PAs around ESAs. New Delhi

- ♦ Government of Jharkhand. December 2010. Proposal to the MoEF for notifying ESA around Dalma Sanctuary. Jharkhand
- ♦ MoEF. February 2011. Guidelines for declaration of ESAs around National Parks and wildlife Sanctuaries. New Delhi
- ♦ MoEF. July 2008 to April 2011. File notings regarding the Haryana Draft ESA Notifications. New Delhi
- ♦ MoEF. April 2011. Dandi ESA Notification. New Delhi
- ♦ Government of Sikkim. April 2011. Proposals to the MoEF for notification of ESAs around PAs. Sikkim
- ♦ Government of Karnataka. April 2011. Proposals to the MoEF for notification of ESAs around PAs.
- ♦ Gadgil, M. March 2010-May 2011. Minutes of the meetings of Western Ghats Ecology Expert Panel, India
- ♦ MoEF. May 2011. Dalma Draft ESZ Notification. New Delhi
- ♦ MoEF. June 2011. Bhagirathi Draft ESA Notification. New Delhi
- ♦ MoEF. July 28, 2011. Draft ESA Notifications for PAs of Haryana. New Delhi
- ♦ MoEF. July 2011. Draft ESA Notifications for PAs of Gujarat. New Delhi.
- ♦ MoEF. September 2011. Bandipur Draft ESA Notification. New Delhi
- ♦ MoEF. February 2012. Draft ESA Notification for Marine National Park and Sanctuary, Gujarat, New Delhi
- ♦ Gadgil. M. March 2012. Report of the Western Ghats Ecology Expert Panel. New Delhi
- ♦ MoEF. March 2012. Dalma ESZ Notification. New Delhi
- ♦ Krishnaraj Rao. India Together. April 14, 2012. "Nothing secret about Panel reports". New Delhi
- ♦ The Navhind Times. January 14, 2012. "Centre awaits states' opinions on Western Ghats". Goa
- ♦ K.S. Sudhi. The Hindu. February 20, 2012. "State rejects Western Ghats Panel report". Kochi, Kerala
- ♦ Ketaki Ghoge. Hindustan Times. March 31, 2012. "Government rejects Western Ghats Panel report as impractical". Mumbai, Maharashtra
- ♦ www.haryanaforest.gov.in (Forest Department, Government of Haryana)
- ♦ gujenvfor.gswan.gov.in (Forest and Environment Department, Government of Gujarat)
- ♦ www.goaforest.com (Forest Department, Government of Goa)
- ♦ www.assamforest.in (Department of Environment and Forests, Government of Assam)
- ♦ www.jharkhandforest.com (Department of Forest and Environment, Jharkhand)
- ♦ www.sikenvis.nic.in (Forest and Environment Department, Government of Sikkim)
- ♦ www.karnatakaforest.gov.in (Forest and Environment Department, Government of Karnataka)
- ♦ www.samrakshan.org
- ♦ www.wikipedia.org
- ♦ www.envfor.nic.in
- ♦ www.westernghatsindia.org

Appendix 1

Full Details of State Government Proposals and their Status on Declaration of ESAs around PAs

IA. Ecologically Sensitive Areas (ESAs) around Protected Areas (PAs) in Haryana

1. Number of Protected Areas in the state and area covered under it:

	National Parks	Sanctuaries
Number:	2	8
Area:	96.96 km ²	206.95 km ²

Total Area under Protected Areas¹³: 352.15 km²

Area of the State: 44212 km²

(Based on the information from the official website of the Haryana Forest Department as on 11.02.11)

2. List of Protected Areas around which ESAs have been proposed/notified:

[Proposal received by the MoEF in early 2008; revised proposals sent by Additional Principal Chief Secretary of Forests (Wildlife) cum Chief Wildlife Warden, Forest Department Haryana, Panchkula to Mr. Anmol Kumar, Deputy Inspector General (Wildlife), MoEF in July 2009]

S.No.	Protected Area	Proposed ESA	1st Draft Notification	*Final Notification/ Revised Proposal/ 2nd Draft Notification
1	Sultanpur National Park	5 km wide belt	5 km wide belt	5 km wide belt
2	Kalesar National Park	5 km wide belt	5 km wide belt	5 km wide belt
3	Kalesar Wildlife Sanctuary	5 km wide belt	5 km wide belt	5 km wide belt
4	Bir Shikargah Wildlife Sanctuary	5 km wide belt	5 km wide belt	3 km wide belt
5	Chhilchhila Wildlife Sanctuary	5 km wide belt	5 km wide belt	1 km wide belt
6	Nahar Wildlife Sanctuary	5 km wide belt	5 km wide belt	1 km wide belt
7	Abubshahar Wildlife Sanctuary	5 km wide belt	5 km wide belt	3 km wide belt

¹³ Total area under Protected Areas in the state of Haryana includes Conservation Reserves and Breeding Centres besides the National Parks and Sanctuaries.

S.No.	Protected Area	Proposed ESA	1st Draft Notification	*Final Notification/ Revised Proposal/ 2nd Draft Notification
8	Bhindawas Wildlife Sanctuary	5 km wide belt	5 km wide belt	3 km wide belt
9	Khaparwas Wildlife ¹⁴ Sanctuary	5 km wide belt	5 km wide belt	1 km wide belt
10	Saraswati Wildlife Sanctuary (CR)	5 km wide belt		
11	Bir Bara Ban Wildlife Sanctuary (CR)	50 m wide belt		
12	Morni Wildlife Sanctuary (BC)	50 m wide belt		
13	Khol-Hi-Raitan Wildlife Sanctuary ¹⁵		5 km wide belt	1 km wide belt

*Final Notification: Only for Sultanpur NP; CR: Conservation Reserve; BC: Breeding Centre

3. Details of the ESAs proposed:

3.1 ESA around Kalesar National Park and Wildlife Sanctuary

i. Area and Geographical Spread:

Kalesar National Park and Wildlife Sanctuary are located in the Yamunanagar district of Haryana and share boundaries with three states viz., Himachal Pradesh, Uttarakhand and Uttar Pradesh. The entire area falls in Shivalik foothills of the Himalayas. The area of the National Park is 46.82 km² and of the Sanctuary is 54.36 km². The State Government has proposed a 5 km wide belt to be declared as an ESZ around both the PAs.

ii. Ecological Significance:

The area falls in between two Protected Areas viz., Simbalbara Wildlife Sanctuary of Himachal Pradesh and Rajaji National Park of Uttarakhand. Kalesar National Park is dominated by sal and khair forests with patches of grasslands in between, whereas Kalesar Sanctuary is a mix of deciduous and scrub forests. The area harbours many medicinal plants like *Cassia fistula* and *Adhatoda vasica*. It provides shelter to the wild relatives of commercial varieties of plants and domesticated animals. Species like emerald dove, oriental pied hornbill, jungle cat, panther, spotted deer, Indian porcupine and sambar are found here but have become a rare sighting. Due to its proximity to the Rajaji National Park, elephants visit the area very often and it can serve as an important wildlife corridor.

iii. Key Threats:

As per the proposal submitted by the State Government, the area is under threat due to increasing human activities near the PA. There is a possibility of mushrooming of hotels, resorts and residential buildings around the area. A national highway (no.73 linking Yamunanagar with Dehradun) passes through the National Park and Sanctuary. Therefore, a few eateries have come up along it and many more are coming up. The extraction of stones and boulders from the Yamuna river bed and the associated stone crushing units pose another danger to the area.

iv. Draft ESA Notification:

The first draft ESA notification to declare an area up to 5 km around Kalesar National Park and Kalesar Sanctuary was issued by the MoEF on June 3, 2009. Besides retaining all the provisions suggested by the State Government, the MoEF has added points like preparation of a zonal master plan, constitution of a monitoring committee, regulation of extraction of ground water, noise pollution and industrial

¹⁴ In July 2011, MoEF did not gazette the draft notification for Khaparwas Wildlife Sanctuary, though the revised proposal for the same was submitted by the State to the MoEF.

¹⁵ The draft notification was issued by MoEF without a proposal from the State.

effluents etc. It lapsed in June 2010, and the second draft ESA notification was issued by the MoEF on July 28, 2011, based on the revised proposal submitted by the State Government.

3.2 ESA around Sultanpur National Park

(Details are available in the earlier study on ESA.)

i. Final Notification:

The final ESA notification came on January 27, 2010. The MoEF received suggestions from the Government of Haryana that if any industrial unit/area has already been approved under government policy, it should be exempted from the regulation of the ESA. This was done keeping in mind the approval given to certain Special Economic Zones by the Department of Commerce, Government of Haryana in the area falling under Sultanpur ESZ. The MoEF sought the suggestions of the Chief Wildlife Warden, Haryana, on the same. The above mentioned suggestion was not accepted by the Chief Wildlife Warden but few other suggestions were given by him. The notification was finalized on basis of these and a few new additions were made, which are given below:

- Zonal Master Plan (ZMP) shall exempt all canals and drainage works,
- ZMP will not allow any change of land use from green to non-green use except improvement of roads, bridges, infrastructure, construction of public utility and community buildings can be done without prior approval of State Government,
- The planned urbanization proposed in the development plan will be approved by the State Government.
- Besides these, in the final notification the activities like stone crushing, setting up of wood based industries, polluting and highly polluting industries have been prohibited in the first 1 km, whereas in the draft these activities were prohibited in a larger area.

3.3 ESA around Bir Shikargarh Wildlife Sanctuary

i. Area and Geographical Spread:

Bir Shikargarh Wildlife Sanctuary is located in Panchkula district of Haryana. The entire area of the Sanctuary falls in the foothills of Shivalik hill forest system. The area of the Sanctuary is 7.67 km². A 5 km wide belt around the Sanctuary has been proposed to be notified as an ESA. The same has been suggested in the draft ESA notification proposed by the MoEF.

ii. Ecological Significance:

Bir Shikargarh Wildlife Sanctuary, as its name suggests, used to be a hunting ground of the Maharaja of Patiala. The entire Sanctuary has a thick forest with dominance of khair and a lot of shrubs like bansa (*Adhatoda vasica*), garne (*Carissa carandas*), etc. Animals like leopard, cheetal, sambar, hyena, red jungle fowl, etc. are spotted here. Like Kalesar, this Sanctuary is the store house of a number of medicinal plants. Kalka, which lies at the boundary of the Sanctuary, is particularly rich in medicinal plants.

iii. Key Threats:

The threats associated with the proximity of the Sanctuary to the fast developing townships like Panchkula and Chandigarh are affecting the area. The establishment of brick kilns and stone crushing units to meet the construction demands is further adding to the pressures on the Sanctuary. The physical location of the Sanctuary is such that it is very prone to erosion.

iv. Draft ESA Notification:

The draft ESA notification to declare an area up to 5 km around the Bir Shikargarh Wildlife Sanctuary was issued by the MoEF on June 3, 2009. The draft notification is an extension of what was proposed by the State Government. The draft lapsed in June 2010 and the second draft ESA notification was issued

by the MoEF on July 28, 2011 based on the revised proposal submitted by the State Government. The extent of the ESA has been reduced in the revised draft from 5 km to 3 km around the Sanctuary.

3.4 ESA around Chhilchhila Wildlife Sanctuary

i. Area and Geographical Spread:

The total area of Chhilchhila Sanctuary is about 0.28 km². The Sanctuary falls in Kurukshetra district of Haryana. The land belongs to the Sarsa Village Panchayat which gave this land to the Wildlife Department for use as a Wildlife Sanctuary. There are agricultural fields around the Sanctuary and an area upto 5 km has been proposed to be notified as an ESA and the same has been suggested in the draft notification as well.

ii. Ecological Significance:

Chhilchhila Wildlife Sanctuary is a small depression which attracts winter migratory birds.

iii. Key Threats:

There are no industries in the vicinity of the Sanctuary, which is a fertile agricultural land.

iv. Draft Notification:

The draft notification declaring an area upto 5 km around Chhilchhila Wildlife Sanctuary was issued by the MoEF on June 3, 2009. The notification keeps all the provisions suggested by the State Government as they are and a few like constitutions of a monitoring committee, zonal master plan, etc. have been added. Laying of high tension wires up to the first 500 m was prohibited by the State Government in the proposal but was not included in the draft notification. The draft lapsed in June 2010, and the second draft ESA Notification was issued by the MoEF on July 28, 2011, based on the revised proposal submitted by the State Government. A belt of 1 km width has been suggested in the draft notification to be declared as an ESA.

3.5 ESA around Nahar Wildlife Sanctuary

i. Area and Geographical Spread:

Nahar Wildlife Sanctuary is located in Rewari district of Haryana and is a part of 'National Capital Region (NCR)'. The total area of the Sanctuary is about 2.11 km². It is a Reserved Forest. An area of 5 km around the Sanctuary has been proposed by the State Government for notification as an ESA and the same has been retained by the MoEF in the draft ESA notification.

ii. Ecological Significance:

Nahar Wildlife Sanctuary supports a population of blackbucks, jackals, monitor lizards, etc. It is particularly important as it houses semi-arid fauna which is characteristic of a desert.

iii. Key Threats:

The Sanctuary, being close to the NCR, is under extreme anthropogenic pressure. Residential colonies are coming up in the area and its surroundings and are causing disturbance to the Sanctuary habitat.

iv. Draft Notification:

The MoEF issued a draft notification declaring an area upto 5 km around Nahar Wildlife Sanctuary as an ESA on June 3, 2009. The notification is similar to the other draft ESA notifications issued by the MoEF for the state of Haryana. It lapsed in June 2010, and the second draft ESA notification was issued by the MoEF on July 28, 2011, based on the revised proposal submitted by the State Government. The ESZ belt has been reduced from a width of 5 km to a width of 1 km around the Nahar Wildlife Sanctuary.

3.6 ESA around Abubshahar Wildlife Sanctuary

i. Area and Geographical Spread:

An area of 115.30 km² comes under the Abubshahar Wildlife Sanctuary which is located in the Sirsa district of Haryana. A 5 km wide belt around the Sanctuary has been proposed to be notified as ecologically sensitive by the State Government. The MoEF has stuck to the same in the draft ESA notification.

ii. Ecological Significance:

Abubshahar Wildlife Sanctuary represents a typical desert ecosystem. The area is particularly known for its open habitat of blackbucks. The Bishnoi tribal community forms a substantial population in the area, which is famous for its conservation efforts.

iii. Key Threats:

The key threat, as per the proposal submitted by the state, is from the increasing human activities.

iv. Draft Notification:

The draft notification declaring a belt of 5 km around the PA as an ESA was issued by the MoEF on June 3, 2009. It followed the same pattern as used in the other draft ESA notifications from Haryana. A few provisions for construction of buildings and setting up of wood based industries, constitution of a monitoring committee and regulation of noise pollution were added to the draft. The draft lapsed in June 2010, and the second draft ESA notification was issued by the MoEF on July 28, 2011, based on the revised proposal submitted by the State Government. A belt of 3 km width has been suggested to be notified as an ESA around the Abubshahar Wildlife Sanctuary as compared to the previously suggested 5 km wide zone.

3.7 ESA around Bhindawas Wildlife Sanctuary

i. Area and Geographical Spread:

Bhindawas Wildlife Sanctuary lies in Jhajjar district of Haryana. The Sanctuary occupies an area of 4.1 km². The State Government proposes an area upto 5 km around the Sanctuary to be notified as an ESA.

ii. Ecological Significance:

Bhindawas Wildlife Sanctuary attracts a lot of migratory birds. In the current situation of scarcity of water at Bharatpur, this Sanctuary provides an alternate wintering site to the migratory water fowls. Bar-headed geese, teals, cormorants, purple moorhens and shovellers are a few of them. Flamingos visit the area during the summer months.

iii. Key Threats:

A lot of industrialization has been proposed around the Sanctuary which poses danger to its wildlife. A few brick kilns have also opened up in the area which may increase in number in the near future.

iv. Draft Notification:

A draft notification was issued by the MoEF declaring a belt of 5 km width around the Sanctuary as an ESA on June 3, 2009. When compared with the proposal, the ban on laying of high tension wires in the first 500 m around the Sanctuary has been removed in the draft notification, besides adding a few additional provisions. The draft lapsed in June 2010, and the second draft ESA notification was issued by the MoEF on July 28, 2011, based on the revised proposal submitted by the State Government. The width of the ESZ has been reduced from 5 km to 3 km in the revised draft ESA notification.

3.8 ESA around Khaparwas Wildlife Sanctuary

i. Area and Geographical Spread:

Khaparwas Wildlife Sanctuary covers an area of 0.82 km² in Jhajjar district of Haryana. It is situated at a distance of 1.5 km from Bhindawas Wildlife Sanctuary. A belt of up to 5 km width has been proposed to be notified as an ESA around the Sanctuary.

ii. Ecological Significance:

Khaparwas Wildlife Sanctuary along with Bhindawas is a winter home to about 250 species of migratory birds.

iii. Key Threats:

Construction activities are going on at a fast pace around the Sanctuary which could be a threat to the area in the near future.

iv. Draft Notification:

On June 3, 2009, MoEF issued a draft notification declaring the demarcation of an ESZ of up to 5 km width around the Sanctuary. The draft adds a few provisions like constitution of monitoring committee, preparation of zonal master plan, regulation of noise pollution, etc. The draft lapsed in June 2010, and the revised proposal was submitted by the State Government in which the extent of the ESZ has been proposed to be reduced to 1 km.

3.9 ESA around Saraswati Wildlife Sanctuary

i. Area and Geographical Spread:

Saraswati Wildlife Sanctuary is a Conservation Reserve in the districts of Kaithal and Kurukshetra in Haryana. It covers an area of 44.53 km². A belt of up to 5 km width was proposed by the State Government to be notified as an ESA around the Sanctuary.

ii. Ecological Significance:

Saraswati Sanctuary is the third major forest in Haryana and is considered a prime habitat of the hog deer. The blackbuck and wild boar are also seen here.

iii. Key Threats:

Construction activities pose a major threat to the reserve. The Hansi Butana canal is one such example which even became the cause of the denotification of this Sanctuary (details given in the box).

iv. Draft Notification:

No draft notification has been issued by the MoEF as the area is not a PA anymore.

