

TECHNICAL SESSION 1:

**National Biodiversity Action Plan (NBAP) and
National Biodiversity Targets (NBTs)**

STATE	
NAME OF THE PARTICIPANT	
MINISTRY/DEPARTMENT	

WORKSHEET

A. Integration of biodiversity concerns into state level policies, plans and programmes

1. Please indicate the departments that you are aware, wherein activities directly relevant to biodiversity conservation are underway.

2. Please list documents/reports related to implementation of CBD, or other multilateral environmental agreements such as in the area of Climate Change, Hazardous Waste Management etc. prepared in your state that could contribute to NBTs such as 'State Action Plan on Climate Change'.

3. Please list the state specific legislations, strategies, policies, action plans etc. adopted in your state in areas relevant to biodiversity conservation and sustainable use (directly or indirectly) such as those relating to wetlands, forestry, fisheries, agriculture, etc.

C. Update on activities undertaken in your state, in line with Biological Diversity Act (BDA), 2002

1. State Biodiversity Boards (*Section 22 of BDA*):
 - a) Establishment of State Biodiversity Board (SBB) (Yes/No):
 - b) What is the composition of the SBB? _____
 - c) What is the frequency of meetings of the SBB? _____

2. Notification of State Biodiversity Rules as per Section 63 of BDA (Yes/No):

3. Biodiversity Management Committees (*Section 41 of the BDA*):
 - a) Number of Biodiversity Management Committees (BMCs) constituted in your state: _____
 - b) Challenges being faced _____

4. Has your state constituted a State Biodiversity Fund as stipulated in Section 32 of BDA? _____

5. People's Biodiversity Registers (PBRs) [*Refer to Section 41; Rule 22(6)*]
 - a) How many PBRs have been prepared in your state in last 5 years?

 - b) Please list them year-wise.

 - c) How many PBRs have been posted online? _____
 - d) What are the problems being faced for the preparation of PBRs?

 - e) What is the level of technical support received from various agencies for the preparation of PBRs? _____

6. Does your state have an updated State Biodiversity Strategy and Action Plan (SBSAP)? If not, has the process been initiated?

7. Biodiversity Heritage Sites (*Section 37 of the BDA*)
 - a) Have Biodiversity Heritage Sites been notified by your state? _____
 - b) If so, list them

 - c) Have rules/guidelines been framed for the management of the above sites?

8. Threatened species (*Section 38 of the BDA*)

b) Have any specific species (plant/ animal/ microbe, etc.) endemic to your state have been notified as threatened species by the Central Government?

c) Has any action been for rehabilitation of the notified species?

D. City Biodiversity Index

City Biodiversity Index (CBI) is a self-assessment tool for evaluating and monitoring the progress of biodiversity conservation efforts by cities against their own individual baselines. A list of indicators of CBI has been provided below. Some of these indicators are also reflected in features for smart cities under the Smart Cities Mission launched by the Government of India.

Please indicate if the information related to following indicators is available for any of the cities in your state and the agencies who could be contacted for the information.

Names of cities: _____

Indicators	Availability of information (Yes/No)	Relevant departments/agencies in the state
Native Biodiversity in the City		
1. Proportion of Natural Areas in the City		
2. Connectivity Measures		
3. Native Biodiversity in Built Up Areas (Bird Species)		
4. Change in Number of Vascular Plant Species		
5. Change in Number of Bird Species		
6. Change in Number of Butterfly Species		
7. Change in Number of Species (any other taxonomic group selected by the city)		
8. Change in Number of Species (any other taxonomic group selected by the city)		
9. Proportion of Protected Natural Areas		
10. Proportion of Invasive Alien Species		
Ecosystem Services provided by Biodiversity		
11. Regulation of Quantity of Water		
12. Climate Regulation: Carbon Storage and Cooling Effect of Vegetation		
13. Recreation and Education: Area of Parks with Natural Areas		

