



सत्यमेव जयते

# Achievement of Aichi Biodiversity

## Targets 11 and 16

*Success stories from India*



Celebration of the 25<sup>th</sup> Anniversary  
of the Convention on Biological Diversity  
2018

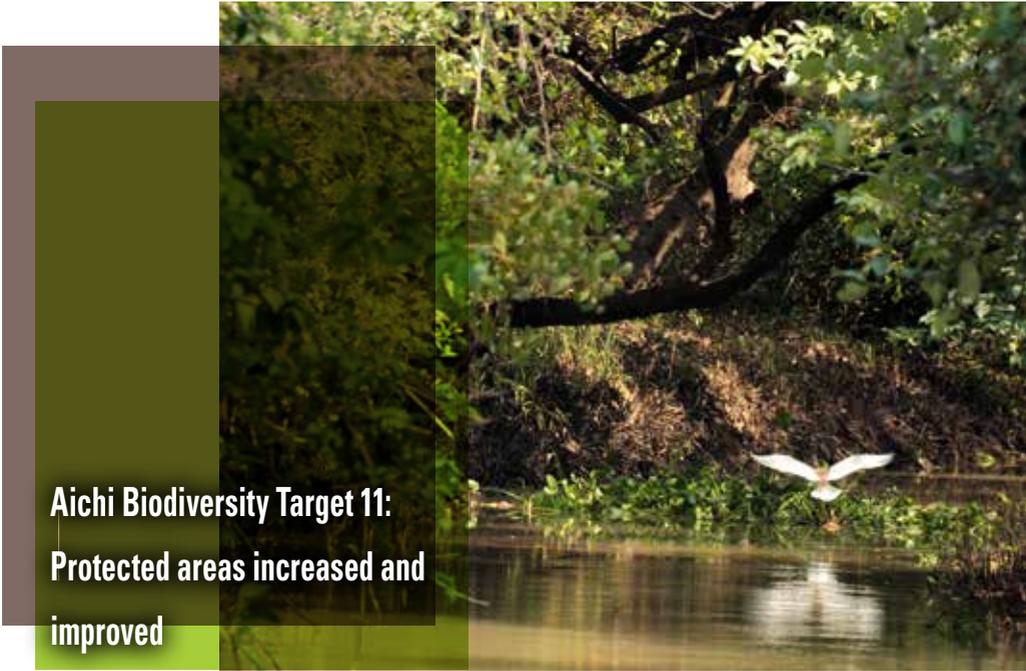




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## Aichi Biodiversity Target 11: Protected areas increased and improved

### **Aichi Biodiversity Target 11:**

*By 2020, at least 17 per cent of terrestrial and inland water, and 10 per cent of coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem services, are conserved through effectively and equitably managed, ecologically representative and well connected systems of protected areas and other effective area-based conservation measures, and integrated into the wider landscapes and seascapes.*

### **Corresponding National Biodiversity Target 6:**

*Ecologically representative areas on land and in inland waters, as well as coastal and marine zones, especially those of particular importance for species, biodiversity and ecosystem services, are conserved effectively and equitably, on the basis of protected area designation and management and other area-based conservation measures and are integrated into the wider landscapes and seascapes, covering over 20 percent of the geographic area of the country, by 2020.*

## Abstract

Aichi Target 11 sets national targets to be achieved by the parties in implementing in-situ conservation measures included in Article 8 of the Convention on Biological Diversity. India's in-situ conservation strategies began much before the Convention came into effect. This study presents status and progress made by India towards the achievement of various components of Aichi Target 11, and the corresponding National Biodiversity Target 6, along with the opportunities it offers towards the achievement of the global target. The Aichi Target 11 and the corresponding National Biodiversity Target 6 relates to conservation through protected areas as well as other area based conservation measures. Taking into consideration such other area-based conservation measures, along with protected areas designated under the Wildlife (Protection) Act, 1972, India has over 20 percent of the total geographical area under biodiversity conservation, thereby exceeding the global Aichi target of 17 percent. Actions undertaken by India for advancing various elements of Aichi target 11 provide for improving the status of those elements at the global level.