3.10 ESA around Bir Bara Ban Wildlife Sanctuary

i. Area and Geographical Spread:

Bir Bara Ban Wildlife Sanctuary is a Conservation Reserve in Jind district of Haryana. It covers an area of 4.19 km². A belt of the width up to 50 m has been proposed to be notified as an ESA around the Sanctuary.

ii. Ecological Significance:

Bir Bara Ban Sanctuary provides a habitat to animals like blue bull, monkey, hare, black and brown partridge, etc.

iii. Key Threats:

Ever increasing construction activities pose a threat to the reserve.

iv. Draft Notification:

No draft notification has been issued by the MoEF as the area is not a PA anymore (details given in the box below).

DENOTIFICATION OF SANCTUARIES

Saraswati Wildlife Sanctuary was notified as a Protected Area on July 29, 1988, by the Government of India. Despite its Protected Area status, the work of constructing Hansi Butana Canal through the Sanctuary began as early as July, 2005. An application regarding this was filed by Wildlife Trust of India before the Central Empowered Committee (CEC) on August 22, 2007. On October 3, 2007, the CEC, while imposing an immediate ban on the construction, asked the State Government to file a detailed affidavit on the matter. On December 3, 2007, the State Government sought more time from CEC to reply and also informed it of the denotification of Saraswati Wildlife Sanctuary which was done on October 11, 2007. The State Government presented the case for this denotification before the Supreme Court on the grounds that the Sanctuary has very low biodiversity and the denotification is being contemplated since 2001. The court directed it to NBWL which agreed to the denotification. Therefore, CEC had to close the case only by imposing a fine of Rs.1 crore on the irrigation department of the state to be spent on the conservation and protection work of the Sanctuary.

Bir Bara Ban Wildlife Sanctuary was also denotified along with Saraswati Sanctuary in October 2007 and both were declared as Conservation Reserves. The State Government made way for the exploitation of forests in these 2 denotified Sanctuaries by mandating that the contractors will contribute 10% of the forest resources towards the development of Morni and Khol-Hi-Raitan Sanctuaries (the 2 Sanctuaries that got notified as a compensation of the denotification).

[Source: "2 wildlife Sanctuaries de-notified" Shubhadeep Choudhury, Tribune News Service, Oct 16, 2007, Chandigarh; Forest case Update, Oct, 2007; Forest case Update, Feb, 2008; Forest case Update, August, 2008]

3.11 ESA around Morni Wildlife Sanctuary

i. Area and Geographical Spread:

Morni Wildlife Sanctuary is also a Breeding Centre for pheasants and is located in Panchkula district of Haryana. The hills lie close to Chandigarh in Haryana.

ii. Ecological significance:

Morni is the only hill station in the state. It has been given the status of a Breeding Centre for pheasants, the red jungle fowl in particular. The area is particularly significant for bird fauna. The proposal for its notification as a Wildlife Sanctuary which was pending for more than a decade with the MoEF, got an approval in March 2002.

iii. Key Threats:

Though the area was given a status of Wildlife Sanctuary in the year 2002, the MoEF did not come up with a draft notification notifying ESA around it. Even the official website of Haryana Forest and Environment Department mentions Morni as a Breeding Centre and not as a Wildlife Sanctuary. Therefore the status of the area is still disputable. Also, being the only hill station in the state and in the vicinity of urban areas like Panchkula, Pinjore and Chandigarh, the area is under immense pressure.

iv. Draft Notification:

No draft notification has been issued by the MoEF.

3.12 ESA around Khol-Hi-Raitan Wildlife Sanctuary

i. Area and Geographical Spread:

An area of 22.26 km² in Panchkula district of Haryana forms Khol-Hi-Raitan Wildlife Sanctuary. The entire area falls in the Shivalik foothills. The Sanctuary is almost touching the boundary of Panchkula Township. The State Government has not proposed any ESA around it.

ii. Ecological Significance:

'Khol' is a local term for a gorge that forms between two hills; the *Khol* in this Sanctuary is called 'Khol-Hi-Raitan'. Khol-Hi-Raitan has steep slopes and the type of forest found here is northern dry mixed deciduous forest. Sightings of barking deer and ghural are common in the area.

iii. Key Threats:

The Sanctuary is under constant threat due to its proximity to the township. A number of stone crushing industries have come up on the boundary of the Sanctuary which could be detrimental to its flora and fauna.

iv. Draft Notification:

A draft notification was issued by the MoEF on June 3, 2009, notifying a zone of 5 km width as eco-sensitive around the Sanctuary. The draft lapsed in June 2010, and a second draft ESA notification was issued by the MoEF on July 28, 2011, based on the revised proposal submitted by the State Government. The width of the ESZ has been reduced from 5 km to 1 km in the new draft ESA notification.

4. Monitoring Mechanism for the proposed ESAs in the state:

	Proposal	Draft ESA Notification
Monitoring Agency/Committee (MC)	No Provision	MC to monitor the compliance of the provisions of the notification to be constituted by the Central Government.
Members of the committee	No Provision	<10 An eminent person with proven managerial experience & knowledge of local issues (Chairman) Deputy Conservator of Forests, Yamunanagar (Member Secretary) MoEF Representative An NGO representative (to be nominated by the GoI) Regional Officer, Haryana State Pollution Control Board Senior Town Planner of the area
Regulations on:		
Tourism	No Provision	No Provision
Polluting Industries	Not allowed	Not allowed
Mining	Not allowed in a particular zone	Not allowed in a particular zone
Construction Activities	Regulated in certain zones	Regulated in certain zones
Felling of Trees	No Provision	As per the government approved Management Plan
Extraction of Ground Water	No Provision	Allowed only for domestic & agricultural purposes

	Proposal	Draft ESA Notification
Noise Pollution	No Provision	State Environment Department or Forest Department to draw up guidelines & regulations
Discharge of Effluents	No Provision	No untreated industrial effluents to be discharged into the water bodies
Solid Wastes	No Provision	As per the Municipal Solid Waste (Management & Handling) Rules 2000 including segregation of waste.
Non-polluting industries	No Provision	No Provision
Zoning	Yes	Yes
Land use/ Landscape	No Provision	Permitted to meet the residential requirements of existing local population and its natural growth.
Zonal Master Plan (ZMP)	No Provision	ZMP to be prepared by the State Government with demarcation of forest areas, villages, agricultural land, etc.

Comparison of Regulations in the Proposed ESAs

	Construction	Limited Construction	Mining	Crushing	Laying of High Tension Wire	Wood Based Industry	Polluting Industry	Highly Polluting Industry
Kalesar NP	No construction upto 500 m except agricultural purposes	In 500- 700 m building height limit is 2 storey/ 25 ft <i>In 500- 800 m Building height limit is 2 storey/ 25 ft</i>	Banned upto 500 m Banned upto 1 km <i>Banned within the ESA (5 km)</i>	Banned upto 2 km <i>Banned within the ESA (5 km)</i>	Not allowed upto 500 m	Banned upto 2 km	Not allowed upto 3 km <i>Banned within the ESA (5 km)</i>	Not allowed upto 5 km <i>Banned within the ESA (5 km)</i>
Sultanpur NP	No construction upto 300 m except agricultural purposes	In 300- 500 m building height limit is 2 storey/ 25 ft	Banned upto 1 km	Banned upto 2 km *Banned upto 1 km	Not allowed upto 500 m	Banned upto 2 km *Banned upto 1 km	Not allowed upto 3 km *Banned upto 1 km	Not allowed upto 5 km *Banned upto 1 km
Bhindawas WLS	No construction upto 100 m except agricultural purposes	In 100- 300 m building height limit is 2 storey/ 25 ft	Banned upto 1 km <i>Banned within the ESA (3 km)</i>	Banned upto 2 km <i>Banned within the ESA (3 km)</i>	Not allowed upto 500 m (missing in the draft) Not allowed upto 500 m	Banned upto 2 km	Not allowed upto 3 km Not allowed upto 2 km <i>Banned within the ESA (3 km)</i>	Not allowed upto 5 km Not allowed upto 3 km <i>Banned within the ESA (3 km)</i>

(*: Final Notification; Regular: Initially proposed and retained in all; Italics: Only in the 1st draft notification; bolds: Changed value as per revised proposal; bolds & italics: Only in the 2nd draft notification)

	Construction	Limited Construction	Mining	Crushing	Laying of High Tension Wire	Wood Based Industry	Polluting Industry	Highly Polluting Industry
Nahar WLS	No construction upto 100 m except agricultural purposes	In 100- 300 m building height limit is 2 storey/ 25 ft	Banned upto 1 km <i>Banned upto 500 m</i> Banned in ESA (1 km)	Banned upto 2 km Banned within ESA (1 km)		Banned upto 2 km Banned in ESA (1 km)	Not allowed upto 3 km Banned in ESA (1 km)	Not allowed upto 5 km Banned within the ESA (1 km)
Chhilchhila WLS	No construction up to 100 m except agricultural purposes	In 100- 300 m building height limit is 2 storey/ 25 ft	Banned up to 1 km	Banned up to 2 km Banned within the ESA (1 km)	Not allowed up to 500 m (missing in the draft)	Banned up to 2 km Banned up to 1 km	Not allowed up to 3 km Not allowed up to 1 km	Not allowed up to 5 km Banned within the ESA (1 km)
Bir Shikargah WLS	No construction up to 100 m except agricultural purposes	In 100- 300 m building height limit is 2 storey/ 25 ft	Banned up to 1 km <i>Banned within the ESA (3 km)</i>	Banned up to 2 km <i>Banned within the ESA (3 km)</i>		Banned up to 2 Km	Not allowed up to 3 km Banned up to 2 km <i>Banned within the ESA (3 km)</i>	Not allowed up to 5 km <i>Banned within the ESA (3 km)</i>
Abubshahar WLS	<i>No construction up to 100 m except agricultural purposes</i>	<i>In 100- 300 m building height limit is 2 storey/ 25 ft</i>	Banned up to 1 km <i>Banned within the ESA (3 km)</i>	Banned up to 2 km <i>Banned within the ESA (3 km)</i>		<i>Banned up to 2 km</i>	Not allowed up to 3 km Not allowed up to 2 km <i>Banned within the ESA (3 km)</i>	Not allowed up to 5 km Not allowed up to 3 km <i>Banned within the ESA (3 km)</i>
Saraswati WLS			Banned up to 1 km	Banned up to 2 km		Banned up to 2 km	Not allowed up to 3 km	Not allowed up to 5 km
Khaparwas WLS	No construction up to 100 m except agricultural purposes	In 100- 300 m building height limit is 2 storey/ 25 ft	Banned up to 1 km	Banned up to 2 km	Not allowed up to 500 m	Banned up to 2 km	Not allowed up to 3 km	Not allowed up to 5 km
Bir Bara Ban WLS	No construction up to 50 m except agricultural purposes							

(*: Final Notification; Regular: Initially proposed and retained in all; Italics: Only in the 1st draft notification; bolds: Changed value as per revised proposal; bolds & italics: Only in the 2nd draft notification)

	Construction	Limited Construction	Mining	Crushing	Laying of High Tension Wire	Wood Based Industry	Polluting Industry	Highly Polluting Industry
Kalesar WLS	No construction up to 100 m except agricultural purposes	In 100- 300 m building height limit is 2 storey/ 25 ft	Banned up to 1 km <i>Banned within the ESA (5 km)</i>	Banned up to 2 km <i>Banned within the ESA (5 km)</i>		Banned up to 2 km	Not allowed up to 3 km <i>Banned within the ESA (5 km)</i>	Not allowed up to 5 km <i>Banned within the ESA (5 km)</i>
Morni WLS	No construction up to 50 m except agricultural purposes							
Khol-Hi-Raitan	<i>No construction up to 50 m except agricultural purposes</i>	In 50- 100 m building height limit is 2 storey/ 25 ft	Banned up to 1 km	Banned within the ESA (1 km)		Not allowed up to 1 km	Not allowed up to 1 km	Not allowed up to 1 km

(*: Final Notification; Regular: Initially proposed and retained in all; Italics: Only in the 1st draft notification; bolds: Changed value as per revised proposal; bolds & italics: Only in the 2nd draft notification)

Changes incorporated in the revised proposals from the state as compared to the draft notifications:

Provision	Old Draft Notification	Revised Proposals & New Draft
Area	Up to 5 km	Up to 3 or 1 km (except Kalesar NP WLS)
2 (ii) Zonal master plan (ZMP) Preparation	ZMP shall be prepared by the State Government with due involvement of all concerned state departments within 1 year and submitted to Central Government for approval.	ZMP shall be prepared by the State Government with due involvement of all concerned state departments within 1 year and submitted to the Central Government for approval. <i>ZMP may be prepared taking into consideration the approved development plan of the Central/ State Government</i>
2 (vi) Construction & Land Use Change regulation pending the ZMP preparation	There shall be no consequential reduction in forest, green and agricultural area.	The change of land use from green uses to non-green uses shall not be permitted without the prior approval of the State Government <i>There shall be no consequential reduction in forest, green and agricultural area. However, the development plan of the government already approved before the draft notification may be given due consideration.</i>
4 (ii) Monitoring Committee Constitution		2 more members added: 1. Representative of Deputy Commissioner of the concerned district 2. Divisional Wildlife Officer of the concerned district

(italics – only in new draft)

All the draft notifications were issued by the MoEF in June, 2009, and since more than a year passed without the issuance of final notifications for the same, they lapsed in June 2010. On inquiring from the MoEF, it was learnt that the draft notifications, though based on the proposals submitted by the state, were still not in agreement with what the State Government wanted. There were certain points of concern that the Government of Haryana wanted to revisit before giving its consent. Reminders for agreeing to the draft notification were sent to the Government of Haryana by the MoEF. In May 2010, when the time period of a year was about to be over, Mr. G.V. Subramaniam, Advisor, MoEF asked (letter dated May 26, 2010) the Principal Chief Conservator of Forests, Haryana to send the revised proposals to the MoEF by June 20, 2010. On this, the Principal Chief Conservator of Forests requested the MoEF to defer the final notifications. Prior to this, a meeting was held in the MoEF on May 13, 2010, convened by the Director General, Forests and Special Secretary to Government of India. It was decided that there was no compulsion of notification of 5 km beyond the PAs as ESAs and it could be lesser. Based on this, the Principal Chief Conservator sent in the revised proposals on September 16, 2010. The State Government approved these proposals on September 7, 2010. The major changes that were made were the reductions of areas of ESAs from 5 km to 3 or 1 km (except Kalesar National Park and Wildlife Sanctuary). Other changes that were made in these notifications have been specified in the table above. As per the Haryana State Government, these proposals were revised to make them site specific and need based as per the suggestions of the NBWL. After being reviewed by the wildlife division of the MoEF which had suggested among other things that the polluting industries and mining be banned within the entire ESA (as recommended in the guidelines of NBWL on declaring ESAs around PAs), the draft notifications were issued in July 2011.

References:

- Government of Haryana. 2008. Proposals to the MoEF for notification of ESAs around PAs. Haryana
- MoEF. June 3 2009. Draft ESA Notifications for PAs of Haryana. New Delhi
- MoEF. July 28, 2011. Draft ESA Notifications for PAs of Haryana. New Delhi
- MoEF, July 2008 to April 2011. File notings received in response to the RTI application regarding the Haryana Draft ESA Notifications. New Delhi
- Shubhadeep Choudhury, Tribune News Service, October 16, 2007. "2 wildlife Sanctuaries de-notified". Chandigarh
- Forest Case Update, October, 2007
- Forest Case Update, February, 2008
- Forest Case Update, August, 2008
- <http://www.haryanaforest.gov.in> (Forest Department, Government of Haryana)
- www.wikipedia.org

IB. Ecologically Sensitive Areas (ESAs) around Protected Areas in Gujarat

1. Number of Protected Areas in the state and area covered under it:

	National Parks	Sanctuaries
Number:	4	22
Area:	480 km ²	16,441 km ²

Total Area under Protected Areas: 16921 km²

Area of the state: 196,024 km²

(Based on the information from the official website of the Forests & Environment Department, Government of Gujarat; downloaded on 17.01.11)

2. List of Protected Areas around which ESAs have been proposed/notified:

(Proposal submitted by Dr. S.K. Nanda, Principal Secretary, Forests & Environment Department, Gujarat to the MoEF in February, 2009)

S.No.	Protected Area	Proposed ESA around PA	Draft ESA Notification
1	Purna Wildlife Sanctuary	250.36 km ²	0 km ²
2	Girnar Wildlife Sanctuary	93.17 km ²	93.17 km ²
3	Narayan Sarovar Wildlife Sanctuary	225.88 km ²	225.88 km ²
4	Vansda National Park	76.59 km ²	0 km ²
Total		646.00 km ²	

3. Details of the ESAs proposed:

3.1 ESA around Purna Wildlife Sanctuary

i. Area and Geographical Spread:

Purna Wildlife Sanctuary is located in the tribal district of Dangs in Gujarat. The total area covered is 160.8451 km² which is spread over an undulating terrain touching the western and northern limits of the Western Ghats. The headquarters of the Sanctuary is at Ahwa. Mahal is the main village of the Sanctuary located in its centre. The area proposed as ESA by the government of Gujarat is 250.36 km² around the Sanctuary comprising forty-six villages of Ahwa taluka of Dangs district and Songadh taluka of Tapi district.

ii. Ecological Significance:

Purna is one of the richest and most compact biodiversity patches with a predominance of teak trees. The healthy stock of bamboo is another feature of the Sanctuary. Purna WLS has the thickest forest cover in the state of Gujarat. The Sanctuary gets its name from the river 'Purna' which flows through it and drains it. Unlike most of Gujarat, the area is characterized by moderate, sometimes heavy, rainfall with an average of 2500 mm. The forest, therefore, belongs to the category of tropical moist deciduous forests. The Sanctuary houses about 700 identified plant species, 24 mammal species, 18 species of reptiles and more than 142 species of birds. The human population of the area is totally tribal represented by Bhils, Warlis, Konkanas, Dublas, Kolchas etc.

iii. Key Threats:

Human interventions in the past have led to the close proximity of the human habitations to the Sanctuary, which in turn has caused disappearance of many floral and faunal species from the ecosystem.

Notifying the peripheral areas outside the Sanctuary as ESA would provide the buffer zone for animal movement and would be an effort towards bringing back the lost biodiversity.

iv. Draft ESA Notification:

The draft ESA notification to declare the area within the Purna Wildlife Sanctuary was issued by the MoEF on July 8, 2011. As compared to the proposal sent by the State Government, no peripheral area has been suggested to be notified as ESA in the draft notification by the MoEF. Besides retaining all the provisions suggested by the State Government, the MoEF has added points like preparation of a zonal master plan, constitution of a monitoring committee, regulation of extraction of ground water, noise pollution and industrial effluents etc.