14. Recreation and Education: Number of Formal Education Visits per Child Below 16 Years to Parks with Natural Areas per Year		
Governance and Management of Biodiversity		
15. Budget Allocated to Biodiversity		
16. Number of Biodiversity Projects Implemented by the City Annually		
17. Existence of Local Biodiversity Strategy and Action Plan		
18. Institutional Capacity: Number of Biodiversity Related Functions		
19. Institutional Capacity: Number of City or Local Government Agencies Involved in Inter- agency Co-operation Pertaining to Biodiversity Matters		
20. Participation and Partnership: Existence of Formal or Informal Public Consultation Process		
21. Participation and Partnership: Number of Agencies/Private Companies/NGOs/Academic Institutions/International Organisations with which the City is Partnering in Biodiversity Activities, Projects and Programmes		
22. Education and Awareness: Is Biodiversity or Nature Awareness Included in the School Curriculum		
23. Education and Awareness: Number of Outreach or Public Awareness Events Held in the City per Year		

ACTION POINTS OF NATIONAL BIODIVERSITY ACTION PLAN 2008**I. Strengthening and integration of *in situ*, on-farm and *ex situ* conservation*****In situ* conservation**

1. Expand the Protected Area (PA) network of the country including Conservation and Community Reserves, to give fair representation to all biogeographic zones of the country. In doing so, develop norms for delineation of PAs in terms of the objectives and principles of the National Environment Policy, in particular, participation of local communities, concerned public agencies, and other stakeholders, who have direct and tangible stake in protection and conservation of wildlife, to harmonize ecological and physical features with needs of socio-economic development.
2. Establish self-sustaining monitoring system for overseeing the activities and effectiveness of the PA network.
3. Ensure that human activities on the fringe areas of PAs do not degrade the habitat or otherwise significantly disturb wildlife.
4. Mitigate man-animal conflicts.
5. Promote site-specific eco-development programmes in fringe areas of PAs, to restore livelihoods and access to forest produce by local communities, owing to access restrictions in PAs.
6. Promote voluntary relocation of villagers from critical habitats of PAs.
7. Devise effective management and conservation techniques for the forest preservation plots to ensure conservation of representative areas of different forest types.
8. Strengthen research work on PAs, biosphere reserves and fragile ecosystems by involving local research institutions and universities, so as to develop baseline data on biological and managerial parameters, and functional properties of ecosystems.
9. Strengthen the protection of areas of high endemism of genetic resources (biodiversity hotspots), while providing alternative livelihoods and access to resources to local communities who may be affected thereby.
10. Continue to promote inter-sectoral consultations and partnerships in strengthening biodiversity conservation activities.
11. Strengthen capacities and implement measures for captive breeding and release into the wild of identified endangered species.
12. Reintroduction and establishment of viable populations of threatened plant species.
13. Control poaching and illegal trade in wild animals and plant species.
14. Periodically revisit the norms, criteria and needs of data for placing particular species in different schedules of the Wildlife (Protection) Act.
15. Promote ecological and socially sensitive tourism and pilgrimage activities with emphasis on regulated and low impact tourism on a sustainable basis through adoption of best practice norms.
16. Formulate and implement partnerships for enhancement of wildlife habitat in Conservation Reserves and Community Reserves, on the lines of multi-stakeholder partnerships for afforestation, to derive both environmental and eco-tourism benefits.
17. Promote conservation of biodiversity outside the PA network, on private property, on common lands, water bodies and urban areas.

18. Formulate and implement programmes for conservation of endangered species outside PAs.
19. Ensure conservation of ecologically sensitive areas, which are prone to high risk of loss of biodiversity due to natural or anthropogenic factors.
20. Ensure that survey and bioprospecting of native economically important biological resources is undertaken on a priority basis.
21. Integrate conservation and wise use of wetlands and river basins involving all stakeholders, in particular local communities, to ensure maintenance of hydrological regimes and conservation of biodiversity.
22. Consider particular unique wetlands as entities of incomparable values, in developing strategies for their protection and formulate conservation and prudent use strategies for the identified wetlands with participation of local communities and other stakeholders.

On-farm conservation

23. Identify hotspots of agro-biodiversity under different agro-ecozones and cropping systems and promote on-farm conservation.
24. Provide economically feasible and socially acceptable incentives such as value addition and direct market access in the face of replacement by other economically remunerative cultivars.
25. Develop appropriate models for on-farm conservation of livestock herds maintained by different institutions and local communities.
26. Develop mutually supportive linkages between *in situ*, on-farm and *ex situ* conservation programmes.