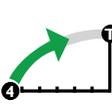
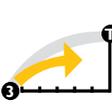
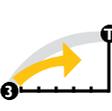
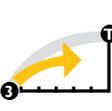
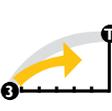
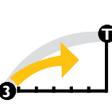


A Strategic Plan for Biodiversity 2011–2020 with 20 Aichi Biodiversity Targets was adopted under the Convention on Biological Diversity (CBD) in 2010, which was subsequently endorsed by all other biodiversity-related conventions and the United Nations General Assembly. All Parties to CBD are required to develop national targets in line with the Aichi targets. Accordingly, India developed 12 National Biodiversity Targets (NBTs) in 2014.

Aichi Target 11 and the corresponding NBT 6 relate to Protected Areas (PAs) and other effective area-based conservation measures. The various elements of Aichi Target 11 are: quantitative elements (terrestrial and marine); ecological

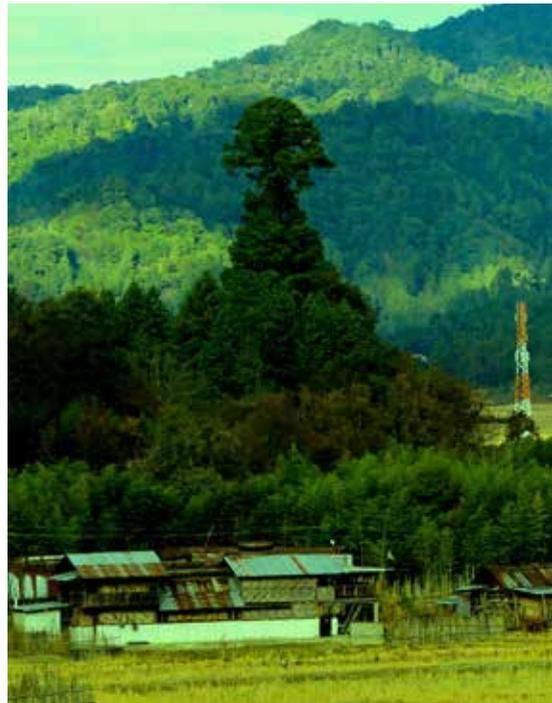
representation; areas important for biodiversity and ecosystem services; effective and equitably managed; connectivity and integration into wider landscapes and seascapes.

In the midterm assessment of progress towards the achievement of Aichi targets, presented by the CBD in 2014 in the fourth edition of the Global Biodiversity Outlook (GBO) — which was based on scientific publications and information contained in the World Database on Protected Areas (WDPA)— the following status for Target 11 was depicted:

Summary of progress towards Target 11, reported in global biodiversity outlook 4(2014)						
Target Elements (by 2020)	At least 17% of terrestrial and inland water area are conserved	At least 10% of Coastal and marine areas are conserved	Areas of particular importance for biodiversity and ecosystem services conserved	Protected areas are ecologically representative	Protected areas are effectively and equitably managed	Protected areas are well connected and integrated into the wider landscape and seascape
Status						

The green arrow indicates that the element is on track, and with continued efforts, this element will be achieved by the target date of 2020. The yellow arrow specifies that there is progress, but it is not sufficient to achieve the elements by the target date of 2020.

The following note presents how the progress made by India is contributing towards achieving Aichi Target 11 with regard to some of its elements.



## Terrestrial quantitative element

At the global level, the status of the terrestrial component of Target 11 as per the WDPA in May 2018 is 19.95 million square km (14.82 percent), thus requiring an additional 2.94 million square km (2.18 percent) to meet the target of 17 percent.

In India, the status of PAs as designated under different legal instruments, which meet the CBD definition and requirements of PAs is described below.

