

**Introduction and Objectives**

- The Convention on Biological Diversity (CBD) is one of the key agreements adopted during the Earth Summit held in Rio de Janeiro in 1992.
- The objectives of the CBD are – conservation of biological diversity, sustainable use of its components, and fair and equitable sharing of benefits arising out of the use of genetic resources.
- Pursuant to the ratification of the CBD by India on 18 February 1994, several steps were initiated to meet the commitments under the Convention, and to realize the opportunities offered by the Convention.
- These efforts were aimed at bringing the legislative, administrative and policy regimes in tune with the three-fold objectives of the CBD.
- The Nagoya Protocol on access and benefit sharing (ABS) adopted under the aegis of CBD 2010, is aimed at fair and equitable sharing of benefits arising from the utilization of genetic resources.
- India signed the Protocol on 11<sup>th</sup> May 2011, and ratified it on 9<sup>th</sup> October 2012.
- The Nagoya Protocol on ABS is being implemented at the national level inter alia through the Biological Diversity Act.
- The BD Act is implemented through a three-tier institutional mechanism – National Biodiversity Authority (NBA), State Biodiversity Boards (SBB), and Biodiversity Management Committees (BMCs).

**Biological Diversity Act, 2002 and National Biodiversity Authority**

- Four meetings of the Authority were held during 2015-16, wherein decisions have been taken on important policy and legal issues.
- Benefit sharing agreements were executed by over 200 applicants with NBA, which is construed as an approval for undertaking various activities enshrined in BD Act.
- The Tenth National Meeting of SBBs which was organized on August 2015 reviewed the progress made on resolutions adopted in the Environment & Forest Ministers' Conference held in April 2015, on issues relating to formation of BMCs at the local level, documentation of PBRs, implementation of ABS mechanism, notification on threatened species and updating the State Biodiversity Action Plans.
- An Expert Committee has been constituted by NBA to work out modalities and frame comprehensive policy to utilize the benefit sharing amount received through the auction of Red Sanders wood.
- NBA has constituted a Technical committee to review/evaluate the proposals and reports of research studies to be carried out under the CEBPOL programme.
- An Expert Committee on BMCs has been reconstituted to revise the existing guidelines for BMCs.
- A meeting of the Copre Expert Group on Designated Repositories was held in the Ministry in October, 2015 to review the functioning of existing national repositories designated under Section 39 of the BD Act and to develop their specific mandates as well as working guidelines.
- In order to create awareness amongst public about the BD Act, 2002, NBA published a half-page poster about the provisions of the Act in newspapers throughout India on its Foundation Day.

- Under the ongoing UNEP-GEF ABS Project, various activities were carried out, which include –
  - Identification of biodiversity with potential for ABS and their valuation in selected ecosystems such as forest, agriculture and wetlands.
  - Development of tools, methodologies, guidelines, frameworks for implementing ABS provisions of the BD Act.
  - Piloting ABS agreements
  - Implementation of policy and regulatory frameworks relating to ABS provisions at national level and thereby contribute to international ABS policy issues.
  - Increase public awareness and education programmes.

### **Responsibilities of National Biodiversity Authority**

- The Act is being implemented through a three-tiered institutional structures – NBA at National level, State Biodiversity Boards at State level and Biodiversity Management Committees at local level.
- The main objectives of NBA are –
  - To regulate access to biological resources of the country to conserve and sustainable use of biological diversity;
  - To respect and protect the knowledge of local communities related to biodiversity;
  - To secure sharing of benefits with the local people as conservers of biological resources;
  - Conservation and development of area of importance and declaring them as biological diversity heritage sites; and
  - Protection and rehabilitation of threatened species and involvement of institutions of state government in the broad scheme of implementation of the BD Act through constitution of committees.

### **Biodiversity Conservation and Rural Livelihood Improvement Project (BCRLIP)**

#### **Introduction**

- The externally aided project entitled, Biodiversity Conservation and Rural Livelihood Improvement Project (BCRLIP) is being implemented as a centrally sponsored scheme.
- The BCRLIP is blended GEF and IDA activity using a Specific Investment Loan instrument aimed at strengthening biodiversity conservation and improving rural livelihoods at landscape sites.
- The Project was launched in July 2011 for a duration of six years and the total outlay of the project is US \$31.02 million (around Rs. 139.59 crore).