Ex situ conservation

27. Promote *ex situ* conservation of rare, endangered, endemic and insufficiently known floristic and faunal components of natural habitats, through appropriate institutionalization and human resource capacity building. For example, pay immediate attention to conservation and multiplication of rare, endangered and endemic tree species through institutions such as Institute of Forest Genetics and Tree Breeding.
28. Focus on conservation of genetic diversity (*in situ*, *ex situ*, *in vitro*) of cultivated plants, domesticated animals and their wild relatives to support breeding programmes.
29. Strengthen national *ex situ* conservation system for crop and livestock diversity, including poultry, linking national gene banks, clonal repositories and field collections maintained by different research centres and universities.
30. Develop cost effective and situation specific technologies for medium and long term storage of seed samples collected by different institutions and organizations.
31. Undertake DNA profiling for assessment of genetic diversity in rare, endangered and endemic species to assist in developing their conservation programmes.
32. Develop a unified national database covering all *ex situ* conservation sites.
33. Consolidate, augment and strengthen the network of zoos, aquaria, etc., for *ex situ* conservation.

34. Develop networking of botanic gardens and consider establishing a 'Central Authority for Botanic Gardens' to secure their better management on the lines of Central Zoo Authority.
35. Provide for training of personnel and mobilize financial resources to strengthen captive breeding projects for endangered species of wild animals.
36. Strengthen basic research on reproduction biology of rare, endangered and endemic species to support reintroduction programmes.
37. Encourage cultivation of plants of economic value presently gathered from their natural populations to prevent their decline.
38. Promote inter-sectoral linkages and synergies to develop and realize full economic potential of *ex situ* conserved materials in crop and livestock improvement programmes.

II. Augmentation of natural resource base and its sustainable utilization: Ensuring inter- and intra-generational equity

39. Secure integration of biodiversity concerns into inter-sectoral policies and programmes to identify elements having adverse impact on biodiversity and design policy guidelines to address such issues. Make valuation of biodiversity an integral part of pre-appraisal of projects and programmes to minimize adverse impacts on biodiversity.
40. Promote decentralized management of biological resources with emphasis on community participation.
41. Promote sustainable use of biodiversity in sectors such as agriculture, animal husbandry, dairy development, fisheries, apiculture, sericulture, forestry and industry.
42. Promote conservation, management and sustainable utilization of bamboos and canes, and establish bambusetum and canetum for maintaining species diversity and elite germplasm lines.
43. Promote best practices based on traditional sustainable uses of biodiversity and devise mechanisms for providing benefits to local communities.
44. Build and regularly update a database on NTFPs, monitor and rationalize use of NTFPs ensuring their sustainable availability to local communities.
45. Promote sustainable use of biological resources by supporting studies on traditional utilization of natural resources in selected areas to identify incentives and disincentives, and promote best practices.
46. Encourage cultivation of medicinal plants and culture of marine organisms exploited for drugs to prevent their unsustainable extraction from the wild.
47. Promote capacity building at grassroot level for participatory decision-making to ensure ecofriendly and sustainable use of natural resources.
48. Develop *sui generis* system for protection of traditional knowledge and related rights including intellectual property rights.
49. Encourage adoption of science-based, and traditional sustainable land use practices, through research and development, extension of knowledge, pilot scale demonstrations, and large scale dissemination including farmer's training, and where necessary, access to institutional finance.
50. Promote reclamation of wasteland and degraded forest land through formulation and adoption of multi-stakeholder partnerships involving the land owning agency, local communities, and investors.