Table 1

Area covered under parks, sanctuaries and reserves in India under the Wildlife (Protection) Act, 1972

Category	Number	Area (square km)
National Parks	103	40,500
Wildlife Sanctuaries	544	118,932
Community Reserves	46	72.61
Conservation Reserves	76	2,567.95
<b>Total Protected Areas</b>	<b>769</b>	<b>1,62,072</b>

Source: ENVIS Centre on Wildlife and Protected Areas



These PAs include 25 Marine Protected Areas (MPAs) covering 8231.495 square km in peninsular India and 106 Island MPAs comprising an area of 1569.63 square km in islands. These MPAs cover more than 30 percent of the terrestrial area of the islands and protect more than 40 percent of the coastal habitat.

The National Forest Policy aims at the conservation of natural forests with vast variety of flora and fauna which represent remarkable biological diversity. The objectives of the National Policy are sought to

be met by declaring areas as reserved forests and protected forests under the Indian Forest Act, 1927.

The Act empowers the provincial state governments to notify any forest land or waste land as reserved/protected forest, thus prohibiting the clearing of such areas, felling of trees, mining and similar activities that may damage the green cover. Table 2 shows recorded forest area up to 2017 under the Indian Forest Act, 1927, which is 21.53 percent of the total geographical area of India.

Table 2

Category-wise Recorded Forest Area under the Indian Forest Act, 1927

Category	Area (square km)
Reserved Forests	4,34,705
Protected Forests	2,19,432
Unclassified Forests	1,31,881
<b>Total</b>	<b>7,67,419</b>

*Source: India State of Forest Report, 2017*



Wetlands are legally protected under the Wetland (Conservation and Management) Rules 2017, notified under the Environment (Protection) Act, 1986. These apply to “wetlands of international importance under the Ramsar Convention” and “wetlands as notified by the Central Government, State Government and Union Territory Administration”.

The National Wetland Inventory and Assessment, 2011 identifies 2.02 lakh wetlands in India, covering an area of 1.52 crore hectares. This amounts to 4.63 percent of the geographic area. Nearly 60 percent of these wetlands fall in the legally protected areas discussed earlier. The remaining 40 percent comprises natural and manmade wetlands. India has declared 26 wetlands as Wetlands of International Importance (Ramsar Sites). Of these, one falls in legally Protected Areas and the remaining 25 form part of this 40 percent. The 26 Ramsar Sites cover an area of 6,891.31 square km. Of the remaining, 115 wetlands have been identified by Ministry

of Environment, Forest and Climate Change (MOEFCC) for integrated management. In addition, provincial states and communities are encouraged to take up conservation of other wetlands.

Section 37 of the Biological Diversity Act 2002 empowers provincial state governments to declare areas of significant biological diversity as Biodiversity Heritage Sites in consultation with local bodies. Eleven sites covering an area of 941.21 square km were notified by the end of 2017. The details can be seen on <http://nbaindia.org>.

Thus, the total area covered by PAs under the four Acts, after avoiding overlaps and double counting is 9.14 lakh square km (27 percent of India's geographical area). The breakup is as follows:

Table 3

Act	Area (sq.km)
PAs under Wildlife (Protection) Act, 1972	1,62,072
Forests under Indian Forest Act, 1927 (After deducting the area of PAs under Wildlife (Protection) Act)	6,05,347
Designated wetlands under Environment (Protection) Act, 1986 (After deducting area of PAs under Wildlife (Protection) Act)	1,45,714
Biodiversity Heritage Sites under Biological Diversity Act, 2002	941
<b>Total</b>	<b>9,14,074</b>

Thus, India's PAs under these four Acts that meet the requirement of Target 11 are about 90 lakhs square kilometres, which is about 27 percent. India has thus exceeded the global target of 17 percent and NBT of 20 percent of terrestrial area-based conservation.

Further, as per WDPA, India's PAs are shown as 1.83 lakh square km only, which means that another 7.31 lakh square km could still be added. This means that India alone could contribute by adding about 7.3 lakh square km of the required 29.4 lakh square km to reach the target by 2020.