3.2 ESA around Girnar Wildlife Sanctuary

i. Area and Geographical Spread:

Girnar Wildlife Sanctuary comprises of 178.2729 km² of Girnar Reserve Forest of Junagadh taluka and Bhesan taluka of Junagadh district. The Girnar region is extremely hilly and rugged with very steep slopes. The peripheral area of about 93.17 km² is proposed to be declared as eco-sensitive. The area includes twenty-seven villages of Junagadh and Bhesan talukas.

ii. Ecological Significance:

Girnar Forests categorized as southern tropical dry deciduous and dry teak forest support rich plant biodiversity and variety of mammals, reptiles, insects and avifauna. This forest is a part of the lion habitat and as per the last lion census, seventeen Asiatic lions inhabit the area. Cliffs on top of the Girnar mountains are famous for being the nesting ground of the girnari vulture (white backed vulture). The region is also a catchment of many important rivers like Sonrakh, Gudajali and Loi and thus plays an important role in recharging the water table. In fact because of the Girnar forests, Junagadh city has better water availability as compared to the rest of Saurashtra.

iii. Key Threats:

The proximity of the Sanctuary to human habitation, ongoing developmental activity, industrialization and mining activity around the Sanctuary are few of the key threats to the area. Besides, private grass lands (vidis) adjoining the Sanctuary and intensive non-agricultural land use necessitate some added protection to the region. There are fragile areas like steep slopes and hillocks and areas with dense tree cover and river beds which stress the eco-sensitivity of the area.

iv. Draft ESA Notification:

The draft ESA notification to declare the area within and around Girnar Wildlife Sanctuary was issued by the MoEF on July 8, 2011. As mentioned in the proposal sent by the State Government, an area of 93.17 km² has been suggested to be notified as ESA in the draft notification by the MoEF. Besides retaining all the provisions suggested by the State Government, the MoEF has added points like preparation of a zonal master plan, constitution of a monitoring committee, regulation of extraction of ground water, noise pollution and industrial effluents etc.

A Ropeway has been proposed through the Sanctuary for pilgrims visiting the Jain temples atop Girnar Mountains. The ropeway has been cleared by the State Wildlife Advisory Board and was pending before the NBWL. In the meeting of the NBWL on May 14, it was decided that Environment Minister, Mr. Jairam Ramesh, the board chairperson, would take the final decision after a field visit. He visited the area on January 27, 2011 and after discussing the issue with experts, gave an 'in principle' approval to the Girnar Ropeway project on February 7, 2011. The final clearance to the project will be given by the standing committee of NBWL after a study report exploring alternate alignment for the ropeway has been provided by the State Government.

The argument for the project is that it was cleared under the Forest (Conservation) Act in 1995, much before the area was declared a Wildlife Sanctuary in 2008. However, the project now requires the clearance under the Wild Life (Protection) Act as well because the forest is now a Sanctuary. Conservationists feel that the ropeway will harm the nests of the vulture which is already an endangered species and comes under Schedule I of the Wild Life (Protection) Act. The project has the backing of the Government of Gujarat, which is promoting tourism quite aggressively. Girnar shrine is an important Jain pilgrimage and Jains are a powerful community in the state.

[Source: "Ropeway threat to Girnar's vultures" Sumana Narayanan, *Down To Earth*, Jul 15, 2010; "Ramesh Cancels visit to Girnar Ropeway site" *Times of India*, Jan 15, 2011; "MoEF nod for Girnar Ropeway project" Manas Dasgupta, *The Hindu*, Feb 8, 2011]

3.3 ESA around Narayan Sarovar Wildlife Sanctuary

i. Area and Geographical Spread:

Narayan Sarovar Wildlife Sanctuary is located in the western most part of the country within the Lakhpat taluka of Kachchh district of Gujarat. The Sanctuary is spread across 444.23 km² and is surrounded by the Kori creek in the north-west and mangrove forests in the west. The proposed ESA is of about 225.88 km² and includes thirty-one villages of Lakhpat, Abdasa and Nakhatrana talukas.

ii. Ecological Significance:

The area is ecologically important as it falls under a separate biotic province¹⁶ '3A- Kutchh' of the country and represents a distinct gene pool of the Indian arid region. It also possesses abundant grasslands and coastal areas with dense patches of mangroves. Another distinctive feature is that a part of it is a seasonal wetland that nurtures 15 threatened wildlife species. 45 lentic wetlands and desert thorn and scrub forests are other characteristics of the Sanctuary. It provides home to many rare and threatened species like chinkara, caracal, bustard (great Indian bustard, houbara bustard and lesser florican), black partridge, etc. Eighteen species of herpetofauna and 184 bird species including nineteen species of raptors inhabit the Sanctuary. 'Goard' (in the eastern zone) and 'Babul' (in the western zone) cover extensive area of the Sanctuary. The Sanctuary is very rich in minerals like limestone, lignite, bentonite and bauxite.

iii. Key Threats:

Since the area is rich in minerals, the risk of the grant of mining leases has been looming over it. Fresh applications keep coming in seeking approval for carrying out mining activities around the Sanctuary, one being filed in the Supreme Court in 2008. Though a buffer zone has been created around the Sanctuary where in mining activities are restricted/controlled, this does not seem enough. The area

¹⁶A community, according to some systems of classification, occupying an area where similarity of climate, physiography and soils leads to the recurrence of similar combinations of organisms. [Source: McGraw-Hill Dictionary of Scientific & Technical Terms]

that was a part of the previously notified Sanctuary (details given in the box below) and got left out after re-notification holds value, if viewed holistically. It is still a part of a thorn forest habitat and has high ecological importance and supports wildlife. Notification of ESZ around the Sanctuary would provide some degree of protection to the chinkara habitat against the mining and industrial activities [Source: *Forest Case Update*, Issue 45, May 2008]

iv. Draft ESA Notification:

The draft ESA notification to declare the area within and around the Narayan Sarovar Wildlife Sanctuary was issued by the MoEF on July 8, 2011. As mentioned in the proposal sent by the State Government, an area of 225.88 km² has been suggested to be notified as ESA in the draft notification by the MoEF. Besides retaining all the provisions suggested by the State Government, the MoEF has added the points like preparation of a zonal master plan, constitution of a monitoring committee, regulation of extraction of ground water, noise pollution and industrial effluents etc.

BOUNDARY OF NARAYAN SAROVAR SANCTUARY

Government of Gujarat declared an area of 765.79 km² as Narayan Sarovar Wildlife Sanctuary in April 1981. However, in 1992 its mining and geology department pointed out the huge deposits of minerals in the Protected Area, which could be used to improve the economy of the state. The Government of Gujarat, thus, in July 1993 denotified the Sanctuary and established a new one with disjointed patches adding up to a mere 94.87 km². This was done to bring the plan of the State Government to lease about 2000 hectares of the area of the Sanctuary to the cement wing of Sanghi Industries Limited for open cast mining in line. This decision of the government was challenged in various courts by environmentalists and in March 1995, the Gujarat High Court quashed the government decree, declaring the denotification *ultra vires*. However, it did not comment on the reduction of the Sanctuary area. Taking advantage from there, the area of the Sanctuary was reduced to 444.23 km² by the Government of Gujarat in August 1995. The new boundaries of the smaller Sanctuary were carefully drawn to exclude the rich limestone and mineral-bearing areas.

Thus the work on the cement factory continued and mining operations began. This decision of the State Government was challenged by Consumer Education and Research Centre (CERC) and later joined in by Public Interest Legal Support and Research Centre (PILSARC). This broadened the scope of the matter by bringing the issue of protection of an ecosystem in its entirety under EPA, 1986 in the Supreme Court. While the court said that the process of denotification cannot be contested because it followed the letter of the law, it appointed a committee to evaluate the ecological impact of mining in the area and restricted any industrial activities including mining within 10 km area from the boundaries of old Sanctuary without the court's permission while the study was in progress. The case is still going on in the court.

In July 2005, Gujarat Environment Education and Research (GEER) foundation submitted the report of a study assigned to it by the Government of Gujarat as a follow up to the Supreme Court's order. According to this report, a buffer zone of 2.5 km around the Sanctuary was to be notified. This buffer zone is divided into two sub- zones: sub-zone A, where mining is not permitted; and sub-zone B, where mining can be permitted subject to control measures.

[Source: "Striking a balance", *Frontline* April 15-18, 2000]

3.4 ESA around Vansda National Park

i. Area and Geographical Spread:

Vansda National Park is a contiguous forest tract with the Dang forest towards its eastern side, the forests of Valsad district towards its southern border and forest areas of Unia range of Vyara division. 23.99 km² area of the park represents the northern and western limits of the Western Ghats. The proposed ESA is 76.59 km² comprising of thirteen villages of Ahwa taluka of Dang district and Vansda taluka of Navsari district.

ii. Ecological Significance:

Moist deciduous forest predominantly represented by the teak trees and their associates is the prime characteristic of Vansda National Park. The area has a hilly terrain, the hills being the extension of the Sahyadri Range. The park serves as the catchment for the river Ambika. The area harboured a population of tigers in the past and therefore is a potential area where tigers can be reintroduced. Spotted deer is found only in Vansda National Park and not the entire surrounding forest area. The area supports 443 species of flowering plants and the moist nature of the area has facilitated the occurrence of a variety of shrubs and herbs of medicinal value and many orchids, lichens and ferns. Vansda National Park is particularly rich in avian fauna with 155 species.

iii. Key Threats:

Vansda National Park, as an extension of the Western Ghats, harbours a lot of endemic floral and faunal species that need to be preserved. The park also serves as the catchment area for Ambika River which underlines its eco-sensitivity. There are concerns regarding developmental activities like construction of roads, urbanization and increase in peripheral industries around the park. State highway (2 km road) and railway (5 km railway track) pass through the park and pose danger to the wildlife of the region. [Source: "Northern Part of Western Ghats needs urgent protection", Aug 8, 2010, Times of India Pune]

iv. Draft ESA Notification:

The draft ESA notification to declare the area within Vansda National Park was issued by the MoEF on July 8, 2011. As compared to the proposal sent by the State Government, no peripheral area has been suggested to be notified as ESA in the draft notification by the MoEF. Besides retaining all the provisions suggested by the State Government, the MoEF has added the points like preparation of a zonal master plan, constitution of a monitoring committee, regulation of extraction of ground water, noise pollution and industrial effluents etc.

3.5 ESA around Marine National Park and Marine Sanctuary

i. Area and Geographical Spread:

Marine National Park is situated on the southern shore of the Gulf of Kachchh in the Jamnagar District of Gujarat state. An area of 457.92 km² from Okha to Jodiya forms the Marine Sanctuary. In 1982, a core area of 162.89 km² was declared Marine National Park under the provisions of the Wild Life (Protection) Act, 1972 of India. An area of 326.26 km² around the National Park and Sanctuary has been proposed to be notified as an ESA in the draft notification by the MoEF.

ii. Ecological Significance:

It is the first National Marine Park of India. There are 42 islands on the Jamnagar coast in the Marine National Park, most of them surrounded by reefs and mangrove vegetation. A range of marine algae including a few commercial species like *Agarophytes* and *Alginophytes* inhabit the area. The whole coastline of the gulf is fringed with luxuriant growth of *Avicennia*, *Rhizophora* and *Ceriops spp.* of man-

groves. *Salvadora*, *Zizhyus* and *Prosopis spp.* are some of the terrestrial species found in the area. The Sanctuary has more than 70 sponge species, 37 species of hard and 24 species of soft corals, 150-200 species of fishes, 27 species of prawns, 30 species of crabs, 200 species of molluscs, 3 species of sea turtles, 3 species of sea snakes, three species of sea mammals, 94 species of aquatic birds and 78 species of terrestrial birds.

iii. Key Threats:

Marine National Park is a fragile ecosystem. In recent years, the biodiversity of Marine Park has been under threat on several scores like extraction of corals and sands by cement industries, increased turbidity of water, oil refineries, chemical industries and mechanised fishing boats pressure due to the nearby ports, etc.

iv. Draft ESA Notification:

The draft ESA notification to declare the area surrounding Marine National Park and Sanctuary as an ESA was issued by the MoEF on February 29, 2012. The initial proposal sent by the State Government for notifying ESAs around Protected Areas did not mention this PA. It is not known whether a proposal was sent by the State Government/any organization at a later stage or if this draft notification came about because of the initiative of the Central Government.

4. Monitoring Mechanism for ESAs in the state:

	Purna	Girnar	Narayan Sarovar	Vansda
Regulations on:				
Tourism		Construction of farm houses, hotels, resorts strictly controlled in certain surrounding villages		
Polluting Industries	Not allowed	Not allowed	Not allowed	Not allowed
Mining	Not allowed	Not allowed	Not allowed; Separate control measures for mining operations	No fresh mining leases; existing mining leases be phased out
Quarrying	Quarrying of sands for local use in river beds in consultation with forest department			Quarrying of sands for local use in river beds in consultation with forest department
Non-polluting industries	Allowed with a 50 m wide green belt	Allowed with a 50 m wide green belt	Allowed beyond 500 m periphery; with a green belt of minimum 100 m width towards the Sanctuary side and elsewhere 50 m	
Zoning	No	No	*2 sub- zones within a buffer zone of 2.5 km	No
Land use/ landscape	No major change permitted	No major change permitted		No major change permitted

	Purna	Girnar	Narayan Sarovar	Vansda
Any other	Collection of sand & stone from river bed for local use is permitted at the sites approved under FCA by the MoEF		No industrial development within 500 m; apply mitigation measures proposed by GEER foundation; Areas where the ESZ is less than 2.5 km, the permitted industry must have: Monitoring strip- 50 m Green belt- 200 m No activity zone- 250 m	Collection of sand & stone from river bed for local use is permitted at the sites approved under FCA by the MoEF

{*Sub- Zone A (500 m): No Mining Zone with Monitoring Sub-Zone (50 m) & Green Belt Sub Zone (200 m); Sub- Zone B (beyond 500 m): Mining permitted subject to control measures}

Comparison between the proposals and draft notifications

	Proposal	Draft ESA Notification
Monitoring Agency/ Committee (MC)	No Provision	MC to monitor the compliance of the provisions of the notification to be constituted by the Central Government.
Members of the committee	No Provision	<10 Collector (Chairman) Deputy Conservator of Forests of the district (Member Secretary) MoEF representative An NGO representative (to be nominated by the GoI) Regional Officer, Gujarat State Pollution Control Board Senior Town Planner of the area
Regulations on:		
Tourism	No Provision	As per Tourism Master Plan In Marine PA- activities like aircraft, hot air balloon, etc. not allowed
Polluting Industries	Not allowed	Not allowed
Mining	In Girnar- Not allowed	In Girnar- Not allowed
	In Purna- Not allowed	In Purna- No fresh mining leases; existing mining leases be phased out
	In Vansda- No fresh mining leases; existing mining leases be phased out	In Vansda- No fresh mining leases; existing mining leases be phased out
	In Narayan Sarovar- Not allowed in Sub Zone A; Separate control measures for mining operations in Sub Zone B	In Narayan Sarovar- Not allowed in Sub Zone A; Separate control measures for mining operations in Sub Zone B
	NA	In Marine PA- Not allowed

	Proposal	Draft ESA Notification
Construction activities	No Provision	No Provision
Felling of Trees	No Provision	As per the management plan approved by a competent authority
Extraction of Ground Water	No Provision	Allowed only for domestic & agricultural purposes NA In Marine PA- Regulated, as per approved Master Plan
Noise Pollution	No Provision	State Environment Department or Forest Department to draw up guidelines & regulations
Discharge of Effluents	No Provision	No untreated or industrial effluents to be discharged into the water bodies NA In Marine PA- Prohibited
Solid Wastes	No Provision	As per the Municipal Solid Waste (Management & Handling) Rules 2000 including segregation of waste. NA In Marine PA- Prohibited
Non-polluting industries	Allowed with green belts	As per the proposal
Zoning	Only for Narayan Sarovar	Only for Narayan Sarovar
Land use/ landscape	No Provision	Change permitted to meet the residential requirements of existing local population and its natural growth.
Zonal master plan (ZMP)	No Provision	ZMP to be prepared by the State Government with demarcation of forest areas, villages, agricultural land, etc. Marine National Park: Management Plan to be prepared by the State Government within a period of 1 year with demarcation of forest areas, villages, agricultural land, etc.

References:

- Government of Gujarat. February 2009. Proposals to the MoEF for notification of ESAs around PAs. Gujarat
- MoEF. July 2011. Draft ESA Notifications for PAs of Gujarat. New Delhi.
- MoEF. February 2012. Draft ESA Notification for Marine National Park & Sanctuary, Gujarat, New Delhi
- Sumana Narayanan, Down To Earth, July15, 2010 "Ropeway threat to Girnar's vultures"
- Times of India, January 15, 2011 "Ramesh Cancels visit to Girnar Ropeway site"
- Manas Dasgupta, The Hindu, February 8, 2011 "MoEF nod for Girnar Ropeway project"
- <http://gujenvfor.gswan.gov.in> (Forest & Environment Department, Government of Gujarat)
- www.wikipedia.org

IC. Ecologically Sensitive Areas (ESAs) around Protected Areas in Goa

1. Number of Protected Areas in the state and area covered under it:

	National Parks	Sanctuaries
Number:	1	6
Area:	107 km ²	648.31 km ²

Total Area under Protected Areas: 755.31 km²

Area of the state: 3702 km²

(Based on the information from the official website of the Forest Department, Government of Goa as on 02.02.11)

2. List of Protected Areas around which ESAs have been proposed:

(Proposal submitted by Mr. M. V. Karkhanis, Assistant Conservator of Forests, Panaji, Goa to Deputy Inspector General, MoEF on November 5, 2009)

S.No.	Protected Area	Proposed ESA
1	Cotigao Wildlife Sanctuary	0-6 km from PA boundary
2	Bondla Wildlife Sanctuary	600 m-1 km from PA boundary
3	Dr. Salim Ali Bird Sanctuary	Up to 750 m from PA boundary

3. Details of the ESAs proposed:

3.1 ESA around Cotigao Wildlife Sanctuary

i. Area and Geographical Spread:

Cotigao Sanctuary is located in the Canacona taluka of Goa. This is the southernmost Sanctuary in Goa touching Karnataka. The area is around 86 km². The width of the ESA proposed around Cotigao Wildlife Sanctuary can vary between 0 and 6 km beyond its boundary.

ii. Ecological Significance:

The Sanctuary represents the ecosystem of the Western Ghats region and supports three forest types: moist deciduous (most prevalent), semi-evergreen and evergreen forests. The endangered tree species found here are: Terminalia, Tectona and Dalbergia. The Sanctuary is home to around 200 species of birds including the Indian pied hornbill, great Indian woodpecker and golden-backed woodpecker. A few of the rare and endangered species of fauna in the Sanctuary are: slender loris, flying squirrel, giant squirrel, mouse deer, gaur and leopard. The area serves as a catchment for the rivers Talpona and Galgibaga, adding to its eco-sensitivity. There are tribal (Velip) hamlets as well in and around the Sanctuary.

iii. Key Threats:

Mining activities are a major threat to the area. Increasing tourism and associated developmental activities also pose a danger to the Sanctuary.