#### **Objective**

- The objective is to develop and promote new models of conservation at the landscape through enhanced capacity and institution building for mainstreaming biodiversity conservation outcomes.
- The project has four components: (i) Demonstration of Landscapes Conservation Approach, (ii) Strengthening knowledge Management and National Capacity for replication of successful models of Conservation in Additional Landscapes Sites, (iii) Scaling up and

Replication of Successful Models of Conservation in Additional Landscapes Sites; and (iv) National Coordination for Landscape Conservation.

**Progress/Achievement**

- Organized a number of workshops at different places in India.
- Scientific reports generated through a two-year long research exercise covering mammals, birds, insects, fish and vegetation in Askot Landscape in Uttarakhand.
- Two major medicinal plant nurseries, one at Munshiyari and another at Dharchula, both in Uttarakhand, were established.
- Selection of cluster of villages in all the functional units of Madhya Pradesh Forest Department present in Satpura landscape to capture diversity and collaboration.
- 75 Microplans in Little Rann of Kachchh, Gujarat are under implementation.
- Lion Estimation Orientation Process, techniques, individual identification developed in Gir, Gujarat.
- For facilitating studies on biological indicators, 95 camera traps and other associated items procured in by Wildlife Institute of India, Dehradun.
- Training programme and training workshops on Landscape Management Approach for Biodiversity Conservation and Human well-being were conducted.

**Biosphere Reserves**

Biosphere reserves are areas comprising terrestrial, marine and coastal ecosystems. Each reserve promotes solutions reconciling the conservation of biodiversity with its sustainable use. Biosphere reserves are ‘Science for Sustainability support sites’ – special places for testing interdisciplinary approaches to understanding and managing changes and interactions between social and ecological systems, including conflict prevention and management of biodiversity.

Biosphere reserves are nominated by national governments and remain under the sovereign jurisdiction of the states where they are located. Their status is internationally recognized.

There are 651 biosphere reserves in 120 countries, including 15 transboundary sites. They are distributed as follows:

- 67 in 28 countries in Africa
- 28 in 11 countries in the Arab States
- 137 in 24 countries in Asia and the Pacific
- 297 in 36 countries in Europe and North America
- 122 in 21 countries in Latin America and the Caribbean

**Zones in Biosphere Reserve**

Biosphere reserves have three interrelated zones that aim to fulfil three complementary and mutually reinforcing functions:

The core area(s) comprises a strictly protected ecosystem that contributes to the conservation of landscapes, ecosystems, species and genetic variation.

The buffer zone surrounds or adjoins the core areas, and is used for activities compatible with sound ecological practices that can reinforce scientific research, monitoring, training and education.

The transition area is the part of the reserve where the greatest activity is allowed, fostering economic and human development that is socio-culturally and ecologically sustainable.

- The Indian National Man and Biosphere (MAB) Committee identifies and recommends potential sites for designation as Biosphere Reserves.
- There are 18 designated Biosphere Reserves (BRs) out of which 9 BRs have been included in the World Network of BRs of UNESCO.

Sl. No.	Name of Biosphere Reserve	Date of Notification	Area of the core / buffer/transition (In Km <sup>2</sup> )	Location (States)
1	Nilgiri	01.09.1986	5520 (Core 1240 & Buffer 4280)	Part of Wayanad, Nagarhole, Bandipur and Madumalai, Nilambur, Silent Valley and Siruvani hills (Tamil Nadu, Kerala and Karnataka).
2	Nanda Devi	18.01.1988	5860.69 (Core 712.12, Buffer 5,148.570) & T. 546.34)	Part of Chamoli, Pithoragarh, and Bageshwar districts (Uttarakhand).
3	Nokrek	01.09.1988	820 (Core 47.48 & Buffer 227.92, Transition Zone 544.60)	Part of Garo hills (Meghalaya).
4	Great Nicobar	06.01.1989	885 (Core 705 & Buffer 180)	Southern most islands of Andaman And Nicobar (A&N Islands).
5	Gulf of Mannar	18.02.1989	10,500 km <sup>2</sup> Total Gulf area (area of	Indian part of Gulf of Mannar between India and Sri Lanka