## Ecological representation and areas important for biodiversity and ecosystem services

India has three levels of planning units for establishing a representative network of PAs based on biogeographic classification: zones, provinces, and biomes. The ecological representation of PAs at the level of biogeographic zones is adequate. However, it can be further improved at the levels of biogeographic provinces and biomes.

At the global level, 349 out of the 821 non-Antarctic

terrestrial ecological regions had reached 17 percent coverage of PAs in WDPA. In this analysis, India's share was shown as only 5.8 percent. When the additional coverage of around 22 percent is mapped, the status of coverage of ecological regions as well as areas important for biodiversity and ecosystem services improves at national and global levels.



## Effectively managed element

In 2010, CBD Parties were invited to implement management effectiveness evaluations in at least 60 percent of their PAs. Acting towards this, the Ministry of Environment, Forest and Climate Change and its Wildlife Institute of India independently evaluated 125 national parks and wildlife sanctuaries in the country from 2006 to 2014, and is continuing this exercise for 125 PAs during 2017–18. India is amongst the few countries in the world that have institutionalized the Management Effectiveness Evaluation (MEE) process based on the World Commission on Protected Areas (WCPA) framework of the International Union for Conservation of Nature (IUCN). India has also

taken the MEE process forward by extending this evaluation for its Tiger Reserve Network (TRN) and has completed three cycles of evaluation (28 Tiger Reserves in 2006, 39 Tiger Reserves in 2010 and 43 Tiger Reserves in 2014). The mean MEE score of PAs is 60.80 percent for PAs and 69 per cent for tiger reserves, which is higher than the global mean of 56 percent. The fourth cycle is ongoing for 50 tiger reserves.

These actions significantly contribute to improving the status of this element at the global level.



## Governance and equity element

Some examples that promote and contribute to improving the status of this element are given below.

The Wildlife (Protection) Act, 1972 provides for the establishment of Foundations in tiger reserves in the country, for facilitating and supporting its management for conservation of biodiversity including the tiger, apart from promoting ecotourism and eco-development initiatives by involving people in such processes.

The Biological Diversity Act 2002 provides for the setting up of a three-tiered institutional structure for its implementation: National Biodiversity Authority (NBA) at the national level, State Biodiversity Boards (SBBs) at the provincial level and Biodiversity Management Committees (BMCs) to be set up by the elected bodies at the local level.

Eco-development is being practised as a strategy for securing support from local communities and other stakeholders for management of PAs. Eco-development recognizes the traditional dependence of people on forest resources for domestic use as well as supplementing livelihoods, and seeks to rationalize the demands of communities by facilitating alternatives for resources and livelihoods.

Eco-development Committees are constituted

as a participatory management strategy in the management of PAs in response to the changed paradigm of partnership.

Community reserves and Conservation reserves enable the participation of local communities in the declaration as well as management of such areas.

The Joint Forest Management initiative of the government enables the involvement of local communities in the management and conservation of forest resources through establishment of Joint Forest Management Committees (JFMCs). The community also has legal access to usufructs, ranging from 25 percent to 75 percent of the revenue arising out of the conservation of forests. Presently, there are over 1,00,000 JFMCs in the country. The communities also enjoy rights inside the forests for their bona fide use for non-timber forest produce.