3.2 Bondla Wildlife Sanctuary

i. Area and Geographical Spread:

Bondla Wildlife Sanctuary is located in the Ponda taluka of Goa and covers an area of 8 km². It is on the westerly aspect of the Western Ghats, having hillocks enclosing a shallow valley. The proposed ESA would be at a distance varying from 600 m to 1 km surrounding the Sanctuary.

ii. Ecological Significance:

Bondla Wildlife Sanctuary is covered with moist deciduous forest with small patches of evergreens and canes. *Terminalia crenulata* and rosewood are the common species along with the rare *Gnetum ula* and *Entada scandens* found here. Over a 100 species of birds are found in the area. Some of the wild animals, supported by the Sanctuary are gaur, leopard, sambar, jackal, giant squirrel, fly catcher; ruby throated yellow bulbul, hornbills, drongos, grey jungle fowl, etc.

iii. Key Threats:

Though Bondla Wildlife Sanctuary does not fall in the mining belt of Goa, mining operations and construction of new mining infrastructure often cause alteration of environment at a large scale and affect the neighbouring areas as well.

3.3 Dr. Salim Ali Bird Sanctuary

i. Area and Geographical Spread:

Dr. Salim Ali Bird Sanctuary is located on the northern bank of river Mandovi in Tiswadi taluka. The Sanctuary covers an area of 1.8 km². The proposed ESA would be up to 750 m distance from the PA boundary.

ii. Ecological significance:

Dr. Salim Ali Bird Sanctuary is covered with saline swamps and mangrove forests and possesses 14 species of the mangroves. The tidal variation affects the distribution of estuarine life in the area by having an effect on the water levels inside the mangrove vegetation. The Sanctuary provides habitat to plankton, shrimps, prawns and small fish. The area is also a roosting site for raptors and other migratory birds that flock here in the winter season.

iii. Key Threats:

The major threat to the entire state of Goa is mining and associated activities. Dr. Salim Ali Bird Sanctuary becomes even more ecologically sensitive because it provides roosting sites for the migratory birds.

Though traditionally Goa is an agriculture-based economy, after the Second World War, mining started becoming a major contributor to the state's GDP. The rich deposits of iron, manganese and bauxite ores were being extensively exploited. Since then, mining has been going on in the state almost undisturbed and that too predominated by primitive and environmentally destructive open-cast or strip mining. None of the legislations: Water Pollution Control Act (1974), Air Pollution Control Act (1981), Forest Conservation Act (1980) or Environment (Protection) Act (1986) was implemented to save the forests of Goa. Even the Environment Impact Assessment (EIA) notification (1996) was not implemented with regard to the mines operating in the state. It was only after the Supreme Court's directive in 2004 in response to a petition filed by Goa Foundation that the MoEF ensured that mining operations be carried out in Goa only after the execution of EIA. However, the environment clearances under EIA notification have been granted to these mining activities without conducting any site visits. Therefore, the mines that should have been banned have been legitimized and are still operational.

Mining leases were granted in the early 50s in those areas of the state which got notified as Mhadei and Netravali Wildlife Sanctuaries in the year 2000. But even the Protected Area status did not stop mining in these areas. In November 2003, the Central Empowered Committee (CEC) directed the State Government to halt all mining activities in both the Sanctuaries. This improved the situation for these two Sanctuaries, but mining continues unabated in rest of the state. This has irked the local population as well and there have been a lot of demonstrations and protests against the operating mines in the last five years.

[Source: Goa: Sweet Land of Mine, Alvarez, C.; Saha, R. January 2008; "Vigorous mining: Threat to the state's economy", Times of India, Nov 22, 2009; "Over half of Goa's mining leases near water bodies: Govt", Zee News, Aug 2, 2010]

4. Monitoring Mechanism for ESAs in the state:

Activity	Provision
Monitoring Agency/ Committee	No Provision
Regulations on:	
Tourism	No Provision
Quarrying of stones	Not permitted
Mining	Not permitted between sunset & sunrise
Stone crushing	No new basalt stone crushing industries
Industrial development	Not permitted
Blasting & use of explosives	Not permitted
Construction activities	No high rising buildings
Garbage dumping	Not permitted
Zoning	No Provision
Land use/ landscape	No Provision
Any other	No wood based furniture making units

Around 500 m of those PAs where no ESA is proposed, the State Government may impose the regulations recommended for the ESAs around PAs.

References:

- Government of Goa. May 2008. Proposals to the MoEF for notification of ESAs around PAs. Goa
- Alvarez, C., Saha, R. January 2008. "Goa: Sweet Land of Mine"
- Times of India, November 22, 2009. "Vigorous mining: Threat to the state's economy"
- Zee News, August 2, 2010. "Over half of Goa's mining leases near water bodies: Govt."
- www.goaforest.com (Forest Department, Government of Goa)
- www.wikipedia.org

ID. Ecologically Sensitive Areas (ESAs) around Protected Areas in Assam

1. Number of Protected Areas in the state and area covered under it.

	National Parks	Sanctuaries
Number:	5	17
Area:	1978 km ²	1646 km ²

Total Area under Protected Areas: 3624 km²

Area of the state: 78,550 km²

(Based on the information from the official website of the Department of Environment & Forests, Assam and Wikipedia; as on 08.02.11)

2. List of Protected Areas around which ESAs have been proposed/notified:

(Proposal submitted by Deputy Secretary to the Govt. of Assam, Environment & Forests Department, Dispur, Assam to Deputy Inspector General of Forests, MoEF on September 7, 2009)

S.No.	Protected Area	Proposed ESA
1	Kaziranga National Park	228.74 km ²
2	Bordoibam Beelmukh Proposed Bird Sanctuary	8.54 km ²
3	Panidihing Bird Sanctuary	314.22 km ²
Total		551.50 km ²

3. Details of the ESAs proposed:

3.1 ESA around Kaziranga National Park

i. Area and Geographical Spread:

Kaziranga National Park is spread over Nagaon and Golaghat districts in Assam, with the Brahmaputra river flowing on its right and Karbi Anglong hills running on its south. The park area along with its additions is 858.98 km². The proposed ESA around it would include Bagsar Reserve Forest, Kamakhya Reserve Forest and some parts of civil areas of the two districts that lie between the National Park and Karbi Anglong and cover an area of about 228.74 km².

ii. Ecological Significance:

Kaziranga National Park hosts 2/3rd of the world's population of the great one-horned rhinoceros and has a high density of tigers inhabiting it. Other significant species include Asiatic elephant, wild buffalo, Gangetic river dolphin, hoolock gibbon, Bengal florican, etc. Kaziranga and the surrounding areas form a large complex of rivers, lakes and marshes in the floodplain of the Brahmaputra River. It is a vast expanse of tall elephant grass, marshland and dense tropical moist broadleaf forests. In fact, it is the largest savannah grassland left in north eastern India. More than 550 plant species inhabit the park and there might be many on the hill slopes and higher grounds which have gone unidentified. The area has been recognized as an Important Bird Area and is one of the 'Biodiversity Hotspots' of the world. It supports 17 species of endangered mammals, 23 species of globally important birds and 10 species of endangered reptiles.

iii. Key Threats:

The increase in human population has caused considerable change in the land use pattern around the park. Many stone quarries, stone crushing industries, small hotels and roadside eateries have come up in the vicinity of the park. The declaration of an ESA around the park will provide a buffer zone for

the protection of the area against these pressures. Also during heavy rains, the animals migrate from the water-logged areas to elevated regions outside the park boundaries, which necessitates the provision of an additional layer of protection even further. Poaching of the rhinoceros for its horn, which was a major threat till 2005, is now on a decline, though it still poses a danger. Water pollution due to pesticide runoff from tea gardens and from Numaligarh Petroleum Refinery is also affecting the ecology of the region.

3.2 ESA around Bordoibam Beelmukh Proposed Bird Sanctuary

i. Area and Geographical Spread:

Bordoibam Beelmukh proposed bird Sanctuary comprises an area of 11.24 km² and falls in two districts: Dhemaji and Lakhimpur of Assam. The surrounding area of 8.54 km² is proposed to be notified as an ESA.

ii. Ecological Significance:

Bordoibam Beelmukh Bird Sanctuary was once a marshy area with huge water body formed out of Subansiri river. Previous records of the area show the presence of different types of migratory and resident birds. However, due to excessive anthropogenic pressure, the number of migratory birds has come down considerably. Presently, 25% of the area is covered by water body which goes up to 50% in winter months and the rest is a grassy land. 24 species of birds including kingfishers, spotted dove, purple moorhen, black headed gull and large whistling teal can be spotted here.

iii. Key Threats:

As mentioned above, due to human pressures, the migratory birds have reduced in number in the region. Encroachment of the grasslands is a common problem in the area.

3.3 ESA around Panidihing Bird Sanctuary

i. Area and Geographical Spread:

Panidihing Bird Sanctuary is located on the southern bank of river Brahmaputra in the Sivasagar district of Assam. The Sanctuary is spread across an area of 33.93 km². The proposed ESA around the Sanctuary would be 314.22 km² including Panidihing Reserve Forest.

ii. Ecological Significance:

Panidihing is a flood plain between the Disang and Brahmaputra rivers. It plays a vital role in minimizing the effects of flood and erosion by the 2 rivers. The Sanctuary is wet, alluvial grassland in the Brahmaputra valley and being a wetland between the two rivers, it attracts a lot of migratory birds. It provides breeding ground to waterfowl and fish. 165 species of birds have been identified from the region including bar-headed goose, grey-legged goose, spot-billed duck, mallard, adjutant stork, white-necked stork, etc. The Sanctuary and its surrounds also provide shelter and food for the seasonal visits of a herd of elephants from Arunachal Pradesh.

iii. Key Threats:

The biotic pressure on the area due to the human habitation around the Sanctuary is tremendous. Oil exploration activities going on in several locations adjacent to the Sanctuary are affecting it.

4. Proposed Monitoring Mechanism for ESAs in the state:

Monitoring Committee (MC): is constituted by the Central Government to discharge all functions to monitor the compliance of the provisions (no involvement in the EIA process).

ESA:	Kaziranga	Bordoibam	Panidihing
Number of Members	<15	<10	<15
Chairman	Minister in-charge of the Department of Environment & Forests, Assam	Eminent person with relevant experience	Minister in-charge of the Department of Environment & Forests, Assam
Convener	Director, Kaziranga National Park/ Field Director, Kaziranga TR	Divisional Forest Officer, Dhemaji Division	Conservator of Forests, Eastern Assam Circle
Members	Representatives from: MoEF, SPCB, Department of Rural Development, Subject Expert, an NGO	Representatives from: MoEF, CPCB, Department of Rural Development, Subject Expert, an NGO (at least 2)	Representatives from: MoEF, CPCB, Department of Rural Development, Subject Expert, an NGO (at least 2)
Regulations on:			
Developmental activities (commercialization & tourism related)	With prior approval of MC		
Tourism	As per the tourism plan with strict restrictions for new tourism activities.		
Industries	Only non-polluting, non-hazardous, small scale service industries permitted		
Land use/landscape	<p>After the demarcating of the areas as forests, agricultural areas, tribal areas, etc.; no change in the land use from green to non-green and tribal to non- tribal will be permitted.</p> <p>No reduction in tribal area, forests and agricultural areas</p> <p>Unused land will be converted into forests.</p>		
Quarrying/Mining	Not permitted unless MC permits		
Ground Water Extraction	<p>Permitted for agricultural and domestic purposes.</p> <p>Commercial extraction will require approval from MC</p>		
Zonal Master Plan, etc.	<p>A zonal master plan will be prepared by the Assam State Government with provisions for habitat restoration, corridor management, watershed management, ground water management, needs of local community, etc.</p> <p>The areas with human population of 5000 & above will have an Area Development Plan (Kaziranga).</p> <p>The area within and outside the municipal area will have separate sub-zonal master plans (Bordoibam)</p> <p>The revenue areas within Sivasagar district will have separate sub-zonal master plans (Panidihing)</p> <p>The ZMP will have stipulations regulating noise pollution and traffic.</p>		

Others	<p>All Government land will be set aside for creating conservation reserve or community forests.</p> <p>Tree felling will not be permitted.</p> <p>No use of plastic bags will be allowed.</p> <p>No discharge of untreated effluents.</p> <p>Solid waste management will be carried out.</p> <p>No further extension to the tea gardens on government & agricultural lands.</p> <p>Fishery Mahals will be regulated by the MC to control illegal fishing (Bordoibam, Panidihing).</p>
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Zoning of the ESZ

Forest Zone: any land within Reserve Forest, Protected Area or forests. No developmental activities will be allowed here.

Green Zone I: areas already under human habitation- villages and townships. Residential units, agriculture, horticulture, floriculture, poultry farming, schools, hospitals, roads, etc. will be permitted.

Green Zone II: area under regular patta and used for mainly agriculture purposes. Residential units, agriculture, horticulture, floriculture, poultry farming, schools, hospitals, etc. will be permitted.

Urbanisable Zone: area on the east, south and west of Bokakhat and Jakhlabandha township and extends 2.5 km from the municipality boundary. Residential units, agriculture, horticulture, floriculture, poultry farming, schools, hospitals, etc. will be permitted.

References:

- Government of Assam. September 2009. Proposals to the MoEF for notification of ESAs around PAs. Assam
- www.assamforest.in (Department of Environment & Forests, Government of Assam)
- www.wikipedia.org

IE. Ecologically Sensitive Areas (ESAs) around Protected Areas in Meghalaya

1. Number of Protected Areas in the state and area covered under it.

	National Parks	Sanctuaries
Number:	2	3
Area:	267 km ²	80 km ²

Total Area under Protected Areas: 347 km²

Area of the state: 22,720 km²

(Based on the information from the official website of Samrakshan as on 20.01.11)

2. List of Protected Areas around which ESAs have been proposed/notified:

(Proposal Submitted by Chief Wildlife Warden, Meghalaya to the Wildlife Division, MoEF in March, 2010)

S.No.	Protected Area	Proposed ESA
1	Balpakram-Baghmara Landscape	81 km ²
2	Nokrek Biosphere Reserve	773 km ²
Total		854 km ²

3. Details of the ESAs proposed:

3.1 Balpakram-Baghmara Landscape ESA

i. Area and Geographical Spread:

The Balpakram-Baghmara landscape falls in the South Garo Hills district of Meghalaya. It includes three Protected Areas, namely, Balpakram National Park (220 km²), Siju Wildlife Sanctuary (6 km²) and Baghmara Pitcher Plant Sanctuary (45 km²). The ESA also comprises of the Baghmara Reserve Forest and several community conserved areas that come under *Aking*¹⁷. The total area of the National Parks and Sanctuaries covered under 352 km² of the ESA is 271 km². Therefore, excluding these Protected Areas, the area of the proposed ESA is 81 km².

ii. Ecological Significance:

The landscape consists of primary and secondary forest growth of various types like: tropical moist evergreen, tropical semi-evergreen, tropical moist deciduous, shola grasslands and tree savannas, riverine and bamboo forests. The region is blessed with high rainfall during summer, high temperature and humidity for most part of the year. All these ensure a profuse range of diverse plants. The region is one of the biodiversity hotspots of the country. The vegetation is mixed forest and no single species dominates here. The area has important habitats like waterfalls, riparian forests and cliff overhangs which harbour many rare plants like orchids including lady's slipper, pitcher plant and drosera. The region forms an excellent habitat for elephants, sambar, barking deer, hoolock gibbon (the only ape found in India). In all, seven species of primates are found here. Several rare and endangered birds and butterflies are also found here. The landscape has many unique biologically sensitive areas which are the breeding sites for many species. Chimitap, Alok pang, Halwa Atong, Gongrot, Rongsu Agal, Panda and Dambuk Atong are a few such areas, which support a variety of animal species like macaques, bats, badgers, porcupines, slow loris, otters and many species of hornbill. The landscape has several natural salt licks¹⁸ that attract the wild animals. Many of the remote parts of the area have their natural resource base almost intact due to inaccessibility.

¹⁷Aking is a unit of land belonging to a particular clan

¹⁸A salt lick is a salt deposit that animals regularly lick. (Source: Wikipedia)

iii. Key Threats:

Balpakram-Baghmara landscape has a few major micro-climatic zones which form special habitats for endemic species like *Nepenthes khasiana* (pitcher plant), *Paphiopedilum venustum* (lady's slipper), etc. It serves as a catchment area to many rivers and streams, has corridors for wildlife and has a succession of hills and valleys with steep slopes. Many sacred groves are interspersed in this region, which further adds to its eco-sensitivity. The major threat to the area is illegal coal mining, stone quarrying and thereby the fragmentation of key elephant habitats, loss of forests and depletion of ground water. The area holds potential for limestone mining as well particularly Siju Aking which may also take place in future. Ever expanding human habitations and infrastructure development for the same are other perils that make the area highly sensitive.