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			Islands 5.55 km <sup>2</sup> )	(Tamil Nadu).
6	Manas	14.03.1989	2837 (Core 391 & Buffer 2,446)	Part of Kokrajhar, Bongaigaon, Barpeta, Nalbari, Kamrup and Darang districts (Assam).
7	Sunderbans	29.03.1989	9630 (Core 1700 & Buffer 7900)	Part of delta of Ganges and Brahmaputra river system (West Bengal).
8	Simlipal	21.06.1994	4374 (Core 845, Buffer 2129 & Transition 1400)	Part of Mayurbhanj district (Orissa).
9	Dibru-Saikhowa	28.07.1997	765 (Core 340 & Buffer 425)	Part of Dibrugarh and Tinsukia Districts (Assam).
10	Dehang-Dibang	02.09.1998	5111.50 (Core 4094.80 & Buffer 1016.70)	Part of Siang and Dibang Valley in Arunachal Pradesh.
11	Pachmarhi	03.03.1999	4926	Parts of Betul, Hoshangabad and Chindwara districts of Madhya Pradesh.
12	Khangchendzonga	07.02.2000	2619.92 (Core 1819.34 & Buffer 835.92)	Parts of Khangchendzonga hills and Sikkim.
13	Agasthyamalai	12.11.2001	1828	Neyyar, Peppara and Shendurney Wildlife Sanctuaries and their adjoining areas in Kerala.
14	Achanakamar – Amarkantak	30.3.2005	3835.51 (Core 551.55 &	Covers parts of Anupur and Dindori

			Buffer 3283.86)	districts of M.P. and parts of Bilaspur districts of Chhattishgarh State.
15	Kachchh	29.01.2008	12,454 km <sup>2</sup>	Part of Kachchh, Rajkot, Surendra Nagar and Patan Civil Districts of Gujarat State.
16	Cold Desert	28.08.2009	7770	Pin Valley National Park and surroundings; Chandratal and Sarchu&Kibber Wildlife Sanctuary in Himachal Pradesh.
17	Seshachalam Hills	20.09.2010	4755.997	Seshachalam Hill Ranges covering parts of Chittoor and Kadapa districts of Andhra Pradesh.
18	Panna	25.08.2011	2998.98	Part of Panna and Chhattarpur districts in Madhya Pradesh.

- Main objectives are –
- To conserve the diversity and integrity of plants and animals within natural ecosystems;
- To safeguard genetic diversity of species on which their continuing evolution depends;
- To provide facilities for education and training;
- To provide areas for multi-faceted research and monitoring; and
- To ensure sustainable use of natural resources through most appropriate technology for improvement of economic well being of the local people.

*Review report of Nanda Devi Biosphere Reserve has been sent to UNESCO.*

*Nomination form in respect of Agasthiamalai BR for its inclusion in the World Network of BR has been forwarded to UNESCO and is under consideration.*

**BIODIVERSITY CONSERVATION SCHEME RELATING TO BIOSAFETY**

- Under the scheme on the Biodiversity Conservation, there are two main subcomponents namely biodiversity and bio safety.
- The biodiversity component includes activities relating to Convention on Biological Diversity (CBD) and support to National Biodiversity Authority (NBA).
- The MoEF&CC under the Environment (Protection) Act, 1986 has notified the 'Rules for the Manufacture, Use, Import, Export and Storage of Hazardous Microorganisms/Genetically Engineered Organisms or Cells, 1989 Rules.
- The rules also cover application of hazardous microorganisms which may not be genetically modified.
- The Cartagena Biosafety Protocol (CBP) was negotiated under the aegis of the Convention on Biological Diversity (CBD) and adopted on 29<sup>th</sup> January 2000.
- The main objective of the Protocol is to ensure safe transfer, handling and use of living modified organisms (LMOs) resulting from modern biotechnology that may have adverse effect on the conservation and sustainable use of biological diversity, taking into account risk to human health.
- The Supplementary Protocol on Liability and Redress is a new international treaty adopted in the fifth meeting of the Conference of Parties serving as the Meeting of the Parties (COP MOP) to the CPB at Nagoya, Japan.
- The scheme helps in strengthening the biosafety management systems and awareness in India.