51. Promote sustainable alternatives to shifting cultivation where it is no longer ecologically viable, ensuring that the culture and social fabric of the local people are not disrupted.
52. Encourage agro-forestry, organic farming, environmentally sustainable cropping patterns, and adoption of efficient irrigation techniques.
53. Incorporate a special component in afforestation programmes for afforestation on the banks and catchments of rivers and reservoirs to prevent soil erosion and improve green cover.
54. Integrate wetland conservation, including conservation of village ponds and tanks, into sectoral development plans for poverty alleviation and livelihood improvement, and link efforts for conservation and sustainable use of wetlands with the ongoing rural infrastructure development and employment generation programmes.
55. Promote traditional techniques and practices for conserving village ponds.
56. Mainstream the sustainable management of mangroves into the forestry sector regulatory regime so as to ensure the protection of coastal belts and conservation of flora and fauna in those areas.
57. Disseminate available techniques for regeneration of coral reefs and support activities based on application of such techniques.
58. Adopt a comprehensive approach to integrated coastal management by addressing linkages between coastal areas, wetlands, and river systems, in relevant policies, regulations and programmes.

III. Regulation of introduction of invasive alien species and their management

59. Develop a unified national system for regulation of all introductions and carrying out rigorous quarantine checks.
60. Strengthen domestic quarantine measures to contain the spread of invasive species to neighbouring areas.
61. Promote intersectoral linkages to check unintended introductions and contain and manage the spread of invasive alien species.
62. Develop a national database on invasive alien species reported in India.
63. Develop appropriate early warning and awareness system in response to new sightings of invasive alien species.
64. Provide priority funding to basic research on managing invasive species.
65. Support capacity building for managing invasive alien species at different levels with priority on local area activities.
66. Promote restorative measures of degraded ecosystems using preferably locally adapted native species for this purpose.
67. Promote regional cooperation in adoption of uniform quarantine measures and containment of invasive exotics.

IV. Assessment of vulnerability and adaptation to climate change, and desertification

68. Identify the key sectors of the country vulnerable to climate change, in particular impacts on water resources, agriculture, health, coastal areas and forests.
69. Promote research to develop methodologies for tracking changes and assessing impacts of climate change on glaciers, river flows and biodiversity.

70. Assess the need for adaptation to future impacts of climate change at national and local levels, and the scope for incorporating the outputs of such assessments in relevant programmes, including watershed management, coastal zone planning and regulation, agricultural technologies and practices, forestry management, and health programmes.
71. Explicitly consider vulnerability of coastal areas and their biodiversity to climate change and sealevel rise in coastal management plans, as well as infrastructure planning and construction norms.
72. Participate in voluntary partnerships with other countries both developed and developing, to address the challenges of sustainable development and climate change, consistent with the provisions of the UNFCCC.
73. Identify the most important gaps in knowledge that limit the national ability to develop and implement climate change adaptation strategies for species, and ecological processes and functions.
74. Enhance the capacity of climate modeling in the country substantially to get clear idea on the impacts of climate change on biodiversity at national and local levels.
75. Develop ecological criteria for identifying the species and ecosystems that are at great risk from climate change and identify their priority habitats.
76. Identify information requirements and priorities, through expert consultative processes, for longterm monitoring of climate change impacts on biodiversity.
77. Establish a climate change and biodiversity website for decision makers concerned with national resource management to facilitate information exchange about the actual and potential impacts of climate change and relevant policies, strategies and programmes.
78. In view of the multidisciplinary nature of the subject, undertake an 'All India Coordinated Research Project on Impacts of Climate Change' on various facets of wild and agricultural biodiversity.
79. Integrate biodiversity concerns into measures for energy conservation and adoption of renewable energy technologies with a focus on local biomass resources and dissemination of improved fuelwood stoves, and solar cookers.
80. Strengthen efforts for partial substitution of fossil fuels by bio-fuels, through promotion of biofuel plantations, promoting relevant research and development, and streamlining regulatory certification of new technologies.
81. Strengthen and augment the existing programmes and activities of the Central and State Governments relating to drylands.
82. Prepare and implement thematic action plans incorporating watershed management strategies, for arresting and reversing desertification and expanding green cover.
83. Promote reclamation of wastelands by energy plantations for rural energy through multistakeholder partnerships involving the landowning agencies, local communities, and investors.

V. Integration of biodiversity concerns in economic and social development

84. Develop strong research base on impact assessment and conduct rigorous impact assessment of development projects, with a focus on biodiversity and habitats.
85. Integrate biodiversity concerns across development sectors (such as industry, infrastructure, power, mining, etc.) and promote use of clean technologies.