3.2 Nokrek Biosphere Reserve ESA

i. Area and Geographical Spread:

Nokrek National Park is located approximately 12 km from Tura Peak in West Garo Hills district of Meghalaya. The proposed ESA is contiguous with Nokrek Biosphere Reserve which includes the National Park (47.48 km²), surrounding buffer zone (227.92 km²) and a transition zone (544.60 km²) and compound to an area of 820 km² approximately. The ESA straddles through three districts of Meghalaya: East Garo Hills, West Garo Hills and South Garo Hills.

ii. Ecological Significance:

The entire biosphere reserve is hilly with Nokrek being the highest peak. Due to the inaccessibility of a large part of the area, many virgin forests still exist here. The region has a tropical climate of high rainfall, high humidity and warm temperature which promotes the growth of tropical vegetation with a diversity of species, particularly the flowering plants. The vegetation consists of evergreen, semi-evergreen, deciduous species, bamboo patches and grasslands including riverine forests. The special feature of the area is the abundant natural occurrence of *Citrus indica Tanaka* which is supposed to be the mother germplasm of the citrus species. The species is endemic to the area. Other citrus species are also found in plenty in the region. Thus the area provides a gene pool for hybridization of citrus. The reserve also supports a wide variety of the animals, though their numbers are less and therefore almost all of them are rare, endangered or threatened species. Seven species of primates are also found here.

iii. Key Threats:

Nokrek Biosphere reserve is abode to many endangered and endemic species including the wide diversity of citrus species. It provides catchment to the major river system which feeds the other low-lying areas. Many rivers like Simsang, Ganol, Dareng, Nitai & Bugai originate from the proposed ESA. The area is an identified elephant corridor in Garo Hills and links habitats like Baghmara to Balpakram, Siju to Rewak, Nokrek to Rangira, etc. The area also has a number of tree groves that are considered sacred by the Garo people. All these factors increase the area's ecological sensitivity to anthropogenic pressures. Extensive practice of Jhum cultivation by the locals which has increased manifold due to the population increase is a major threat to the area. Besides, coal and limestone mining, which is rampant in the state as a whole, poses a danger to the biodiversity of the reserve.

In South Garo Hills, bordering Balpakram National Park, which also covers the Siju Bird Sanctuary, illegal mining is rampant. Most of the land in Meghalaya is under the control of autonomous district councils and has private owners. Earlier people used to extract coal for local use but in the past decade it has become much larger in scale. In November 2009, Garo Students' Union filed a petition in the Supreme Court against illegal mining. In response to this, in November 2009, the Supreme Court directed the Central Empowered Committee (CEC) to look into the matter. The CEC asked the Government of Meghalaya to put an end to mining activities around the park in March 2010.

In April 2010, the State Government served a notice to the illegal miners to cease mining around the National Park. But in an inspection in December 2010, Garo Hills Anti-Mining and Conservation Forum (GHAMCF) found out that the mining had restarted. On January 10, 2011, GHAMCF filed a complaint with the deputy commissioner of South Garo Hills in this regard.

Earlier, in April 2010, the Supreme Court had asked MoEF to consider a fresh environment clearance for the mining of limestone by Lafarge Uranium Mining Pvt. Ltd. responding to the MoEF's plea to lift the ban on mining operations by Lafarge in Meghalaya. The ban was imposed in February 2010, by the court, responding to a lawsuit filed by Shella Action Committee. Lafarge had been mining limestone in Meghalaya for its cement plants in Bangladesh. In July 2011, Supreme Court, based on revised environment clearance granted by the MoEF, approved the project while laying down certain guidelines to appraise projects.

It is to be noted that in the case of local people mining the area, although the State Government is against it, the Central Government has stood by the Lafarge Mining Project from the very beginning.

[Sources: "Illegal coal mining in Meghalaya has to stop: SC panel", April 3, 2010, Livemint; "Recurring illegal mining in Balpakram Park", January 12, 2011, Meghalaya Times; "SC seeks ministry's response in Lafarge Case", April 12, 2010, Livemint]

4. Monitoring Mechanism for ESAs in the state:

Activity	Provision
Management of ESA	At commencement stage: By Garo Hills Autonomous District Council, under the supervision of Department of Forests, Meghalaya and MoEF. Later: By Village Forest Committees (VFCs) & Joint Forest Management Committees (JFMCs) involving Nokma ¹⁹ , under the supervision of Department of Forests, Meghalaya and MoEF.
Monitoring Agency/ Committee	To look after the proper implementation of ESA provisions a monitoring committee will be constituted. It will meet every 6 months or as and when needed.
Members of the committee	1. Conservator of Forests (Wildlife), Garo Hills Circle, Tura (Chairman) 2. Divisional Forest Officer, Balpakram National Park Division, Baghmara (<i>for Balpakram-Baghmara</i>); East & West Garo Hills, (Wildlife) (<i>for Nokrek</i>) (Member-Secretary) 3. District heads of various departments (industries, mining, soil and water conservation, etc.) 4. Representatives of local NGOs 5. Representatives of district autonomous council
Regulations on:	
Developmental Activities	The developmental activities will be divided under 'to be prohibited', 'regulated' and 'permitted' categories.

¹⁹Chief of individual Aking

Activity	Provision
Mining	Mining will be regulated by the regional office of MoEF, Shillong with active assistance from the forest department & forest branch of the Garo Hills Autonomous District Council.
Zoning	No Provision
Land use/ landscape	No Provision
Any other	Education Centres to prepare VFCs for protection of forests and Forest Protection Force through VFCs will be formed. Local NGOs, schools, etc. to be motivated (through education and rewards) to take proactive action against any detrimental activity.

References:

- Government of Meghalaya. March 2010. Proposals to the MoEF for notification of ESAs around PAs. Meghalaya
- Livemint, April 3, 2010. "Illegal coal mining in Meghalaya has to stop: SC panel"
- Meghalaya Times, January 12, 2011. "Recurring illegal mining in Balpakram Park"
- Livemint, April 12, 2010. "SC seeks ministry's response in Lafarge Case"
- www.samrakshan.org
- www.wikipedia.org

IF Ecologically Sensitive Areas (ESAs) around Protected Areas in Jharkhand

1. Number of Protected Areas in the state and area covered under it.

	National Parks	Sanctuaries
Number:	2	10
Area:	1026 km ²	1174.58 km ²

Total Area under Protected Areas: 2200.58 km²

Area of the state: 79,714 km²

(Based on the information from the official website of Department of Forest & Environment, Jharkhand as on 10.08.11)

2. List of Protected Areas around which ESAs have been proposed/notified:

(Proposal Submitted by Department of Forests & Environment, Jharkhand to the Wildlife Division, MoEF in November, 2010)

S.No.	Protected Area	Proposed ESA
1	Dalma Wildlife Sanctuary	Up to 5 km around the Sanctuary

3. Details of the ESAs proposed:

Ecologically sensitive Area around Dalma Wildlife Sanctuary

i. Location

Dalma Wildlife Sanctuary lies in the catchment area of Subarnarekha river in the state of Jharkhand in India. The Sanctuary is located in Deccan Plateau province of Chhotanagpur Plateau (6D) biogeographic zone.

ii. Importance of the Area

The area has an undulating terrain, with high hillocks, plateaus, deep valleys and open fields between hillocks, providing diverse habitat for flora and fauna. The forests here are mostly dry mixed deciduous with some dry peninsular sal and the dominant tree species is *terminalia*, jamun, dhaura, kendu, karam etc. Besides Subarnarekha, it forms catchment of Baitarni and Brahmani river systems. Dalma is a rainfall catchment area, which helps recharge aquifers and protects rivers and streams against siltation by minimising soil erosion. The Sanctuary has a network of 159 perennial and seasonal streams. Due to this round the year availability of water, the Sanctuary is favoured by elephants. In fact this Sanctuary is the lone abode of elephants in the state. Leopard, barking deer, mouse deer, sloth bear, monkey and giant squirrel are also abundant here. Jamshedpur Township and Chandil sub-division town fall within 5 km from the boundary of Dalma Wildlife Sanctuary. Wild animals, particularly elephants, move in and around the Sanctuary and sometimes migrate up to 10-20 km in the adjoining forests of Jharkhand and West Bengal.

iii. Threats to the area:

A major threat to this area emanates from the increasing population, its proximity to human civilization and unregulated activities like mining, quarrying and industries on the peripheries of the Sanctuary. Also, NH-33 Highway that runs along the southern end of the Sanctuary has been proposed to be a 4-laned highway. The immediate and biggest threat to the area is from the Subarnarekha Multipurpose Project, for which a canal has been partially constructed along the foot hills of Dalma. Part of the Sanctuary (145.26 ha) has already been diverted for the project and several smaller canals emanating

from the main canal are on the way. The area being an elephant corridor merits as being an ecologically sensitive area and is under grave danger due to the project.

iv. State's Proposal & Notification

A proposal in this regard was sent by the forest department of the state of Jharkhand in December 2010. The draft notification declaring an area of up to 5 km from the boundary of Dalma Wildlife Sanctuary in the state of Jharkhand as ecologically sensitive was gazetted by the MoEF on May 2, 2011, followed by the final notification on March 29, 2012. The Dalma ESA would cover 522.98 km² including 193.22 km² area of the Wildlife Sanctuary. This effectively means that besides the Protected Area, an additional area of 329.76 km² outside the Protected Area has been proposed to be notified as ESA.

The notification, as recommended in the guidelines for notifying ESAs around PAs, is on the same lines as the Sultanpur ESA notification. It reproduces most of the provisions as they are suggested by the State Government in its proposal. The salient features of the notification along with its comparison with the proposal are listed below (*italics: present only in the proposal; bold: only in the draft; bold and italics: present only in the final notification; bold in parenthesis: present in the proposal and the draft; bold, italics and paranthesis: present in draft and final notification; regular: present in all*)

- ◆ A zonal master plan was to be prepared by the State Government **within 1 year** (2 Years) of the date of the publication of the notification. It was to provide for restoration of denuded areas, conservation of existing water bodies, management of catchment areas, watershed management, groundwater management, soil and moisture conservation, needs of the local community and other aspects of the ecology and environment that need attention.
- ◆ No change of land use from green to non-green purposes, though conversion of agricultural land for residential purposes may be permitted.
- ◆ No consequential reduction in forest area, green area and agricultural area and the unused or unproductive agricultural areas could be converted into forest areas.
- ◆ The zonal master plan shall be a reference document for the monitoring committee.
- ◆ Prohibition on the setting up of new wood based industry, polluting industry.
- ◆ Prohibition on the construction of any building up to a distance of 300 m from the boundary of the Wildlife Sanctuary.
- ◆ **(Mining and crushing not to be allowed)**. Mining and crushing will not be allowed up to 1 km from the boundary of the Sanctuary.
- ◆ Existing industry, mining company etc. will continue to function
- ◆ No felling of trees on the forest land without prior permission of the State Government and government land, revenue land and private land without prior approval from the respective District Collector.
- ◆ Tourism activities to be carried out as per the tourism plan with emphasis on eco-tourism, eco-education and eco-development.
- ◆ Natural Heritage Sites to be identified and construction activities in and around them to be regulated by the State Government by formulating necessary guidelines.
- ◆ Sites of cultural, architectural and aesthetic importance to be identified and construction activities in and around them to be regulated by the State Government by formulating necessary guidelines.
- ◆ No ground water extraction to be permitted except for bona fide agricultural and domestic consumption to the occupier of the plot.

- ◆ No ground water extraction for commercial and industrial purposes, its consumption by residential complexes and sale of ground water to be allowed without the permission of the state ground water board.
- ◆ No sale of ground water to take place without the permission of the monitoring committee.
- ◆ Hill slopes to be identified in the Zonal master plan and no construction to be permitted on steep hill slopes and hill slopes with high degree of erosion.
- ◆ Widening of existing roads and construction of new roads may be allowed.
- ◆ Use of plastic bags and disposal of plastic articles to be prohibited.
- ◆ The Environment department or State Forest Department, Jharkhand was to draw up the guidelines to control the noise pollution.
- ◆ No untreated and industrial effluents were to be permitted to be discharged in any water body in the eco-sensitive zone.
- ◆ The disposal of solid waste to be carried out as per the provisions of the Municipal Solid Waste (Management and Handling) Rules, 2000.
- ◆ No burning or incineration of solid waste was to be permitted in the eco-sensitive zone.
- ◆ Catchment areas of all springs to be identified and conserved and the dried springs to be rejuvenated through proper guidelines by the State Government.
- ◆ All activities in the ESZ to be governed by the provisions of the Wild Life (Protection) Act, 1972 (53 of 1972), the Forest (Conservation) Act, 1980 (69 of 1980) and the Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006.
- ◆ A monitoring committee with **not more than 10 members** (*not more than 15 members*) was to be set up to monitor the compliance with the provisions of the notification.
- ◆ The members of the committee shall be:
 - I. Commissioner, Kolhan Revenue Division–Chairman
 - II. A representative of the Ministry of Environment and Forests, Government of India
 - III. A representative of the Central Pollution Control Board, Government of India
 - IV. A representative of the Department of Forests & Environment, Government of Jharkhand
 - V. A representative of the Department of Mines, Government of Jharkhand
 - VI. A representative of the Department of Industries, Government of Jharkhand
 - VII. A representative of the Department of Revenue, Government of Jharkhand
 - VIII. A representative of the Department of Irrigation, Government of Jharkhand
 - IX. A representative of the Department of Public Works, Government of Jharkhand
 - X. *A (2) representative of Non-governmental Organizations working in the field of environment (including heritage conservation) to be nominated by the Government of India*
 - XI. (Divisional Forest Officer, Wildlife Division, Ranchi-Convener)
 - XII. Regional Officer, Jharkhand State Pollution Control Board, Ranchi
 - XIII. Senior Town Planner of the area;
 - XIV. Deputy Conservator of Forests (wildlife), Ranchi - Member Secretary
 - XV. *1 expert in the area of ecology and environment to be nominated by the MoEF.*

- The activities requiring prior permission or environmental clearance were to be referred to the **MoEF (State Level Environment Impact Assessment Authority SEIAA)**.
- The monitoring committee was to submit annual reports to the MoEF and could file complaints under section 19 of the Environment (Protection) Act, 1986²⁰ Act, for non-compliance of the notification.

4. Current Status and Future Course

The Dalma notification was finalized and put up on the website of the MoEF on March 29, 2012. It had been indicated by the MoEF and the State Government that the ESAs around other PAs of Jharkhand will be declared after the finalization of this notification.

References:

- Government of Jharkhand. December 2010. Proposal to the MoEF for notifying ESA around Dalma Sanctuary. Jharkhand
- MoEF. May 2011. Dalma Draft ESZ Notification. New Delhi
- MoEF. March 2012. Dalma ESZ Notification. New Delhi

²⁰ As per Section 19 of the EPA 1986, the Central Government or any authority or officer authorized in this behalf, by that government can make a complaint before the court against any offence under this act.

IG Ecologically Sensitive Areas (ESAs) around Protected Areas in Sikkim

1. Number of Protected Areas in the state and area covered under it.

	National Parks	Sanctuaries
Number:	1	7
Area:	1784 km ²	399 km ²

Total Area under Protected Areas: 2183.10 km²

Area of the state: 7096 km²

(Based on the information from the official website of the Forests & Environment Department, Government of Sikkim as on 26.09.11)

2. List of Protected Areas around which ESAs have been proposed/notified:

(Proposal Submitted by Mr. N.T. Bhutia, Chief Wildlife Warden, Government of Sikkim to the MoEF in April, 2011)

S.No.	Protected Area	Proposed ESA around PA
1	Khangchendzonga National Park	1 km in Northern Region & 200 m around the entire NP
2	Barsey Rhododendron Sanctuary	500 m wide belt
3	Fambong Lho Wildlife Sanctuary	500 m wide belt
4	Kitam Bird Sanctuary	500 m wide belt
5	Maenam Wildlife Sanctuary	500 m wide belt
6	Pangolakha Wildlife Sanctuary	500 m wide belt
7	Shingba Rhododendron Sanctuary	Not Available
8	Kyongnosla Alpine Sanctuary	Not Available

3. Details of the ESAs proposed:

3.1 ESA around Barsey Rhododendron Sanctuary

i. Area and Geographical Spread:

Barsey Sanctuary spans over an area of 104 km² bordering with Nepal in the west district of Sikkim. An area up to 500 m from the boundary of the Sanctuary has been proposed to be declared as an ESA.

ii. Ecological Significance:

The area forms a vital corridor connecting the Khangchendzonga Biosphere Reserve to its north with Singalila National Park of West Bengal to its south. The Sanctuary is responsible for water availability to the surrounding villages and is a major source of tributaries of river Rangit in west Sikkim. Five forest types are found here: wet temperate forests, moist temperate forests, sub-tropical moist deciduous forests, sub-alpine forests and alpine meadows. The Sanctuary has a dominance of rhododendron, with a variety of epiphytic orchids, ferns, mosses and lichens and is home to many birds and animals like snow partridge, crimson horned pheasant, leopard, leopard cat, Himalayan palm civet, Himalayan black bear, etc.

iii. Key Threats:

Yak and cow sheds, shepherds' activities, tree felling in forests and firewood and fodder collection pose threats to the Sanctuary.

[Source: Important Bird Areas in India- Sikkim, Barsey Rhododendron Sanctuary; <http://sikenvis.nic.in/docs/IBA/sk1.pdf>]

3.2 ESA around Fambong Lho Wildlife Sanctuary

i. Area and Geographical Spread:

The Sanctuary is located about 20 km from Gangtok and covers an area of about 51.76 km² between Singtam and Dikchu. The State Government has proposed to notify an area up to 500 m from the boundary of the Sanctuary as an ESA.

ii. Ecological Significance:

The Sanctuary is the home of Himalayan black bear, red panda, civet cat and many varieties of birds and butterflies. It is also responsible for water availability to the surrounding towns and villages and a major source of tributaries of the Teesta river.

iii. Key Threats:

The Sanctuary has been declared as a rare Protected Area on public demand. The people of the surrounding villages were concerned about the increasing deforestation and overgrazing in the area, and therefore they requested the state forest department for notifying it as a Sanctuary. Prior to this the area was used for cattle grazing and oaks were lopped intensively for fodder. Recently, the G.B. Pant Institute for Himalayan Environment & Development has established a large centre at the edge of the Sanctuary, encouraging other commercial investors in the area and posing a threat to the Sanctuary. A tunnel connecting the Sigtam Rani Khola dam to the powerhouse also passes through the Sanctuary. [Source: Important Bird Areas in India- Sikkim, Fambong Lho Wildlife Sanctuary- Himalayan Zoological Park-Ratey Chu Reserve Forest Complex; <http://sikenvis.nic.in/docs/IBA/sk3.pdf>, Sikkim Dams Map, Sanctuary Asia, August 2008]

3.3 ESA around Kitam Bird Sanctuary

i. Area and Geographical Spread:

Kitam Bird Sanctuary is located about 75 km from Gangtok in the southern part of Sikkim. The 6 km² area in the region was declared a Sanctuary in 2005. An area up to 500 m from the boundary of the Sanctuary has been proposed to be declared as an ESA.

ii. Ecological Significance:

The Sanctuary particularly exhibits tropical flora and fauna. It houses a variety of birds like great pied hornbill, oriental white-backed vulture, ward's trogon and pheasants. Various species of orchids, nettles, giant bamboo and wild banana are characteristic of this area.

iii. Key Threats:

Timber poaching from across the state borders and livestock grazing are the two main threats to the area. New and already existing hydroelectric projects and neighbouring townships pose further pressure on the area.