**Activities of Genetic Engineering Appraisal Committee (GEAC)**

- Convene monthly GEAC meetings as per schedule for review of applications pertaining to GM technology.
- GEAC has approved environmental release of Bt cotton expressing six events.
- Approvals for confined field trials of several GM crops for generation of biosafety data both from the private and public sector institutions.
- Various biosafety guidelines have been prescribed by the GEAC.
- GEAC has adopted the event based approval' mechanism where in a new procedure for commercial release of Bt cotton hybrids expressing approved events has been put in place.
- Biology documents for five crops namely cotton, brinjal, rice, okra and maize have been completed.
- Streamlining of the biosafety management system in India through review of existing policies, development of biosafety guidelines, capacity building etc. have been initiated. These include –
  - Preparation of ERA guidelines for environmental risk assessment of GM crops is in progress.
  - Strengthening and monitoring mechanism of confined field trials of regulated GM plants is in progress.

- Finalizing the guidance document for information/data generation and documentation for safety assessment of GE plants during biosafety research level trials has been finalized and is awaiting GEAC approval.
- Biology documents for eight more crops is under preparation and development of GEAC website has been completed.
- Extensive capacity building activities for enhancing awareness on biosafety related issues have been initiated.

**Achievements**

- GEAC has convened 7 meetings during April 2015 to March 2016 and considered 87 applications for conduct of confined field trials.
- The application for environmental release of transgenic mustard submitted by Department of Genetics, Delhi University is also under review by the GEAC.
- In compliance of Article 33 of the Cartagena Protocol on Biosafety, India submitted the third National Report on implementation on the scheduled date.
- Preparations for the eighth meeting of the Conference of Parties to the Cartagena Protocol on Biosafety (COP-MOP 8) has been initiated.

**GEF-GoI-UNDP Project entitled Mainstreaming Conservation and Sustainable Use of Medicinal Plants Diversity**

- Conserving medicinal plants is vital not only for the ecosystem health of the country, but also for its 4,635 ethnic communities.
- This project is aimed to promote long-term conservation and sustainable use of medicinal plants by mainstreaming it into forest management policy and practice at the national level and in three Indian states of Arunachal Pradesh, Chhattisgarh and Uttarakhand.
- Terminal evolution of the project is being undertaken by a group of experts.
- Long term strategy for threat assessment and monitoring the conservation status of medicinal plants in India prepared.
- Pilots demonstration sites established on both government and community owned and managed lands for the in-situ and ex-situ conservation and sustainable management of MAPs.

**All India Coordinated Project on Capacity Building in Taxonomy (AICOPTAX)**

- Taxonomy is a key science dealing with the classification of all living and extinct organisms and ensure sustainable utilization, conservation of biological resources and implementation of the Convention on Biological Diversity (CBD).
- There is an overall decline in expertise in the taxonomy of several groups of living organisms.
- The existing taxonomic base is eroding rapidly due to non-availability of professionals and lack of trained man-power to replace the retiring specialists.
- AICOPTAX is an active programme channelised at the national level to address the problems of inadequate taxonomic knowledge due to limited number of taxonomists available in the country is fully funded by the Ministry.



**Objectives**

- Survey, collection, and maintenance of collections of taxonomic groups including microbes for which no information is available and of unexplored and under-explored areas;
- Training in India and abroad to develop taxonomic expertise on various groups;
- Undertake bio-systematic research for the groups which require modern tools for refinement of taxonomy especially of economically important groups;
- To prepare manuals and other education materials to create awareness on the role of taxonomy in conservation and sustainable utilization of biodiversity among students.
- To promote awareness and to provide parataxonomic skills among local communities.