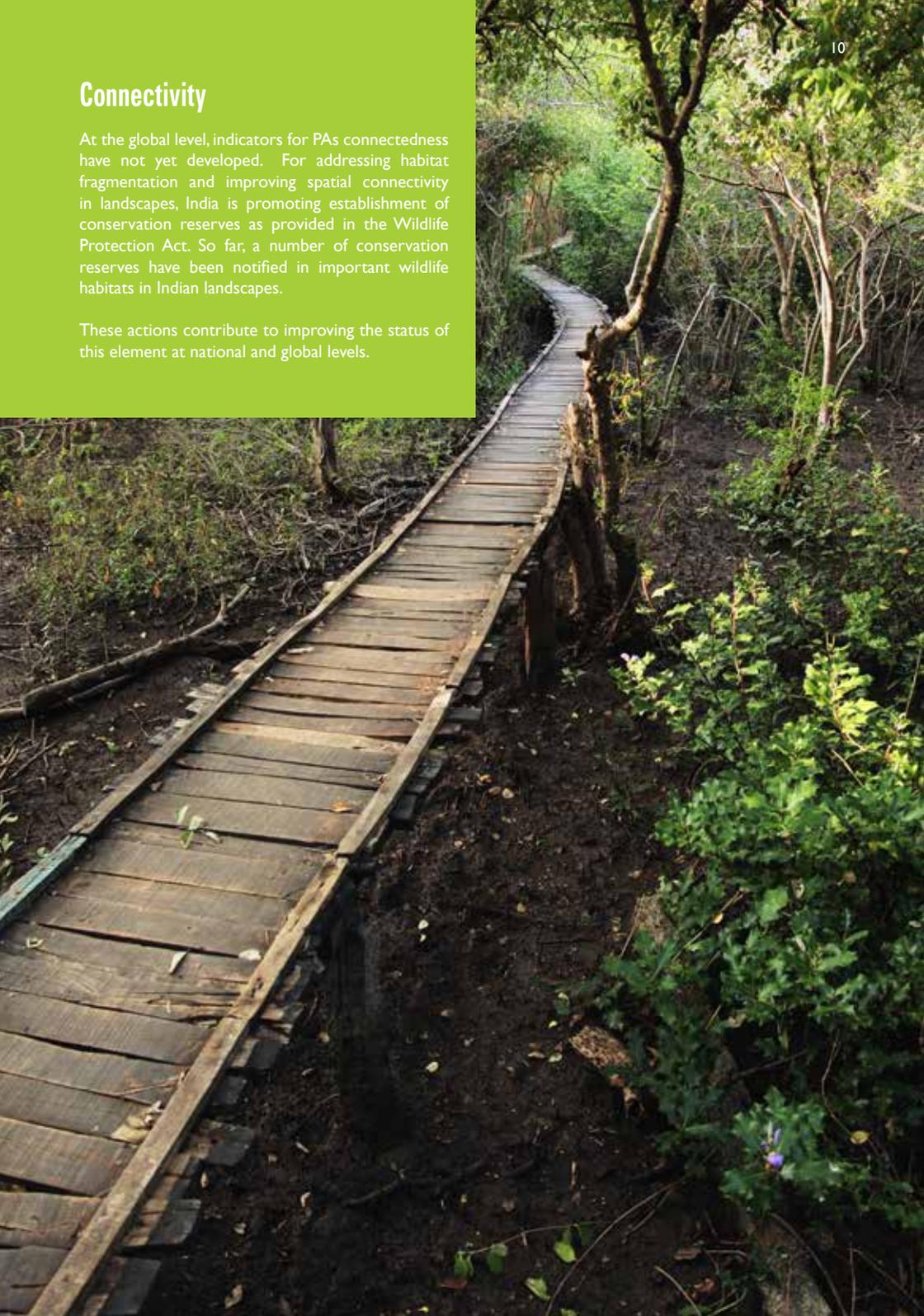
Under the Panchayats (Extension to Scheduled Areas) Act 1996, and the Forest Rights Act, 2006 (Scheduled Tribes and Other Traditional Forest Dwellers Recognition of Forest Rights Act), rights to forest resources and dwelling have been recognized.



## Connectivity

At the global level, indicators for PAs connectedness have not yet developed. For addressing habitat fragmentation and improving spatial connectivity in landscapes, India is promoting establishment of conservation reserves as provided in the Wildlife Protection Act. So far, a number of conservation reserves have been notified in important wildlife habitats in Indian landscapes.