[Source: Important Bird Areas in India-Sikkim, Low Land Forests of South Sikkim- Melli- Baguwa- Kitam, Jorethang- Namchi, Sombarey; <http://www.sikenvis.nic.in/docs/IBA/sk7.pdf>]

3.4 ESA around Maenam Wildlife Sanctuary

i. Area and Geographical Spread:

Maenam Wildlife Sanctuary covers an extent of 35.34 km² in the northern corner of the district of Sikkim. The Maenam Wildlife Sanctuary extends from the cold deserts of Lhonak Valley and the ridges of Lachen in the north district to the historical city of Yuksom in west Sikkim. The western boundary of the park runs along the international boundary with Tibet. The Sanctuary is located on the

Maenam-Tendong Ridge which runs north-south bisecting Sikkim longitudinally and is drained by the Teesta river in the east and Rangit river in the west. An area up to 500 m from the boundary of the Sanctuary has been proposed by the Government of Sikkim to be notified as an ESA.

ii. Ecological Significance:

Maenam Sanctuary, due to the altitudinal gradient of 2100-3300 m, exhibits microclimates and floral diversity from subtropical forests to stabilized scree slopes. The Sanctuary has immense watershed value being the only source of perennial water on this ridge. Maenam Sanctuary is particularly rich in medicinal plants. The Sanctuary is also rich in faunal diversity with animals like barking deer, marbled cat, red panda, ghural, greater spotted eagle, red-breasted hill partridge and rufous-throated wren-babbler.

iii. Key Threats:

Erosion, landslides and landslips, snow, weeds, wind, poaching, destruction of habitat due to illegal felling and collection of non-timber forest fruits (which is the food of the Asiatic black bear, barking deer and monkeys) and encroachment in the form of cardamom cultivation are some of the issues affecting the Sanctuary (Anon. 2001). Uncontrolled tourism, lopping of trees for fodder and cattle grazing are some other threats affecting the area.

[Source: Important Bird Areas in India- Sikkim, Maenam Wildlife Sanctuary- Tendong RF; <http://sikenvis.nic.in/docs/IBA/sk8.pdf>]

3.5 ESA around Pangolakha Wildlife Sanctuary

i. Area and Geographical Spread:

Pangolakha Wildlife Sanctuary, situated about 45 km from Gangtok is a mountain range that extends below the Chola range, separating Sikkim from Bhutan. The area of the Sanctuary is 128 km².

ii. Ecological Significance:

The Sanctuary provides an abode to high altitude flora and fauna. It has typical alpine-temperate- sub-tropical vegetation, with high altitude lakes. Rhododendron, silver fir, juniper forest and associated ground flora and associated moss-filled oak forests with dense bamboo thickets form ideal habitat for the red panda. It is also responsible for water availability to the town and villages of Kupup, Gang thang, Phadamchen, Rongli and Rhencok in Sikkim, western part of Bhutan and western part of Kalimpong sub-division of West Bengal and is a major source of tributaries of the rivers Torsa and Rangpo chu.

iii. Key Threats:

Pangolkha Sanctuary is confronted by threats similar to the threats faced by Maenam sanctuary.

[Source: Important Bird Areas in India- Sikkim, Pangolakha Wildlife Sanctuary- Zuluk-Bedang Tso-Natu La Complex; <http://sikenvis.nic.in/docs/IBA/sk9.pdf>]

3.6 ESA around Khangchendzonga National Park

i. Area and Geographical Spread:

Khangchendzonga National Park is a part of Khangchendzonga Biosphere Reserve. The reserve is situated in north and west districts of Sikkim. The park covers an area of 1784 km² situated at a very high elevation. The reserve includes the Khangchendzonga range from the south Lhonak glacier in trans-Himalayan Sikkim down to Barsey Rhododendron Sanctuary in south Sikkim. The State Government has proposed to notify an area up to 1 km in the northern region of the park and 200 m from the boundary of the Khangchendzonga National Park as an eco-sensitive zone.

ii. Ecological Significance:

Khangchendonga National Park is the highest altitude Protected Area in India. The vegetation of the park is mainly of temperate type consisting of fir, oak, birch, willow, maple and other similar trees. It also includes alpine grasses and shrubs at higher altitudes along with many medicinal plants and herbs. The park contains many mammal species including musk deer, snow leopard, Himalayan tahr, wild dog, serow, goral, red panda and Tibetan wild ass. About 550 species of birds are found inside the park including blood pheasant, Himalayan griffon, Tibetan snowcock, snow pigeon and Asian emerald cuckoo.

iii. Key Threats:

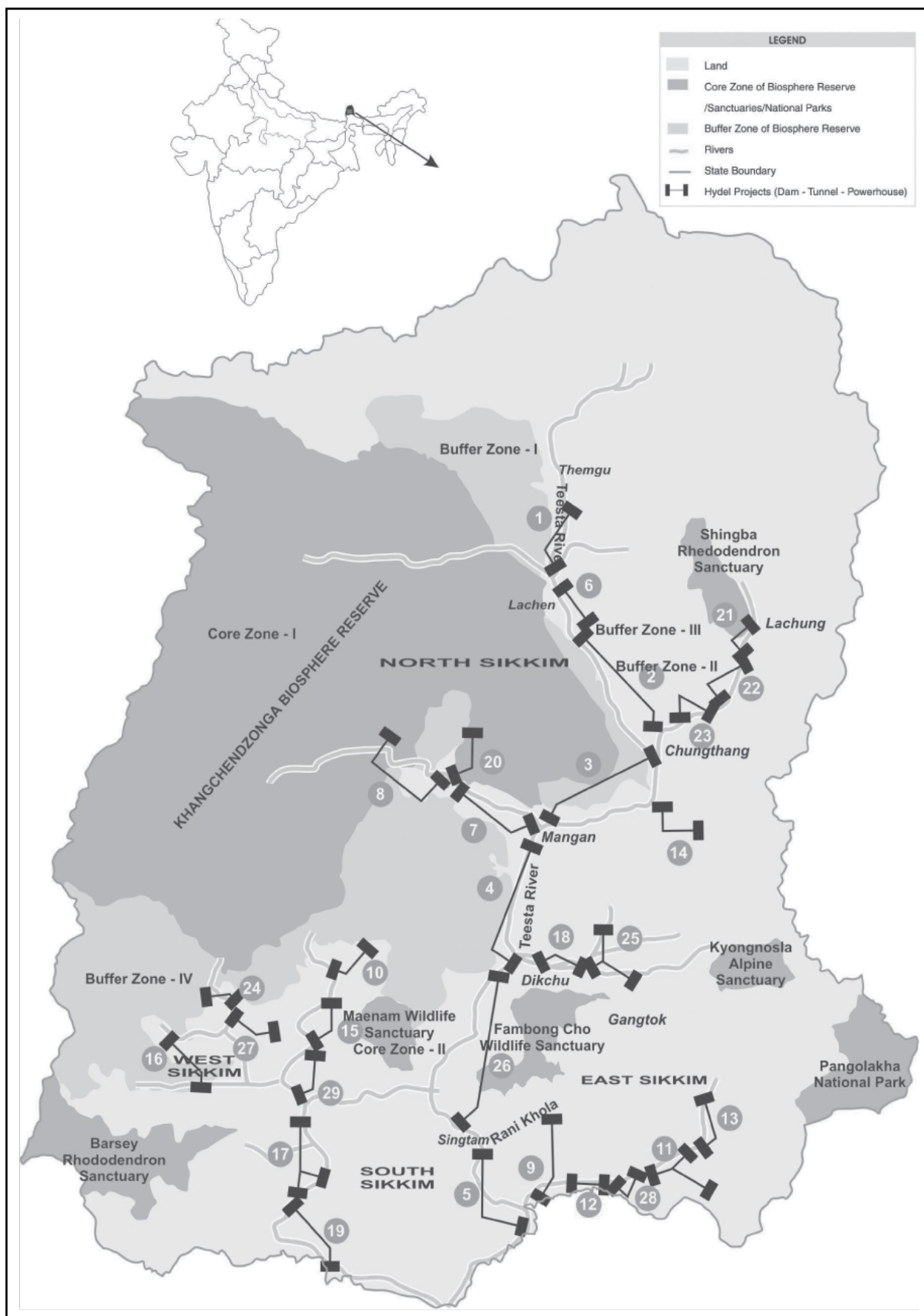
Since there are a few important trekking trails in this Protected Area, there is tremendous pressure from tourism. The entire Rathong Chu Valley is a sacred landscape for conservation. A hydroelectric project, though planned, was scrapped eventually keeping in mind this status of the valley. But similar dangers still hover over the surrounding areas of the National Park.

[Source: Important Bird Areas in India- Sikkim, Khangchendzonga National Park and Biosphere Reserve; <http://sikenvis.nic.in/docs/IBA/sk4.pdf>]

THREAT OF HYDROELECTRIC DAMS IN SIKKIM

Sikkim's biodiversity is under threat due to cumulative effect of close to thirty large hydroelectric projects: some completed or under construction and many more at various stages of clearance. These large dams divert the river waters through long tunnels to reach a power house and then it is dropped back into the river at a downstream location. These projects are considered less impactful as they do not involve large submergences. However, what these projects do (if many of such projects are set in a series as a cascade), is that about 70-80% of the water of the rivers end up being in the tunnels most of the time. This affects the riverine ecology and poses a threat to the biodiversity that the mighty rivers of the north east support. Moreover, tunnels are being dug through the nearby Sanctuaries and National Parks as many of these projects are in close proximity of the Protected Areas, particularly Khangchendzonga National Park. At least ten of them lie within the 5 km radius of the park that is actually a part of the Khangchendzonga Biosphere Reserve.

[Source: "Sikkim under attack", Tseten Lepcha, Neeraj Vagholikar, Sanctuary Asia, August 2008]



4. Monitoring Mechanism for ESAs in the State:

Monitoring Agency/ Committee	Yes					
Members of the Committee	Representatives from SPCB, MoEF & an NGO					
ZMP	To be prepared by the State Government for regulation of activities under the head “Regulated” given below					
Control on:	Barsey	Fambong Lho	Maenam	Pangolakha	Khangchendzonga	Kitam
Tourism	Regulated	Regulated	Regulated	Regulated	Regulated	Regulated
Polluting Industries	Prohibited	Prohibited	Prohibited	Prohibited	Prohibited	Prohibited
Mining & Quarrying	Prohibited	Prohibited	Prohibited	Prohibited	Prohibited	Prohibited
New Hydel Projects	Regulated	Regulated	Regulated	Regulated	Regulated	Prohibited
Grazing	Regulated	Regulated	Regulated	Regulated	Regulated	Prohibited
Zoning	No provision	No provision	No provision	No provision	No provision	No provision
Land use/ landscape	No provision	No provision	No provision	No provision	No provision	No provision
Felling of Trees	Regulated	Regulated	Regulated	Regulated	Regulated	Regulated
New Hotels & Resorts	Regulated	Regulated	Regulated	Regulated	Regulated	Prohibited
Civil Constructions	Regulated	Regulated	Prohibited	Regulated	Regulated	Regulated
Commercial Use of Water Resources	Regulated	Regulated	Regulated	Regulated	Regulated	Prohibited
Introduction of Exotic Species	Regulated	Regulated	Prohibited	Regulated	Regulated	Prohibited
Vehicular Movement	Regulated	Regulated	Regulated	Regulated	Regulated	Regulated
Road Repair & Widening	Regulated	Regulated	Regulated	Regulated	Regulated	Regulated
Use of Polythene Bags	Prohibited	Prohibited	Prohibited	Prohibited	Prohibited	Prohibited
Setting up of Sawmills	Prohibited	Prohibited	Prohibited	Prohibited	Prohibited	Prohibited
Garbage Disposal	Prohibited	Prohibited	Prohibited	Prohibited	Prohibited	Prohibited

References:

- Government of Sikkim. April 2011. Proposals to the MoEF for notification of ESAs around PAs. Sikkim
- Tseten Lepcha, Neeraj Vagholikar, Sanctuary Asia, August 2008. "Sikkim under attack"
- Sikenvis.nic.in
- www.wikipedia.org
- www.sikenvis.nic.in (Forest & Environment Department, Government of Sikkim)

IH Ecologically Sensitive Areas (ESAs) around Protected Areas in Karnataka

1. Number of Protected Areas in the state and area covered under it.

	National Parks	Sanctuaries
Number:	5	21
Area:	2556.7 km ²	4020.1 km ²

Total Area under Protected Areas: 6576.8 km²

Area of the state: 1, 91,791 km²

(Based on the information on the official website of the Forests Department, Government of Karnataka as on 26.09.11)

2. List of Protected Areas around which ESAs have been proposed/notified:

[Proposal Submitted by Mr. A.P. Ramakrishna, Under Secretary to Government, on behalf of The Principal Secretary, Forest, Ecology and Environment Department, Karnataka to Ms. Prakriti Srivastava, Deputy Inspector General of Forests, MoEF in April and May 2011; Proposal submitted by the Principal Chief Conservator of Forests (Wildlife), Karnataka to the Principal Secretary, Forest, Ecology and Environment, Karnataka in March 2011]

S.No.	Protected Area	Proposed ESA around PA
1	Dandeli-Anshi Tiger Reserve	282.63 km ²
2	Bandipur National Park	41.68 km ²
3	Ranganathittu Bird Sanctuary	Within 2 km
4	Melkote Wildlife Sanctuary	Within 2 km
5	Arabithittu Wildlife Sanctuary	Within 2 km

3. Details of the ESAs proposed

3.1 ESA around Dandeli-Anshi Tiger Reserve

i. Area and Geographical Spread:

Dandeli Wildlife Sanctuary and Anshi Tiger Reserve lie in Uttara Kannada district in north Karnataka. Dandeli Wildlife Sanctuary covers an area of 475.01 km² and Anshi National Park an area of 250 km². Both Protected Areas are contiguous to each other and along with a buffer of 282.63 km², have been declared as Dandeli-Anshi Tiger Reserve. The State Government has proposed to notify the entire tiger reserve as an ESA.

ii. Significance:

In the entire region of northern Karnataka, the Dandeli Wildlife Sanctuary and Anshi National Park are the only two Protected Areas located in this forested district. These areas are home to rare endemic flora and fauna. The largest Indian butterfly- Southern Birdwing is found in large numbers in the area. The other important animals include tiger, leopard, wild dog, jackal, Malabar giant squirrel, flying squirrel, pangolin, etc. Anshi National Park comprises of mostly tropical evergreen and semi-evergreen type of forests and is a treasure house of small mammals, reptiles, amphibians, butterflies, insects, orchids, ferns and medicinal herbs. This area is the catchment for the river Kali and its tributaries such as Nagasari and Kaneri which highlights its hydrological importance. The vegetation from Dandeli to Anshi is mixed moist deciduous to semi-evergreen to evergreen forests. There are 272 species of birds listed in the reserve. Some of the birds found here are Malabar trogon, Malabar pied hornbill, great pied hornbill, Malabar grey hornbill, Ceylon frogmouth, pompadour pigeon, paradise fly catcher, etc.

iii. Key Threats:

The Kali hydroelectric project located in the vicinity of this area includes six dams, three tunnels and three hydroelectric power units. Kaiga Nuclear Power Plant is located in the south of the Dandeli Sanctuary and impacts the ecology of the reserve. Aghanashini Valley Hydel Project was proposed in the early 90s by the Karnataka Government. The project has been on hold due to the strong opposition from various groups and local people of the area. The area is also a favoured tourist spot. Therefore, construction activities, litter and other human interventions associated with tourism also threaten the biodiversity of the tiger reserve.

3.2 ESA around Bandipur National Park

i. Area and Geographical Spread:

Bandipur National Park is located in the Chamarajanagar district of southern Karnataka. The park stretches over an area of 870.36 km². Together with an additional area of 41.68 km² from the districts of Mysore and Chamarajanagar, the National Park constitutes a tiger reserve of 912.04 km². The State Government has proposed to notify the tiger reserve as an ESA. Excluding the area of the National Park, the adjoining forests (which falls under the Bandipur Tiger Reserve) of approximately 42 km² gets the ESA status.

ii. Ecological Significance:

Bandipur Tiger Reserve is a central and critical part of the 5500 km² Nilgiri Biosphere Reserve and also falls under Mysore Elephant Reserve. It supports a very high density of wild elephant population with significantly higher number of adult tuskers. It also forms a part of the designated elephant corridor namely Kaniyanpura Elephant Corridor connecting Sathyamangalam and Moyar Reserves.

Bandipur Tiger Reserve along with Nagrahole, Mudumalai and Wynad Protected Areas has the highest breeding population of wild tigers among the thirteen tiger range countries in the World. Leopard, sloth bear, chevrotain, dhole, hyena, gaur, sambhar, wild boar and four-horned antelope are also common here. Several species of timber trees like teak, rosewood, sandalwood, clumping bamboo, etc. are found here. Other floral species include kadam, flame of the forest, indigo berry, etc.