**Assistance to botanic gardens**

- The scheme was initiated in 1992 to augment facilities for ex-situ conservation of rare, endangered threatened and endemic plants.
- The objectives of the scheme include ex-situ conservation of indigenous species; establishment of seed banks, arboreta and mist propagation facilities; promotion of education and public awareness; and reintroduction and rehabilitation of plants in natural habitats in collaboration with State Forest Department on projects basis.

**Activities/Progress/Achievements**

- One time financial assistance is provided to identified Botanic Gardens and centre of Ex-situ conservation for improvement of their infrastructural facilities to facilitate ex-situ conservation of rare endangered, threatened endemic plants.
- Various organizations maintain botanic gardens and centre of ex-situ conservation which include 15 Lead Botanic Gardens.
- In current financial year, funds have been released to three Lead Botanic Gardens, i.e. Shivaji University Kolhapur, Maharashtra, BSI Regional Botanical Garden at Coimbatore and Shillong.
- Monitoring and evaluation of 12 existing and 14 new Botanic Gardens has also been undertaken by Botanical Survey of India.
- Besides, development of dedicated website for Assistance to Botanic Garden Scheme involving all the Lead and Small Botanic Garden is under process, which will be made to general access by December 2016.

**Wildlife Conservation****Integrated Development of Wildlife Habitats**

- The Protected Area (PA) network in India comprises of 730 Protected Areas (103 National Parks, 535 Wildlife Sanctuaries, 66 Conservation Reserves and 26 Community Reserves)
- Apart from providing support to Protected areas, the scheme has following three components - Protection of Wildlife outside Protected Areas and Recovery programmes for saving critically endangered species and habitats.
- The objective is to –
  - To assist the States/UTs in the development and management of PAs networks, protection of wildlife inside and outside protected areas.
  - To create facilities for better protection and management of PAs/high value biodiversity formations.

- To provide financial and assistance for eco-development, training, capacity building and research studies.
- To provide for the voluntary relocation of villages falling within the PAs to outside area and settlement of rights.
- To support Conservation Reserves and Community Reserves, Protection outside PAs, recovery programmes for critically endangered species.

**Wildlife Crime Control Bureau (WCCB)**

- WCCB is a statutory multi-disciplinary body established under the Ministry to combat organized wildlife crime in the country.
- It is mandated under Wild Life (protection) Act, 1972 to –
  - Collect and collate intelligence related to organized wildlife crime activities and to disseminate the same to State and other enforcement agencies for immediate action so as to apprehend the criminals
  - Establish a centralized wildlife crime data bank;
  - Coordinate actions by various agencies in connection with the enforcement of the provisions of the Act;
  - Assist foreign authorities and international organization concerned to facilitate coordination and universal action for wildlife crime control;
  - Capacity building of the wildlife crime enforcement agencies for scientific and professional investigation into wildlife crimes and assist State Governments to ensure success in prosecutions related to wildlife crimes; and
  - Advise the Government on issues relating to wildlife crimes having national and international ramifications, relevant policy and laws.

**Central Zoo Authority**

The main objective of the Central Zoo Authority (CZA) is to –

- enforce minimum standards and norms for upkeep and healthcare of animals in the Indian Zoos and to control the mushrooming of ill-conceived, ill-planned zoos; and
- monitor and evaluate the existing zoos and to suggest ways and means for the improvement of zoos in the country so that they can be transferred into potent centers for ex-situ conservation of endangered wild fauna.

**Activities undertaken**

- Under the CAMPA funds, Ministry started a programme for augmenting the fodder and water resources within the forests, so that sufficient supply is available to the wildlife within the forests itself.
- For the effective management of wild animals and to mitigate the damage to crop by wild animals, the proposals for declaring Wild Boar in Uttarakhand, Monkeys and Himachal Pradesh and Nilgai and Wild Boar in Bihar as vermin were considered by the Ministry.
- 477 proposals for eco-sensitive zones have been received from the States/UTs besides 105 National Parks and Sanctuaries in Andaman and Nicobar Islands.
- Indian PM and British PM met in London issued a joint statement on wildlife conservation and resolved to work together to combat the illegal wildlife trade and to improve protection for both captive and wild Asian elephants.