86. Accord priority to the potential impacts of development projects on biodiversity resources and natural heritage while undertaking EIA. In particular, ancient sacred groves and biodiversity hotspots should be treated as possessing incomparable values.
87. Take steps to adopt and institutionalize techniques for environmental assessment of sectoral policies and programmes to address any potential adverse impacts, and enhance potential favourable impacts.
88. Develop and integrate pre-project plans for reallocation and rehabilitation of local people likely to be displaced by development projects keeping in view their socio-cultural and livelihood needs.
89. Ensure that in all cases of diversion of forest land, the essential minimum needed land for the project or activity is permitted. Restrict the diversion of dense natural forests, particularly areas of high endemism of genetic resources, to non-forest purposes, only to site-specific cases of vital national interest.
90. Give priority to impact assessment of development projects on wetlands; in particular, ensuring that environmental services of wetlands are explicitly factored into cost-benefit analysis.
91. Promote integrated approaches to management of river basins considering upstream and downstream inflows and withdrawals by season, pollution loads and natural regeneration capacities, in particular, for maintenance of in-stream ecological values.
92. Consider and mitigate the impacts on river and estuarine flora and fauna, and the resulting change in the resource base for livelihoods, of multipurpose river valley projects, power plants and industries.
93. Adopt best practice norms for infrastructure construction to avoid or minimize damage to sensitive ecosystems and despoiling of landscapes.
94. Support practices of rain water harvesting and revival of traditional methods for enhancing groundwater recharge.
95. Give due consideration to the quality and productivity of lands which are proposed to be converted for development activities, as part of the environmental clearance process.
96. Ensure provision for environmental restoration during commissioning and after decommissioning of industries. For example, in all approvals of mining plans, institutionalize a system of postmonitoring of projects to ensure safe disposal of tailings and ecosystem rehabilitation following the principles of ecological succession.
97. Promote, through incentives, removal of barriers and regulation, the beneficial utilization of wastes such as fly ash, bottom ash, red mud, and slag, minimizing thereby their adverse impacts on terrestrial and aquatic ecosystems.
98. Promote sustainable tourism through adoption of best practice norms for tourism facilities and conservation of natural resources while encouraging multistakeholder partnerships favouring local communities.
99. Develop and implement viable models of public-private partnerships for setting up and operating secure landfills, incinerators, and other appropriate techniques for the treatment and disposal of toxic and hazardous wastes, both industrial and biomedical, on payment by users, taking the concerns of local communities into account. The concerned local communities and State Governments must have clear entitlements to specified benefits from hosting such sites, if access is given to non-local users. Develop and implement strategies for clean-up of toxic and hazardous

- waste dump legacies, in particular in industrial areas, and abandoned mines, and reclamation of such lands for future, sustainable use.
100. Survey and develop a national inventory of toxic and hazardous waste dumps, and an online monitoring system for movement of hazardous wastes. Strengthen capacity of institutions responsible for monitoring and enforcement in respect of toxic and hazardous wastes.
 101. Strengthen the legal arrangements and response measures for addressing emergencies arising out of transportation, handling and disposal of hazardous wastes as part of the chemical accidents regime.
 102. Promote organic farming of traditional crop varieties through research in and dissemination of techniques for reclamation of land with prior exposure to agricultural chemicals, facilitating marketing of organic produce in India and abroad, including by development of transparent, voluntary and science-based labeling schemes.
 103. Develop and enforce regulations and guidelines for management of e-waste as part of the hazardous waste regime.
 104. Promote, through incentives, removal of barriers, and regulations, the beneficial utilization of generally non-hazardous waste streams such as fly ash, bottom ash, red mud, and slag, including in cement and brick-making, and building railway and highway embankments.