Bandipur National Park is the catchment of important perennial rivers such as Kabini, Moyar and Nugu.

iii. Key Threats:

Plans to upgrade two major roads (Mysore-Ooty, Mysore-Calicut) to high-speed roads are on the anvil. Besides, cattle grazing and uncontrolled tourism pose threats to the area.

iv. Draft Notification:

Following the proposal submitted by the State Government in March 2010, the MoEF issued the draft Bandipur ESA notification on September 21, 2011. The draft notification covers the same area as suggested by the State Government covering the Kaniyanapura Elephant Corridor (Zone I) and Bandipur ESA (Zone II). Broadly, the notification is the same as the ESA proposal. The following major changes have been made in the draft notification, as compared to the proposal:

- The term 'Zonal Master Plan' has been replaced with 'Management Plan' in the draft ESA notification.
- No time period has been specified for the preparation of the management plan, whereas a time period of 2 years was allotted in the proposal for the preparation of zonal master plan.
- As per the draft, no restrictions would be laid on the existing legal land use pattern and infrastructure.

- As per the draft notification, any subsequent change in land use would be allowed after the approval of the monitoring committee.
- Certain changes in the constitution of the monitoring committee have been made.

3.3 ESA around Ranganathittu Bird Sanctuary

i. Area and Geographical Spread:

Ranganathittu Bird Sanctuary is situated in the Srirangapatna taluka of Mandya district of Karnataka. It is a very small Sanctuary of only 0.67 km². The Sanctuary comprises six islands and six islets in the river Cauvery. The State Government has proposed to notify an area up to 2 km from the boundary of the Sanctuary as an ESA.

ii. Ecological Significance:

The islets are the main breeding grounds for a variety of local and migratory birds. The comparative isolation of the islets during the monsoon and the abundance of aquatic insects attract birds to the area. Riverine reed beds cover the banks of the islands, while the broadleaf forests cover the islands themselves. The endemic and threatened lily *Iphigenia mysorensis* grows in the Sanctuary. Small mammals like the common palm civet and Indian grey mongoose and colonies of fruit bats can be seen here. The birds commonly seen in the Sanctuary are cormorant, heron, darter, white ibis, spoonbill, white necked stork, black drongo, pond heron, little egret and large egret, lesser whistling teal and streaked weaver bird.

iii. Key Threats:

The Sanctuary is very close to Mysore and Bangalore and its easy accessibility could pose a danger of excessive human impacts. Also, due to the flood waters of the Cauvery river, the island bank is susceptible to soil erosion.

3.4 ESA around Melkote Wildlife Sanctuary

i. Area and Geographical Spread:

Melkote Wildlife Sanctuary is situated in Mandya district of Karnataka and covers an area of 49.82 km². An area falling within 2 km from the boundary of the Sanctuary has been proposed by the State Government to be declared as an ESA.

ii. Ecological Significance:

The Sanctuary was created in 1974 mainly to house wolves. The other mammals found in the Sanctuary are jungle cat, leopard, bonnet macaque, langur and pangolin. A variety of birds that are indigenous to the area are also seen here. The area consists of deciduous scrub forest with species like *Acacia*, *Terminalia* and *Cassia*. Cycas is the only gymnosperm to be found in the area.

iii. Key Threats:

The Sanctuary's status as a sacred place attracts a lot of pilgrims to the area and could be a cause of concern for the conservation of biodiversity of the Sanctuary.

3.5 ESA around Arabithittu Wildlife Sanctuary

i. Area and Geographical Spread:

Arabithittu Wildlife Sanctuary covers an area of 13.5 km² and is located in Hunsur taluka of Mysore district. The State Government has proposed to notify an area up to 2 km from the boundary of the Sanctuary to be declared as an ESA.

ii. Ecological Significance:

The forest in the Sanctuary is of deciduous scrub type. The species *Ficus*, *Cassia*, *Terminalia*, *Anogeissus* and *Santalum* are found here. Common animals seen here are leopard, spotted deer, wild boar, indian porcupine, indian hare, common mongoose, fox, etc. Peafowl, partridges, mynas and black drongo are the common birds found in the area.

iii. Key Threats:

The Sanctuary is surrounded by private agricultural lands on all sides. Since, the Sanctuary is the only forest land within a radius of 40 km from it, the surrounding villages used to be dependent on the area for grazing facilities and firewood. But after the area got the Sanctuary status, all these activities have been banned. Mysore-Bantwal State Highway runs adjacent to the northern point of the Sanctuary and causes intervention.

4. Monitoring Mechanism for ESAs in the state:

Monitoring Agency/Committee (MC)	Yes				
ZMP	To be prepared by the State Government				
Control on:	Bandipur	Dandeli-Anshi	Ranganathittu	Melkote	Arabithittu
Tourism activities (hot air balloon, parasailing, etc.)	Prohibited in Zone I	Regulated (as per the Tourism Master Plan)	Regulated (as per the Tourism Master Plan)	Regulated (as per the Tourism Master Plan)	Regulated (as per the Tourism Master Plan)
Polluting Industries	Prohibited in Zone I; Regulated in Zone II by MC				
*Prohibited in ESA	Prohibited	Prohibited	Prohibited	Prohibited	
Mining and Quarrying	Prohibited	Prohibited	Prohibited; Already existing leases to be regulated	Prohibited; Already existing leases to be regulated	Prohibited; Already existing leases to be regulated
New Hydel Projects	Prohibited	No provision	No provision	No provision	No provision
Developmental Activities (repair, renovation, alteration, etc.)	No Provision		Regulated with prior approval of MC	Regulated with prior approval of MC	Regulated with prior approval of MC
Zoning	Yes	Yes	Yes	Yes	Yes
Change in Land use/ Landscape	Prohibited in Zone I	Prohibited	Prohibited	Prohibited	Prohibited
Felling of Trees	Regulated		Regulated	Regulated	Regulated
New Hotels and Resorts	Prohibited in Zone I	Prohibited	Prohibited	Prohibited	Prohibited
Expansion of Already Existing Hotels	Regulated		Regulated	Regulated	Regulated

	Bandipur	Dandeli-Anshi	Ranganathittu	Melkote	Arabithittu
Vehicular Movement	Regulated in Zone I, Permitted in Zone II		Regulated	Regulated	Regulated
Commercial Use of Water Resources	Regulated		Regulated	Regulated	Regulated
Introduction of Exotic Species	Regulated		No provision	No provision	No provision
High Tension Power Lines	Prohibited in Zone I				
Widening of roads	Prohibited in Zone I; Regulated in Zone II				
Use of Poly bags	Prohibited in Zone I	Prohibited	Prohibited	Prohibited	Prohibited
Setting up of Sawmills	Prohibited				
Discharge of effluents, Solid Waste in Water Bodies	Prohibited in Zone I, Regulated in Zone II	Prohibited	Prohibited	Prohibited	Prohibited
New Construction			As per ZMP, Regulated at or around Heritage Sites	As per ZMP, Regulated at or around Heritage Sites	As per ZMP, Regulated at or around Heritage Sites

*: Draft Notification

	ESA Proposals (State Government)	Bandipur Draft Notification (MoEF)
Members of the Monitoring Committee	<10 members, consisting representatives from	Representatives from
	• CPCB	Department of Environment, Karnataka
	• MoEF	Department of Urban Development, Karnataka
	• Department of Environment, Karnataka	an NGO
	• Department of Urban Development, Karnataka	Regional Officer, Karnataka SPCB
	• Chief Wildlife Warden	Expert in Ecology
	Subject Expert	Deputy Commissioners of the District
	an NGO	Deputy Conservator of Forests (Member Secretary)
	Deputy Commissioners of the District	
	Deputy Conservator of Forests (Convener)	

References:

- Government of Karnataka. April 2011. Proposals to the MoEF for notification of ESAs around PAs.
- MoEF. September 2011. Bandipur Draft ESA Notification. New Delhi
- karnatakaforest.gov.in
- www.wikipedia.org

IG. State Governments' Proposals for notifying Ecologically Sensitive Areas around Protected Areas not considered by the MoEF

Besides the proposals for declaring ESAs around PAs mentioned in the beginning of this report, a number of proposals submitted by the State Governments to the wildlife division of the MoEF were returned by the MoEF to the respective states. These states were Assam, Chhattisgarh, Karnataka and Sikkim. The Wildlife Division of MoEF, Delhi had looked at these proposals and forwarded them to the Environment Impact Assessment Division in July 2007.

However, the MoEF did not consider these proposals for notification because they were not fulfilling the criteria suggested by the Pronab Sen Committee. In a letter dated October 18, 2007, Dr. S. Bhowmik, Additional Director, MoEF wrote to the Principal Conservator of Forests (Wildlife), Chhattisgarh, Karnataka, Assam and Sikkim that their proposals were not being considered by the MoEF. The proposals were not as per the parameters prescribed by the Pronab Sen Committee and therefore the states were asked to resubmit the proposals. They were given a list of information and details to be furnished along with the proposals. The same list has been suggested in the recently issued guidelines for notifying ESAs around Protected Areas. While Assam revised its proposal and resubmitted it, the details of which have been given earlier, the remaining three states did not do anything.

As per an RTI response from the wildlife division of MoEF, the proposals from Mizoram and Kerala were also received in May 2007 and February 2008, respectively. While the proposals pertaining to Sikkim and Chhattisgarh got destroyed in a fire accident in the wildlife division in April 2009, copies of proposals from Karnataka, Kerala and Mizoram were provided. What action the MoEF took on the proposals of the Government of Kerala and Mizoram is not known. However, looking at the proposals it was felt that they were also not as per the criteria put forward by the Pronab Sen Committee and therefore might not have been considered by the MoEF. The details of the proposals submitted by the states of Kerala, Karnataka and Mizoram are given below:

Proposal from Karnataka:

The Principal Secretary to the Government and the Forest Ecology and Environment Department, Government of Karnataka sent in the proposal delineating ESAs around Protected Areas in Karnataka to the Secretary, MoEF on March 21, 2007. The same was again sent to the Deputy Inspector General (WL), GoI, MoEF on April 16, 2007. The wildlife division of MoEF issued a common ESA notification for all the twenty-one wildlife Sanctuaries and five National Parks coming under its jurisdiction.

Proposed ESA Notification:

The salient features of the proposed ESA notification are:

- The proposed ESA notification declared areas within 10 km boundary of the National Parks and wildlife Sanctuaries in Karnataka as an ecologically sensitive area with a core zone of 2 km from the boundary of the Protected Area.
- Location for siting of new industries including expansion of already existing industries to be in conformity with the guidelines that may be issued by the MoEF. The existing industries would run subject to their adherence to the statutory standards.
- No mining and quarrying to be allowed in the core zone and areas beyond it would require the approval of the MoEF for the activities.
- Tourism activities to take place as per the tourism plan (to be prepared by the State Government duly approved by MoEF) and carrying capacity. No new tourism facilities/structures to be constructed in the core zone.
- Construction of dwellings, townships, malls, farm houses, high tension lines, residential schools, commercial clubs, etc. to take place with prior approval of state/Central Government. No such constructions to be allowed within the core zone.

Proposal from Mizoram:

Mr. Rosiama Ralte, Deputy secretary, Environment and Forests Department, Government of Mizoram sent a proposal for notifying ESAs around Protected Areas in Mizoram to the Deputy Inspector General of Forests (Wildlife), MoEF on May 17, 2007. As per the RTI response from the wildlife division of the MoEF, the proposal was forwarded to the Environment Research division of the MoEF for perusal. However, till June 2010, no response had been received by the Chief Wildlife Warden of Mizoram on its submitted proposal. The proposal comprised of the following Protected Areas of the state:

1. **Murlen National Park:** After giving factual details about the National Park, justification for creation of a buffer zone around Murlen National Park was given in the proposal. It proposed to notify a radius of 5 km as an ESA. The justifications that were given were about the biodiversity value and the presence of many endemic species like *Betula spp.*, *Quereus spp.*, *Rhododendron spp.*, etc. The presence of many endangered and rare species was also highlighted.
2. **Pualreng Wildlife Sanctuary:** The justification given was that the proposed ESA is a continuous stretch of the Wildlife Sanctuary and has high biodiversity value. It acts as a buffer zone for the Sanctuary and since no Jhum cultivation takes place in this area, the wildlife is undisturbed.

Proposals for the following PAs were received from the Government of Sikkim:

1. Khangchendzonga National Park
2. Kyongnosla Alpine Sanctuary
3. Pangolakha Wildlife Sanctuary
4. Sigba Rhododendron Sanctuary
5. Fambong Lho Wildlife Sanctuary
6. Maenam Wildlife Sanctuary
7. Kitam Bird Sanctuary
8. Barsey Rhododendron Sanctuary

Proposals for the following PAs were received from the Government of Chhattisgarh:

1. Semarote Wildlife Sanctuary
2. Tamor Pingla Wildlife Sanctuary
3. Badalkhol Wildlife Sanctuary
4. Guru Ghasidas National Park
5. Achanakmar Wildlife Sanctuary
6. Gomarda Wildlife Sanctuary
7. Barnawapara Wildlife Sanctuary
8. Bhoramdeo Wildlife Sanctuary
9. Udanti Wildlife Sanctuary
10. Sitanadi Wildlife Sanctuary
11. Kanger Ghati Wildlife Sanctuary
12. Bhairmgarh Wildlife Sanctuary
13. Indravati Tiger Reserve
14. Pamed Wildlife Sanctuary

Proposals for following PAs were received from the Government of Assam

Kaziranga National Park

Proposal from Kerala:

Mr. K. Ramachandran, Additional Secretary for Principal Secretary to Government, Forest & Wildlife Department, Government of Kerala, submitted its proposals to the Secretary MoEF, (Wildlife Division) on February 13, 2008. He stated in the letter that Kerala is a small state and certain Sanctuaries and National Parks like Periyar Sanctuary share their boundaries with adjoining states of Karnataka and Tamil Nadu. Also, it should be noted while notifying ESAs around PAs of Kerala that land is scarce in Kerala and people's livelihoods should not be hampered due to such notifications. The state had used the original directive of the Supreme Court of 2006 of notifying 10 km around PAs as ESAs as basis and gave its justification for the notification of ESAs around the Protected Areas mentioned below:

1. **Neyyar Sanctuary:** As per the State Government, on all four sides of the Sanctuary, there was no such area within 10 km from the boundaries which could be detrimental to the conservation and management of the Sanctuary. Hence, no area was proposed as ESA around the Sanctuary.
2. **Peppara Sanctuary:** The Government stated that all the boundaries of the Sanctuary were either touching forest areas or another Sanctuary. Therefore, no area was identified within 10 km to be notified as ESA.
3. **Shendurney Sanctuary:** Estates of cash crops like rubber, areca nut, coconut, etc. lie within the Sanctuary. They could prove detrimental to the Sanctuary. Therefore, the State Government states that these estates need to be declared as ecologically sensitive.
4. **Idukki Sanctuary:** Since the Sanctuary is surrounded by reserve forests, the State Government did not propose an ESA around it. However, it also mentioned in the proposal that certain human habitations also exist next to the Sanctuary.
5. **Eravikulam National Park, Anamudi Shola National Park, Mathikettan Shola National Park, Pampadum Shola National Park:** The State Government after sharing the details about the importance of all these areas, their topography, the endemic species they support, etc. mentioned in the proposal the parameters that make their surroundings fit to be ESAs. However, the details about the area of the zone to be notified, its legal status and the criteria that justifies its ecological sensitivity were not given against each National Park but were clubbed together. This could be the reason for not considering this proposal.
6. **Chinnar Wildlife Sanctuary, Kurinjimala Wildlife Sanctuary:** The State Government mentioned the ecological and cultural significance of this region. It emphasized on the rich biodiversity it supports and possible threats to the area. However, the proposals were not considered perhaps because the ESAs were not proposed for each Wildlife Sanctuary separately.
7. **Thattekkad Bird Sanctuary:** The State Government mentioned the rich avian population (270 species) that this Sanctuary supports. It proposed to notify the water spread of 3.5 km² around the Sanctuary as ESA on the grounds that it supports many endemic and endangered species. However, no names of these species were given.
8. **Periyar Wildlife Sanctuary:** The proposal talks about the vegetation and the types of forests that the Sanctuary supports. While delineating areas within 10 km around the Sanctuary, it delineates four patches based on the endangered species and the endemic species that are found there. However, details of these species are not given.
9. **Mangalavanam Bird Sanctuary:** For this Sanctuary again, instead of delineating a continuous belt around it as ESA, the proposal identifies areas on each side of the Sanctuary within the 10 km range to be notified as an ESA.

10. **Peechi- Vazhani Wildlife Sanctuary:** Since the entire boundary of the Sanctuary is surrounded by reserve forests, no ESA was proposed around it.
11. **Chimmony Wildlife Sanctuary:** The Sanctuary is surrounded by other Sanctuaries on all sides, therefore no ESA was proposed around this as well.
12. **Choolanur Peafowl Sanctuary:** The Sanctuary being surrounded by private lands and human habitation, the proposal did not demarcate any ESA around it because it could affect the livelihoods of the inhabitants.
13. **Silent Valley National Park:** On the grounds that the entire Sanctuary is surrounded by reserve forests on all sides, the State Government did not propose any ESA around it.
14. **Parambikulam Wildlife Sanctuary:** The proposal mentioned that although the Sanctuary is surrounded by reserve forests on all sides, there are certain estates within the reserve forests which could be harmful for the Sanctuary and therefore can be notified as ecologically sensitive.
15. **Wayanad Wildlife Sanctuary:** The surroundings of the Sanctuary are densely populated small private holdings. Therefore, only a belt of 3-4 km width can be notified as ESA.
16. **Aralam Wildlife Sanctuary:** As per the proposal, the area on the southern side of the Sanctuary is occupied by three panchayats and a river also flows there. This would need protection. Also on the western side of the Sanctuary Aralam Central-State Farm along with its meadows need to be protected. The state feels that these areas are not notified as ESAs could pose threat to the Sanctuary.

References:

State Governments- Karnataka, Mizoram, Sikkim, Chhattisgarh, Assam. May 2007-February 2008.
Proposals received by the MoEF from various states regarding notification of ESAs around PAs.
New Delhi

Appendix 2

Full Details of ESA Notifications

(Final & Draft) issued by the MoEF (Non-PA)

IIA Dandi Ecologically Sensitive Area

1. Basic Details

1.1 Location

Dandi is a small village in Navsari district in Gujarat. It is located on the coast of the Arabian Sea near the city of Navsari.

1.2 Area and Geographical Spread

The 225.86 km² ESA comprises of Dandi village and adjacent five villages namely Samapor, Matwad, Onjal, Sultanpur and Aat in the Jalalpor taluka.

1.3 Historical Importance

The region is famous because during the Indian freedom struggle, Mahatma Gandhi visited these villages and launched the famous Salt Satyagraha Movement in the year 1930.