These actions contribute to improving the status of this element at national and global levels.



## Integration into wider landscapes and seascapes

No evaluation of progress for integration of this element was included in the midterm assessment of Global Biodiversity Outlook 4 and no specific indicator is available to date.

In India, a range of measures including enabling policy and legal frameworks, in accordance with the National Environment Policy (NEP) 2006 have been put in place to mainstream biodiversity conservation into wider landscapes and seascapes to promote conservation beyond PAs. India's NBT 6 calls for integration of conservation measures into wider landscapes and seascapes through, inter alia,



landscape approach to conservation. Programmes such as Integrated Development of Wildlife Habitats, notification of Eco-Sensitive Zones, Coastal Regulation Zone Notification (2011), Island Protection Zone Notification, 2011, integrated wetland management, and National Coastal Management Programme promote such integration.

These actions contribute to improving the status of this element of Target 11 at national and global levels.



## Other effective area based conservation measures (OECMs)

The guidance on OECMs is presently being discussed under CBD. Some of the OECMs prevalent in India are given below to depict how India is implementing this element of Target 11.

India has designated 18 biosphere reserves out of which 10 are included in World Network of Biosphere reserves, and cover an area of 89,531 square km. Some of the areas overlap with legally protected areas. As areas of conservation based on the philosophy of reconciling 'conservation of biodiversity' and the 'quest for economic and social development and maintenance of associated cultural values', biosphere reserves promote landscapes/seascapes approach, and their increase in number after the CBD came into force is a meaningful positive signal.

Eco Sensitive Zones (ESZs) are notified around national parks and wildlife sanctuaries under the Environment (Protection) Act. ESZs provide for a conservation-friendly regulating regime in the notified areas.

Community Conserved Areas (CCAs) are defined as 'natural ecosystems' (forest/marine/wetlands/grasslands/others), including those with minimum to substantial human influence, containing significant wildlife and biodiversity values, being conserved by communities for cultural, religious, livelihood, or political purposes, using customary laws or other effective means.'

The state of Nagaland has identified Community Conserved Areas (CCAs) under the Village Council Act. The state of Arunachal Pradesh has identified CCAs under the Panchayat Proclamation Act. Uttarakhand state has identified CCAs under the Van Panchayat Act.

Culturally and traditionally, there has been a system of conserving local biodiversity through the institution of 'sacred groves' known by different names in different parts of the country. These groves often harbour unique and endemic biodiversity. Approximately 3,837 documented 'sacred groves' have been preserved through generations and exist in pristine form. Experts estimate that actual number could be 1 million to 1.5 million.

It is evident that India is contributing significantly to various elements of Aichi Target 11. India's terrestrial conservation area adds up to over 9 million square km. This is nearly 27 percent of the total geographical area of the country which is substantially more than 17 percent mentioned in Aichi Target 11. With only 2.4 percent of the world's land area supporting 18 percent of the world population, this is a significant contribution to the global target.





**Aichi Biodiversity Target 16:  
Nagoya Protocol in force and  
operational**



**Aichi Biodiversity Target 16:**

*By 2015, the Nagoya Protocol on Access and Benefit Sharing is in force and operational, consistent with national legislation.*

**Corresponding National Biodiversity  
Target 9:**

*By 2015, access to genetic resources and the fair and equitable sharing of benefits arising from their utilisation as per the Nagoya Protocol are operational, consistent with national legislation.*

## Abstract

One of the three objectives of the CBD and the objective of its Nagoya Protocol on Access and Benefit Sharing is the fair and equitable sharing of benefits arising from the use of genetic resources. India is implementing this objective through the Biological Diversity Act, 2002. India has designated National Focal Point, National Publishing Authority and National Authorized User for ABS Clearing House and has also taken various other measures through notifications and guidelines to ensure effective implementation of the Protocol. A continuing process of awareness and capacity building is going on to help effective implementation.