VI. Pollution impacts

105. Minimise and eliminate activities leading to loss of biodiversity due to point and non-point sources of pollution and promote development of clean technologies.
106. Strengthen the monitoring and enforcement of emission standards for both point and non-point sources.
107. Develop location-specific work plans focusing on biodiversity conservation while managing pollution problems.
108. Treat and manage industrial effluents so as to minimize adverse impacts on terrestrial and aquatic biological resources.
109. Promote biodegradable and recyclable substitutes for non-biodegradable materials, and develop and implement strategies for their recycle, reuse, and final environmentally benign disposal, including through promotion of relevant technologies, and use of incentive based instruments.
110. Avoid excessive use of fertilizers, pesticides and insecticides while encouraging integrated pest management practices, and use of organic manures and biofertilisers.
111. Promote organic farming of locally adapted and traditional crop varieties through appropriate incentives, and direct access to markets duly supported by credible certification systems.
112. Develop a strategy for strengthening regulation, and addressing impacts, of ship-breaking activities on human health, coastal and near marine bioresources.
113. Accord priority to potential impacts on designated natural heritage sites in view of their incomparable values that merit stricter standards than in otherwise comparable situations.
114. Promote R&D on impacts of air, water and soil pollution on biodiversity and use of biological methods for pollution amelioration.

VII. Development and integration of biodiversity databases

115. Develop an integrated national biodiversity information system with distributive linkages for easy storage, retrieval and dissemination including through augmentation of extant efforts of spatial mapping of natural resources and development of interactive databases at national level.
116. Intensify survey, identification and inventorization activities, involving local institutions and giving priority to hitherto unexplored areas.
117. Conduct regular surveys to monitor changes in populations of target species (wild and domesticated), using remote sensing and other updated tools and techniques.
118. Update list of endangered species of flora and fauna on priority, based on internationally accepted criteria.
119. Extend listing of keystone, umbrella and endemic species for conserving them on priority basis, and develop models/packages for their conservation.
120. Update database on sacred groves and sacred ponds documenting bio-resources and associated knowledge conserved at these sites.
121. Promote DNA fingerprinting, other molecular analytical techniques and studies on genetic diversity of critically endangered species to develop appropriate conservation strategies.
122. Expand area specific surveys of land races, traditional cultivars of crops, wild relatives of crop plants and breeds of domesticated animals inter alia through application of appropriate statistical techniques.
123. Use modern taxonomic methods for documentation/identification of species.
124. Strengthen and build capacity for taxonomy and biosystematics, particularly for groups of plants, animals and microorganisms which are as yet inadequately understood.

VIII. Strengthening implementation of policy, legislative and administrative measures for biodiversity conservation and management

125. Accelerate effective actions at the central, state and local levels to implement provisions under the Biological Diversity Act.
126. Review enabling policies to prevent transfer of prime agricultural land to non-agricultural purposes, and promote sustainability of agricultural lands.
127. Formulate suggestive policies for strengthening and supporting conservation and management of grasslands, pastoral lands, sacred groves and other areas significant for biodiversity conservation.
128. Support preparation of PBRs with technical help by the scientific institutions.
129. Strengthen systems for documentation, application and protection of biodiversity associated traditional knowledge, providing adequate protection to these knowledge systems while encouraging benefits to communities.
130. Revive and revitalize sustainable traditional practices and other folk uses of components of biodiversity and associated benefits to local communities with a view to promoting and strengthening traditional knowledge and practices.
131. Create public education and awareness about the need to conserve, protect and gainfully use traditional knowledge systems.

132. Identify emerging areas for new legislation, based on better scientific understanding, economic and social development, and development of multilateral environmental regimes, in line with the NEP.
133. Review the body of existing legislations relevant to biodiversity conservation to develop synergies among relevant statutes and regulations, eliminate obsolescence, and amalgamate provisions with similar objectives, in line with the NEP. Further, encourage and facilitate review of legislations at the level of state and local governments with a view to ensuring their consistency with this policy.
134. Review the regulatory processes for LMOs so that all relevant scientific knowledge is taken into account, and ecological, health, and economic concerns are adequately addressed.
135. Periodically review and update the national biosafety guidelines to ensure that these are based on current scientific knowledge.
136. Ensure conservation of biodiversity and human health while dealing with LMOs in transboundary movement in a manner consistent with the multilateral biosafety protocol.
137. Develop appropriate liability and redress mechanisms to internalize environment costs and address economic concerns in case of any damage to biodiversity.
138. Harmonise provisions concerning disclosure of source of biological material and associated knowledge used in the inventions under the Patents Act, Protection of Plant Varieties and Farmers' Rights Act, and Biological Diversity Act, to ensure sharing of benefits by the communities holding traditional knowledge, from such use.
139. Develop supportive regulatory regime for protection of identified wetlands and biosphere reserves.
140. Develop appropriate system and modalities for operationalizing provisions for prior informed consent and benefit sharing under the Biological Diversity Act, working towards greater congruence between these provisions and trade related aspects of intellectual property rights.