- India signed a MoU on Conservation of Migratory Birds of Prey in Africa and Eurasia, also called the 'Raptor MOU'.
- Wildlife Crime Offences detected and crime complaints filed and special enforcement or preventive drive conducted as joint operations with other agencies.
- Two days training programme conducted for police and forest officials and wildlife criminals apprehended.

### CSS- Project Elephant

#### Introduction

- Project Elephant (PE) was launched by the Government of India in the year 1991-92 as a Centrally Sponsored Scheme with following objectives:
  - To protect elephants, their habitat & corridors
  - to address issues of man-animal conflict
  - welfare of domesticated elephants
- Financial and technical support is being provided to major elephant bearing States in the country.
- Under the scheme, 100% financial assistance is provided to the concerned State Government for undertaking various activities for scientific management of elephant habitats.
- The Project is being implemented in 22 States / UTs and there are 29 notified and 2 proposed Elephant Reserve (ER) in the country.

List of Elephant reserves in India.

Sl. No.	Elephant Reserve	Elephant Range	Name of State	Date of Notification	Total area (Km <sup>2</sup> )	P.A. (Km <sup>2</sup> )
1	Mayurbhanj ER		West Bengal	24/10/2002	414	
2	Singhbhum ER	East-Central	Jharkhand	26/09/2001	4530	193
3	Mayurbhanj ER	Landscape	Orissa	29/09/2001	3214	1309
4	Mahanadi ER *	(South-West Bengal-	Orissa	20/07/2002	1038	964
5	Sambalpur ER *	Jharkhand – Orissa)	Orissa	27/03/2002	427	427
6	Baitami ER #		Orissa		1755	
7	South Orissa		Orissa		4216	750

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	ER #					
8	Lemru ER #		Chhattishgarh		450	
9	Badalkhol – Tamorpingla ER		Chhattishgarh		1048.3	1154.93
	<b>Total</b>				<b>17092.3</b>	<b>4797.93</b>
10	Kameng ER	Kameng- Sonitpur Landscape	Arunachal	19/06/2003	1892	748
11	Sonitpur ER *	(Arunachal – Assam)	Assam	06/03/2003	1420	420
	<b>Total</b>				<b>3312</b>	<b>1168</b>
12	Dihing- Patkai ER	Eastern-South Bank Landscape	Assam	17/04/2003	937	345
13	South Arunachal ER	(Assam – Arunachal)	Arunachal Pradesh	29/02/2008	1957.5	378.13
	<b>Total</b>				<b>2894.5</b>	<b>723.13</b>
14	Kaziranga- Karbi Anglong ER	Kaziranga- Karbi	Assam	17/04/2003	3270	1073
15	Dhansiri- Lungding ER	Anglong- Intanki Landscape	Assam	19/04/2003	2740	
16	Intanki ER	(Assam – Nagaland)	Nagaland	28/02/2005	202	202
	<b>Total</b>				<b>6212</b>	<b>1275</b>
17	Chirang- Ripu ER	North Bengal- Greater Manas Landscape	Assam	07/03/2003	2600	526
18	Eastern	(Assam – West Bengal)	West Bengal	28/08/2002	978	484