1.4 Ecological Importance

The six villages are located along the Arabian Sea coast and have a fragile ecosystem with mudflats, long beaches, sand dunes, wetlands, etc.

2. Legal and Procedural Details

2.1 Background and Process of Notification

A proposal for declaring Dandi as an Ecologically Sensitive Area was submitted to the MoEF by the Government of Gujarat in early 2010. Gujarat Ecology Commission, Government of Gujarat and Gujarat Vidyapeeth, Ahmedabad were involved in drafting the Dandi ESA proposal. Then in July 2010, MoEF launched a project named Green Action for National Dandi Heritage Initiative (GANDHI). The project is being implemented by the Society of Integrated Coastal management (SICOM) in collaboration with the GEC and Gujarat Vidyapeeth and is expected to be completed in two years. The project is being executed under the Integrated Coastal Zone Management (ICZM) project and is assisted by the World Bank. It was initiated for the overall development and conservation of the environment of Dandi and its surrounding villages based on Gandhian principles. The project broadly consists of four components:

- Conservation of Coasts and Coastal Resources,
- Adopting Nature-based Development of Resources,
- Promoting Integrated Village and Community Development,
- Promoting Eco-Tourism.

The key tasks to be undertaken in this project were mangrove conservation on the coastline of Dandi, a solar-powered desalination plant for providing a drinking water facility for tourists, moving towards carbon neutral villages, livelihood improvement, promoting eco-tourism, etc.

3. Dandi Draft and Final ESA Notification

Following the above mentioned developments, a draft notification for Dandi ESA was issued on October 13, 2010 which was open to the public for suggestions and comments. The final Dandi ESA notification was issued on April 26, 2011. The two notifications are more or less the same barring only a couple of changes made in the final notification. The salient features are as below:

- An Integrated Coastal Zone Management Plan to be prepared by the Central Government in consultation with the State Government and with due involvement of all concerned departments within a period of 6 months from the notification. The plan is to demarcate all heritage sites, environmentally and ecologically sensitive areas and areas where development can be undertaken.
- An integrated village and community development to be promoted while focusing on transforming the 6 villages into carbon neutral villages. Self-help based income generation activities to be supported through capacity building for desalination, making wastelands suitable for conservation, mariculture, horticulture, etc.
- Promotion of eco-tourism and “Environment-Positive” branding of Dandi through development of nature trails, landscape development, provision of basic amenities like sanitation, street lighting, drainage facility, etc. “Dandi March” pilgrimage to be facilitated. The active involvement of the panchayat in the maintenance of the Dandi beach and all other tourism facilities.
- Mangrove afforestation and bio-shield to be developed on the coastline. All measures to conserve wetlands, beaches, sand dunes, marshy areas, mud flats and bird Sanctuaries are to be taken.
- Non-conventional energy resources such as solar and wind mill energy to be promoted. Restoration and redevelopment of water bodies and rain water harvesting to be carried out.
- Only non-polluting, non-hazardous, small-scale service industries and agriculture, floriculture and horticulture-based industries to be permitted.
- Mining and quarrying shall be permitted only with the permission of the monitoring committee only for construction of local residential housing, traditional road-making & maintenance work.
- Tourism activity to be carried out with emphasis on eco-tourism, eco-education and eco-development.
- Buildings, structures and areas that have historical, architectural, aesthetic and cultural significance to be identified and plans for their conservation to be prepared and incorporated in ICZM within a period of 6 months. The State Government to come up with guidelines for regulating constructions around heritage sites.
- No person is to use plastic bags within the municipal area. The use of plastic laminates and tetra paks to be regulated by the monitoring committee.
- The Department of Environment, Government of Gujarat to draw up guidelines to regulate noise pollution.
- No untreated effluents to be permitted to be discharged into any water body. The local authority to provide proper drainage and treatment system for collection, treatment and disposal of untreated and treated effluents.
- Disposal of solid waste to be carried out as per the provisions of the Municipal Solid Wastes (Management and Handling) Rules, 2000. The local authorities to draw up plans for the segregation and proper recycling and disposal of solid wastes. The practice of converting wastes into manure and energy generation from waste to be promoted.

- No tree felling on any type of land without the prior permission of the State Government in case of forest land and the respective district collector in case of government, revenue and private land.
- A monitoring committee to be constituted with not more than 10 members with the below mentioned constitution:
 - I. Vice-Chairman, Dandi memorial Committee (Chairman)
 - II. Representative of the MoEF
 - III. Representative of Department of Environment, Government of Gujarat
 - IV. Representative of Gujarat Ecology Commission, Government of Gujarat
 - V. Collector of Navasari District (Convener)
 - VI. Representatives of each of the 6 villages
 - VII. Two representatives of the NGOs working in the field of environment and heritage conservation
 - VIII. Chairman, Central Pollution Control Board
 - IX. Any other person/s nominated by the Central Government
- The monitoring committee would have to ensure that the provisions of the notification are adhered to and implemented. It can take all actions to do the same except the functions to be performed by the Central Government under Environment Impact Assessment (EIA), 2006.
- The duty of the monitoring committee will be to file complaints regarding non-compliance of the directions issued. An appeal can be filed to the appellate authority against any decision of the committee within 90 days of the decision.

4. Present Status and Future Course

The Dandi ESA notification is different from the other ESAs notified by the Central Government with respect to the fact that it has been a complete initiative of the State and Central Government. The assistance from the World Bank has compelled the Government to take up a lot of development, eco-tourism and livelihood related activities which have not been parts of an ESA notification before. All these provisions hint towards the flexibility that the concept of ESAs brings along with them. Then there are few provisions like solid waste management, ban on mining and polluting industries, and regulation of noise pollution. The coastal stretch is experiencing erosion, monsoon inundations and is also affected by river discharges let off at the coast. The anthropogenic pressures on the area are increasing by the day. Therefore, the notification can serve to save this area which is of cultural and natural importance. The final ESA notification has come through only a couple of months back and how well it will be implemented onground and how much support it will gather from local people is yet to be seen.

References:

- MoEF, October 2010. Draft Dandi ESA Notification, New Delhi
- MoEF, April 2011. Dandi ESA Notification, New Delhi
- SICOM, 2010. GANDHI Memorial Project
- Business Standard, July 08, 2010. "Dandi to be declared as an eco-sensitive zone". Mumbai, Ahmedabad,
- Zee News, July 7, 2010. "Dandi to be declared as an eco-sensitive zone"

IIB Bhagirathi Draft ESA Notification

1. Basic Details

1.1 Location

River Bhagirathi is a major tributary of the Ganga, originating from Gaumukh at an elevation of 3892 m in the state of Uttarakhand. It flows for a stretch of 215 km and then joins river Alaknanda in Dev Prayag.

1.2 Area and Geographical Spread

An area covering 135 km stretch starting from Gaumukh to Uttarkashi and up to 100 m stretch from both the banks of the river has been proposed to be notified as an ESA.

1.3 Importance of the Area and Threats

Bhagirathi is the main source stream of river Ganga, which is the major river of the Indian subcontinent. Ganga has been declared the national river by the Prime Minister, Manmohan Singh on November 4, 2008. The rivers Bhagirathi and Alaknanda both combine together at Devaprayag in the Uttarakhand Himalayan region to form the river Ganga. There are around twenty dams along the Bhagirathi river, either in operation, under construction or planned. These pose the threat of thinning this stretch of the river significantly.

2. Legal and Procedural Details

2.1 Background and Process of Notification

The Central Government in its bulletin issued to the Supreme Court on October 23, 2010 promised that the Ganga will be free of pollutants by 2020. As a follow up to it, the National Ganga River Basin Authority (NGRBA), headed by the Prime Minister, decided on November 1, 2010 that the 135 km stretch of the Ganga from Gaumukh to Uttarkashi would be declared eco-sensitive. The ongoing work for three hydropower dams were also decided to be discontinued on the river. While all these steps were being taken, the National River Conservation Directorate (NRCD), MoEF assigned a study to the Alternate Hydro Energy Centre (AHEC), Indian Institute of Technology Roorkee, for "Assessment of Cumulative Impact of Hydropower Projects in the Alaknanda-Bhagirathi Basins". The report of the study was published in June 2011. While the report does not talk of the overall impact of the dams on the river, it suggests notifying the small tributaries of Bhagirathi as no development zones. The report therefore received a lot of flak from civil society and concerned groups for not appraising the dams' impacts on the river. It seemed to build up a case for the restarting of the projects that have been halted by the NGRBA. In the wake of this controversial study report, the MoEF issued the draft Bhagirathi Notification on June 17, 2011.

3. Bhagirathi Draft ESA Notification

Following the above mentioned developments, a draft notification for Bhagirathi ESA was issued on June 17, 2011, that was open to the public for suggestions and comments.

- A zonal master plan was to be prepared by the State Government within 1 year of the date of the publication of the notification. It was to provide for restoration of denuded areas, conservation of existing water bodies, management of catchment areas, watershed management, ground water management, soil and moisture conservation, needs of the local community and such other aspects of the ecology and environment that need attention.
- No change of land use from green to non-green purposes, though conversion of agricultural land for residential purposes may be permitted.

- No consequential reduction in forest area, green area and agricultural area; the unused or unproductive agricultural areas could be converted into forest areas.
- The zonal master plan would be a reference document for the monitoring committee for taking decisions for any developmental projects including hydroelectric projects.
- Prohibition on setting up of new hydroelectric power plants with a capacity of more than 25 MW.
- Small hydroelectric power projects shall require prior permission from the MoEF.
- Abstraction of river water for any new industrial purposes will be banned.
- Prohibition on deforestation, setting up of new wood based industry, polluting industry and highly polluting industry.
- Prohibition on construction of any building from the boundary of the Wildlife Sanctuary to a distance of 300 m.
- Mining, stone quarrying and crushing would not be allowed.
- Tourism activities will be carried out as per the tourism plan with emphasis on eco-tourism, eco-education and eco-development.
- Natural heritage sites to be identified and construction activities in and around them to be regulated by the State Government by formulating necessary guidelines.
- Sites of cultural, architectural and aesthetic importance to be identified and construction activities in and around them to be regulated by the State Government by formulating necessary guidelines.
- Ground water extraction to be permitted only for bona fide agricultural and domestic consumption of the occupant of the plot.
- No sale of ground water would be allowed to take place without the approval of the State Ground Water Board.
- Hill slopes to be identified in the zonal master plan and no construction to be permitted on steep hill slopes and hill slopes with high degree of erosion.
- Widening of existing roads and construction of new roads may be allowed.
- The use of plastic bags and disposal of plastic articles to be prohibited.
- The Environment department or State Forest Department, Jharkhand was to draw up the guidelines to control noise pollution.
- No untreated sewage and industrial effluents to be permitted to be discharged in any water body in the Eco-sensitive zone.
- Solid waste disposal to be carried out as per the provisions of the municipal solid waste (management and Handling) rules, 2000.
- No burning or incineration of solid waste to be permitted in the eco-sensitive zone.
- Catchment areas of all springs to be identified and conserved and the dried springs to be rejuvenated through proper guidelines by the State Government.
- Guidelines to be framed for the construction and maintenance of hill roads.
- A monitoring committee with not more than 10 members to be set up to monitor the compliance with the provisions of the notification. An eminent person would chair the committee.
- The members of the committee shall be:

- I. A representative of the Ministry of Environment and Forests, Government of India
 - II. Member Secretary, Uttarakhand State Pollution Control Board
 - III. A representative of the Uttarakhand Jal Vidyut Nigam Limited
 - IV. A representative of a renowned educational institution of the region
 - V. A representative of the State Irrigation Department
 - VI. One representative of Non-governmental Organizations working in the field of environment (including heritage conservation) to be nominated by the Government of India
 - VII. Member Secretary, Uttarakhand State Pollution Control Board, Ranchi
 - VIII. Senior Town Planner of the area
 - IX. Chief Conservator of Forests
 - X. The District Magistrate, Uttarkashi, Member Secretary
- The activities requiring prior permission or environmental clearance to be referred to the SEIAA.
 - The monitoring committee was to submit annual reports to the MoEF and can file complaints under section 19 of the Environment (Protection) Act 1986²¹ Act, for non-compliance of the notification.

4. Present Status

Till April, 2012, the notification was at the draft stage and open for public comments and suggestions. In August 2011, the State Government expressed its opposition to this draft notification on the grounds that it would hamper development. What comes out as a final notification will be known in the coming days.

References

- MoEF. June 2011. Bhagirathi Draft ESA Notification. New Delhi
- The Times of India, October 23, 2010 "Pure Ganga in 10 years, Centre Promises SC"
- www.sandarp.in. "Comments on AHEC Report/ 2011"
- Statesman, August 9, 2011 "Uttarakhand opposes Centre's circular on eco-sensitive zone". New Delhi, Dehradun.

²¹As per Section 19 of the EPA 1986, the Central Government or any authority or officer authorized on its behalf by that government can make a complaint before the court against any offence under this Act.

Appendix 3

Details of Western Ghats Ecology Expert Panel

IIIA. Constitution

1. Prof. Madhav Gadgil, Chairman, Indian Institute of Sciences (IISc), Bengaluru
2. Shri. B.J. Krishnan, Save Nilgiris Campaign, Ooty
3. Dr. Nandakumar Mukund Kamat, Goa University
4. Dr. K.N. Ganeshaiah, University of Agricultural Sciences (UAS), Bangalore, ATREE
5. Dr. V.S. Vijayan, Chairman, Biodiversity Board, Kerala
6. Prof. (Ms.) Renee Borges, Centre of Ecological Sciences, IISc, Bengaluru
7. Prof. R. Sukumar, Chairman, Centre of Ecological Sciences, IISc, Bengaluru
8. Dr. Ligia Noronha, The Energy Research Institute (TERI), New Delhi
9. Ms. Vidya S. Nayak, Nagarika Seva Trust, Dakshin Kannada, Karnataka
10. Prof. S. P. Gautam, Chairman, Central Pollution control Board (CPCB)
11. Dr. G. V. Subramanyam Member Secretary
12. Dr. R.R. Navalgund, Director, Space Application centre (SAC), Ahmedabad
13. Dr. P. L. Gautam, Chairman, National Biodiversity Authority
14. Dr. D. K. Subramanyam, IISc, Bengaluru

IIIB. Details of the Panel's Meetings

Meeting Number	Date	Venue
1	Mar 31, 2010	ATREE, Bengaluru, Karnataka
2	May 7, 2010	BSI, Coimbatore, Kerala
3	Jun 24-25, 2010	Dahanu, Maharashtra
4	Jul 26- 27, 2010	Thiruvananthapuram, Kerala
5	Aug 17, 2010	MoEF, New Delhi
6	Sep 26- 28, 2010	National Institute of Oceanography, Goa
7	Oct 29, 2010	BVIEER, Pune, Maharashtra
8	Nov 19, 2010	IISc, Bengaluru, Karnataka
9	Jan 28, 2011	KFRI, Peechi, Kerala
10	Mar 4- 5, 2011	IISc, Bengaluru, Kerala
11	Mar 24, 2011	MoEF, New Delhi
12	May 3-5, 2011	Kerala Institute of Local Administration, Thrissur

IIIC. Details of the Meeting of the Panel with the Members of Parliament:

In the fifth meeting of the panel, held in Delhi on August 17, 2010, under the chairmanship of Mr. Jairam Ramesh, Minister of State (Environment & Forests), the Members of Parliament from the six states (Maharashtra, Goa, Tamil Nadu, Karnataka, Kerala, Gujarat) raised their concerns regarding the declaration of ESAs in their respective regions. The major concerns were:

Kerala:

- Athirapally issue, which has already been examined by other committees of the Ministry, should not be reopened.
- Specific agenda should be given to biodiversity committees.
- WGEEP should have more members. It should not be taken over by environmental fundamentalists.
- It should be noted while declaring ESAs in the state that ecologically fragile lands have already been notified in the state under the Kerala Forests (vesting and management of ecologically fragile lands) Act, 2003.
- WGEEP may look into the issue of use of Endosulfan still permitted in the country.

Maharashtra:

- While declaring 'No Go' areas in the Western Ghats region of the state, it should be borne in mind that Ratnagiri and Raigarh districts are struck with high levels of poverty and unemployment and development is desirable there.
- Setting up a sewage treatment plant in Matheran needs to be expedited.
- The performance of the chairman of the Mahabaleshwar High Level Monitoring Committee is not up to the mark.

Tamil Nadu:

- The ropeway project between Palni and Kodaikanal needs to be expedited.
- The problems faced by small farmers holding agricultural lands adjacent to forests should be noted while declaring ESAs.

Goa:

- Goa Panchayats have no land at all. The WGEEP must take the State Government in confidence while declaring ESAs in the state.

Karnataka:

- Income generating community forest programmes should be promoted with appropriate guidance from the MoEF.
- In response to the concerns, Mr. Jairam Ramesh stated:
- The request to exempt Athirapally issue from WGEEP's mandate was noted.
- Status reports would be prepared for individual cases like Athirapally, Pooyamkutti, Ratnagiri and Sindhudurg.
- All the recommendations and decisions of the WGEEP will be discussed with the concerned 6 State Governments. All work of the panel will be done in an interactive/democratic approach.
- CPCB has been requested to prepare a technical report on the implications of use of Endosulfan.
- If any MP forwards any name to be co-opted as a member of the WGEEP, it will be considered.
- State of Kerala will need special dispensation as the proportion of forest area to the land area is the highest in the state.

References:

Gadgil, M. March 2010- May 2011. Minutes of the meetings of Western Ghats Ecology Expert Panel, India

This document is a follow up to the detailed report published by Kalpavriksh in the year 2009 – *'India's Notified Ecologically Sensitive Areas (ESAs) - The story so far...'*. The study delves in depth into issues of the notifications of ESAs around National Parks and Sanctuaries and in the Western Ghats and presents a general update on the developments around ESAs since 2009.

Drawing from the review and analysis of various documents, notifications and minutes of meetings sourced through means like the Right to Information (RTI) applications, file inspection in the Ministry of Environment and Forests and online research; the report is an attempt to trace the course that the concept of ESAs is taking. This has been done with a focus on Protected Areas and the Western Ghats. While the previous study was an effort at understanding the concept and process of ESAs; the current study looks at the different perspectives and angles through which various stakeholders, particularly the Central Government and the State Governments view ESAs.