IX. Building of national capacities for biodiversity conservation and appropriate use of new technologies

141. Develop consortium of lead institutions engaged in conservation providing linkages and networking across public and private sectors.
142. Outsource research and promote joint ventures on key conservation issues.
143. Promote application of biotechnology tools for conserving endangered species.
144. Encourage DNA profiling for assessment of genetic diversity in endangered species to assist conservation.
145. Develop DNA-probe based technology for tracking of LMOs.
146. Develop specific pilot gene banks for LMOs approved for undertaking research and commercial use.
147. Develop capacity for risk assessment, management and communication on LMOs.
148. Support pilot studies on use of biotechnology tools for conservation where appropriate.
149. Develop specific complimentary capacity building measures based on national needs and priorities for the formulation and implementation of national rules and procedures on liability and redress to strengthen the establishment of baseline information and monitoring of changes.

150. Develop protocols for monitoring products based on genetic use restriction technologies.
151. Strengthen participatory appraisal techniques and encourage formation of local institutional structures for planning and management of natural resources for ensuring participation of women.
152. Preserve and strengthen traditional, religious, ritualistic, ethical and cultural methods of conservation.
153. Promote livelihood diversification opportunities for making value added bioresource based products and building upon traditional as well as emerging environmental technologies customized at local/field level.
154. Strengthen manpower, infrastructure and other pertinent capacities including upgradation of skills of officials of the MoEF to enable it to address new and emerging requirements in the field of biodiversity conservation and management.
155. Strengthen capabilities of BSI and ZSI and promote their technical cooperation with SBBs and BMCs.
156. Augment human resource development and personnel management in forestry and wildlife sector.
157. Strengthen multidisciplinary R&D efforts on key areas pertaining to conservation and management of biological diversity.
158. Strengthen and support departments of biology, botany, zoology, sociology, anthropology and other relevant disciplines in central, state and deemed universities/ colleges, with a view to raising the standard of research and producing faculty who could guide the process of environmental education in schools.
159. Promote both formal and non-formal means for environment education and biodiversity conservation.
160. Design and implement awareness programmes, particularly for rural women, and also benefit from their wisdom. Women's organizations such as women's councils and mahila mandals could be used for this purpose.
161. Incorporate modules on conservation and sustainable utilization of biodiversity in foundational and professional training courses for the officers of various services.
162. Promote and/or strengthen education, training, awareness and extension programmes on biodiversity issues for various stakeholders including all levels of students, professionals (such as engineers, doctors, lawyers, CAs, etc.), elected representatives (such as representatives of PRIs, MLAs, MPs, Mayors, etc.), judiciary, NGOs, public and private sectors (e.g. corporate representatives, industrial associations etc.), defence and para military forces, customs, police, media, cultural, spiritual and religious institutions/ individuals.
163. Enhance public education and awareness for biodiversity conservation through audio, visual and print media.
164. Promote activities relating to animal welfare.

X. Valuation of goods and services provided by biodiversity, and use of economic instruments in decision making processes

165. Develop a system of natural resource accounting reflecting the ecological as well as economic values of biodiversity, with special attention to techniques of green accounting in national accounts and estimation of positive and negative externalities

for use of various types of natural resources in the production processes as well as in household and government consumption.

166. Develop suitable valuation models for adoption at national, state and local levels.
167. Support projects and pilot studies aimed at validating methods of valuation of bioresources.
168. Identify key factors and indicators to assess effectiveness of valuation methods and models, taking into consideration the UN guidelines on monitoring and evaluation of socio-economic projects.
169. Assess the utility of traditional and innovative fiscal instruments for promoting conservation and sustainable utilization of biodiversity.
170. Develop systems for partial ploughing back of the revenues generated in protected areas, zoological parks, botanical gardens, aquaria, etc., for improving their management.
171. Mobilize additional resources based on project formulation for biodiversity conservation.