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	Dooars ER	West Bengal)				
	<b>Total</b>				<b>3578</b>	<b>1010</b>
19	Garo Hills ER	Meghalaya Landscape	Meghalaya	31/10/2001	3500	402
20	Khasi-hills ER #	(Meghalaya)	Meghalaya		1331	
	<b>Total</b>				<b>4831</b>	<b>402</b>
21	Mysore ER	Brahmagiri-Nilgiri-Eastern	Karnataka	25/11/2002	6724	3103
22	Wayanad ER	Ghat Landscape	Kerala	02/04/2002	1200	394
23	Nilgiri ER	(Karnataka – Kerala-	Tamil Nadu	19/09/2003	4663	716
24	Rayala ER	Tamilnadu-Andhra)	Andhra Pradesh	09/12/2003	766	525
25	Nilambur ER		Kerala	02/04/2002	1419	90
26	Coimbatore ER		Tamil Nadu	19/09/2003	566	482
	<b>Total</b>				<b>15335</b>	<b>5310</b>
27	Anamalai ER	Anamalai-Nelliampathy – High Range Landscape	Tamil Nadu	19/09/2003	1457	300
28	Anamudi ER	(Tamilnadu – Kerala)	Kerala	02/04/2002	3728	780
	<b>Total</b>				<b>5185</b>	<b>1080</b>
29	Periyar ER	Periyar-Agasthyamalai Landscape	Kerala	02/04/2002	3742	1058
30	Srivilliputhur ER	(Kerala – Tamilnadu)	Tamil Nadu	19/09/2003	1249	568

	<b>Total</b>				<b>4991</b>	<b>1626</b>
31	Shivalik ER	North-Western Landscape	Uttarakhand	28/10/2002	5405	1340
32	Uttar Pradesh ER	(Uttarakhand – Uttar Pradesh)	Uttar Pradesh	09/09/2009	744	
	<b>Total</b>				<b>6149</b>	<b>1340</b>
	<b>Grand Total</b>				<b>69,582.80</b>	<b>18,732.06</b>

- # – Approved by Govt. of India, but not yet notified by the State Government
- \* – Proposal for extension approved by GOI, but not yet notified by the state

### *Important Initiatives taken during the year*

- *Dandeli Elephant Reserve has been notified and the area of Mysore ER has been increased by 1331.94 sq km by including Bhadra Wildlife Sanctuary within Mysore ER.*
- *On the initiative of the Project Elephant, three states with largest captive population, namely Kerala, West Bengal and Odisha has constituted state and district level captive elephant welfare committee.*
- *A proposal on these lines is being processed by the Government of Assam.*

### **Project Tiger/National Tiger Conservation Authority (NTCA)**

#### Introduction

- The Centrally Sponsored Scheme “Project Tiger” was launched in April, 1973 with the objective “to ensure maintenance of a viable population of Tigers in India for scientific, economic, aesthetic, cultural and ecological values, and to preserve for all times, areas of biological importance as a national heritage for the benefit, education and enjoyment of the people”.

#### Progress/Achievements

- To ensure automation, timely submission and uniformity in submission of Annual Plan of Operation (APO), the NTCA along with the NIC is in process of finalizing a portal to file APOs online.
- A framework has been developed by NTCA in consultation with security and investigative agencies to assess security apparatus at tiger reserves with an aim to identify gaps and formulate strategies to address the same.
- The Conservation Assured Tiger Standards is a management evaluation tool which is being implemented in tiger occupied areas outside tiger reserves to improve quality of management interventions and finally lead to certification.
- Economic Evaluation of 6 tiger reserves has already been conducted which has demonstrated in monetary terms the value of preserving tiger reserves, especially in context of combating climate change through carbon sequestration.

- To assess the impact of raising, aiming and deploying the Special Tiger Protection Force and electronic surveillance in conservation of tiger, a performance audit of these two initiatives shall be carried out.
- The NTCA along with the Wildlife Institute of India, Dehradun shall develop a template for designing mitigating strategies for linear infrastructure like roads taking into account three representative landscapes from across India.
- A group of MPs shall start work on various facets of tiger conservation in India and suggest changes/improvements whenever required.
- Trial of Unmanned Aerial Vehicle (UAV) for monitoring done in Panna Tiger Reserve (Madhya Pradesh) in collaboration with Wildlife Institute of India.
- To sensitize stakeholders in the field of road ecology, a three-day training programme was organized at the Wildlife Institute of India, Dehradun.