XI. International cooperation

172. Further consolidate and strengthen global cooperation, especially with UN agencies and other international bodies on issues related to biodiversity.
173. Promote regional cooperation for effective implementation of suitable strategies for conservation of biodiversity, especially with neighbouring countries through flora such as SAARC, ASEAN and ESCAP.
174. Develop projects for accessing funds for conservation and sustainable use of biodiversity from external sources, earmarked for conservation through bilateral, regional and other multilateral channels.
175. Promote technology transfer and scientific cooperation towards conservation of biological resources, their sustainable use and equitable sharing of benefits arising out of their use, taking also into account extant regulations including those relating to taxation.

TECHNICAL SESSION 2:

Mobilizing resources and mainstreaming biodiversity into sectoral plans and programmes

Worksheet

A. This exercise is for mapping of programmes/activities and resource allocation by various state level departments and agencies for contribution to biodiversity conservation and achievement of NBTs.

1. Is there a separate budget head for activities related to biodiversity conservation in your state?
2. Are there specific programmes/schemes for biodiversity conservation in your state?
3. Is impact (positive/negative) on biodiversity considered a parameter while allocating funds for other developmental programmes/schemes?
4. Are experts familiar with biodiversity issues included in Committees reviewing various schemes/ proposals for sanctioning of funds by relevant Ministries?
5. Please list departments and their programmes/schemes with any relevance to biodiversity. Also please indicate whether the funds allocated under the scheme are spent for direct or indirect contribution to biodiversity. If indirect, the same may also be classified as Indirect high, Indirect medium and Indirect low as per the attached criteria and examples.

Department	Programmes/ schemes	Direct/ indirect contribution to biodiversity conservation

6. Are any of the above programmes being undertaken in a collaborative model/ partnership with public/ private organizations/ CSOs, etc? If yes, please list the organizations that work in collaboration for implementation of the above programmes.

7. Are biodiversity-related indicators considered as part of monitoring and evaluation framework to review the progress of schemes/programmes in various Departments?. If yes, please list them.

8. While formulating schemes and programmes, are conservation measures defined and funds allocated accordingly?

9. Is there a role for your department in implementation of NBAP/SBSAP?. If so, please elaborate.

B. Biodiversity related activities are being undertaken by various institutions in different states. Please list the major institutions engaged in biodiversity related programmes, whose activities may be linked to achievement of NBTs

S. No.	NBT	Institutions/organizations engaged in relevant activities in your state
1.	Biodiversity Awareness (Incorporating awareness and attitudes towards environmental conservation through communication and mainstream education)	
2.	Biodiversity Valuation and Poverty Alleviation (Incorporating natural resource /biodiversity/ ecosystem service values in national and state planning processes and development programmes)	
3.	Safeguarding Natural Habitats (Forest, Aquatic ecosystems, mangrove cover and coastal area etc.)	

4.	Managing Invasive Species (Invasive alien species and pathways are identified and strategies to manage them developed so that populations of prioritized invasive alien species are managed)	
5.	Sustainable Landscapes (Measures are adopted for sustainable management of agriculture, forestry and fisheries)	
6.	Protected Areas (Ecologically representative areas under terrestrial and inland water, and also coastal and marine zones, especially those of particular importance for species, biodiversity and ecosystem services)	
7.	Maintaining Genetic Diversity (Genetic diversity of cultivated plants, farm livestock, and their wild relatives)	
8.	Ecosystem Services (Ecosystem services, especially those relating to water, human health, livelihoods and well-being and measures to safeguard them are identified)	
9.	Access and Benefit Sharing (Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization as per the Nagoya Protocol are operational, consistent with national legislations)	
10.	Inclusive Governance (An effective, participatory and updated national biodiversity action plan is made operational at different levels of governance).	
11.	Protecting Traditional Knowledge (National initiatives using communities' traditional knowledge relating to biodiversity are strengthened, with the view to protecting this knowledge)	
12.	Resource Mobilization Opportunities to increase the availability of financial, human and technical resources to facilitate effective implementation of the Strategic Plan for Biodiversity 2011–2020 and the national targets are identified and the Strategy.	