#### List of Tiger Reserve in India

Sl. No.	Name of Tiger Reserve	State	Area of the core / critical tiger habitat (In Sq. Kms.)	Area of the buffer / peripheral (In Sq. Kms.)	Total area (In Sq.Kms.)
1	Bandipur	Karnataka	872.24	584.06	1456.3
2	Corbett	Uttarakhand	821.99	466.32	1288.31
	Amangarh (buffer of Corbett TR)	Uttar Pradesh		80.60	80.60
3	Kanha	Madhya Pradesh	917.43	1134.361	2051.791
4	Manas	Assam	840.04	2310.88	3150.92
5	Melghat	Maharashtra	1500.49	1268.03	2768.52
6	Palamau	Jharkhand	414.08	715.85	1129.93
7	Ranthambore	Rajasthan	1113.364	297.9265	1411.291
8	Similipal	Odisha	1194.75	1555.25	2750.00
9	Sunderbans	West Bengal	1699.62	885.27	2584.89

10	Periyar	Kerala	881.00	44.00	925.00
11	Sariska	Rajasthan	881.1124	332.23	1213.342
12	Buxa	West Bengal	390.5813	367.3225	757.9038
13	Indravati	Chhattisgarh	1258.37	1540.70	2799.07
14	Namdapha	Arunachal Pradesh	1807.82	245.00	2052.82
15	Dudhwa	Uttar Pradesh	1093.79	1107.9848	2201.7748
16	Kalakad-Mundanthurai	Tamil Nadu	895.00	706.542	1601.542
17	Valmiki	Bihar	598.45	300.93	899.38
18	Pench	Madhya Pradesh	411.33	768.30225	1179.63225
19	Tadoba-Andhari	Maharashtra	625.82	1101.7711	1727.5911
20	Bandhavgarh	Madhya Pradesh	716.903	820.03509	1598.10
21	Panna	Madhya Pradesh	576.13	1021.97**	1578.55
22	Dampa	Mizoram	500.00	488.00	988.00
23	Bhadra	Karnataka	492.46	571.83	1064.29
24	Pench	Maharashtra	257.26	483.96	741.22
25	Pakke	Arunachal Pradesh	683.45	515.00	1198.45
26	Nameri	Assam	200.00	144.00	344.00
27	Satpura	Madhya Pradesh	1339.264	794.04397	2133.30797
28	Anamalai	Tamil Nadu	958.59	521.28	1479.87
29	Udanti-Sitanadi	Chattisgarh	851.09	991.45	1842.54



30	Satkosia	Odisha	523.61	440.26	963.87
31	Kaziranga	Assam	625.58	548.00	1173.58
32	Achanakmar	Chattisgarh	626.195	287.822	914.017
33	Dandeli-Anshi	Karnataka	814.884	282.63	1097.514
34	Sanjay-Dubri	Madhya Pradesh	812.571	861.931	1674.502
35	Mudumalai	Tamil Nadu	321.00	367.59	688.59
36	Nagarahole	Karnataka	643.35	562.41	1205.76
37	Parambikulam	Kerala	390.89	252.772	643.662
38	Sahyadri	Maharashtra	600.12	565.45	1165.57
39	Biligiri Ranganatha Temple	Karnataka	359.10	215.72	574.82
40	Kawal	Telangana	893.23	1125.89	2019.12
41	Sathyamangalam	Tamil Nadu	793.49	614.91	1408.40
42	Mukandra Hills	Rajasthan	417.17	342.82	759.99
43	Nawegaon-Nagzira	Maharashtra	653.674	–	653.674
44	Nagarjunsagar Srisailem (part)*	Andhra Pradesh	2595.72*	700.59*	3296.31*
45	Amrabad	Telangana	2166.37*	445.02*	2611.39*
46	Pilibhit	Uttar Pradesh	602.7980	127.4518	730.2498
47	Bor	Maharashtra	138.12	–	138.12
48	Rajaji Reserve	Tiger Uttarakhand	819.54	255.63	1075.17
49	Orang Reserve	Tiger Assam	79.28	413.18	492.46

# DIRECTION

## [BIODIVERSITY CONSERVATION]

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50	Kamlang Reserve	Tiger	Arunachal Pradesh	671.00	112.00	783.00
	TOTAL			40340.12	30686.98	71027.10