A radical paradigm shift was affected by the CBD in December 1994 in how biological resources would be accessed by users henceforth. One of the three objectives of the CBD is 'fair and equitable sharing of the benefits arising out of the utilization of genetic resources', commonly known as Access and Benefit Sharing (ABS), with the other two being conservation and sustainable use of biological diversity. India is a party to the CBD.

Reaffirming the sovereign rights of nations over their own resources, the Convention prescribes that access to genetic resources is subject to national legislation. Accordingly, India with its rich biodiversity and associated traditional knowledge, enacted the Biological Diversity Act in 2002 (hereafter referred to as 'the Act') for giving effect to the CBD provisions after an extensive consultative process. India was one of the first few countries to have enacted such legislation. However, in the near absence of user country measures, once the resource leaves the country providing the resources, there was no way to ensure compliance of ABS in the country where resources were used. Towards this, the Nagoya Protocol on Access and Benefit Sharing was adopted under the aegis of CBD in October 2010. India had participated actively and contributed meaningfully in the ABS negotiations

leading to the adoption of the Protocol. India signed the Protocol on 11 May 2011, and ratified it on 9 October 2012.

As Conference of Parties (COP) President from October 2012 to October 2014, ensuring early commencement of this landmark international treaty was a priority for India, towards which significant efforts were made through political and diplomatic channels.

Ratification of the Nagoya Protocol by requisite number of Parties during India's Presidency, enabled its entry into force on 12 October 2014. This was a major step towards achieving the first of the global Aichi Biodiversity targets—Target 16, according to which the Nagoya Protocol should be in force and operational by 2015. Remarkably, this was more than a year before its target date. The pivotal role played by India in achieving this remarkable feat once again showcased India's leadership in biodiversity in the global arena.

The Protocol significantly advances the objective of the Convention relating to the fair and equitable sharing of benefits arising from the utilization of genetic resources by providing greater legal certainty and transparency for both providers and





users of genetic resources, including researchers and industry. By promoting the use of genetic resources and associated traditional knowledge, and by strengthening the opportunities for fair and equitable sharing of benefits from their use, the Protocol aims to create incentives to conserve biodiversity, sustainably use its components, and further enhance the contribution of biodiversity to sustainable development and human well-being. The entry into force of the Nagoya Protocol was therefore of strategic importance.

The Nagoya Protocol is being implemented at the national level inter alia through the Act. Towards this, a notification titled 'Guidelines on Access to Biological Resources and Associated Knowledge and Benefit Sharing Regulations, 2014' (Guidelines) was issued under the Act. These Guidelines along with relevant provisions of the Act and the Biological Diversity Rules, 2014 prescribe the scheme of processing the applications, along with the template and terms for benefit sharing. Further, Regulation 13 of these Guidelines has a special provision enabling conducting of non-commercial research or research for emergency purpose, in line with Article 8 of the Protocol.

The Act is implemented through a three-tier

institutional mechanism: a National Biodiversity Authority (NBA) at the national level, State Biodiversity Boards (SBBs) at the provincial state government level and Biodiversity Management Committees (BMCs) set up by the elected bodies at the local level. While all provincial state governments (29) have set up SBBs, setting up of BMCs by the elected bodies is an ongoing process. So far, over 63,000 BMCs have been constituted by the local bodies.

As provided for in Article 13 of the Nagoya Protocol, India has designated a National Focal Point and also designated NBA as a Competent National Authority. In addition, National Publishing Authority and National Authorised User for ABS Clearing-House have also been designated.

India has published and made available all relevant information on legislative, administrative and policy measures for implementation of the Nagoya Protocol on ABS Clearing House. The information is also available on NBA's website: <http://nbaindia.org/>.

A notification issued by the Ministry of Environment, Forest and Climate Change in December 2014, exempts crops as specified by the Department of Agriculture, Cooperation and Farmers Welfare

from amongst the crops listed in Annex I of the International Treaty on Plant Genetic Resources for Food and Agriculture, from certain provisions of the Act. This is for the purpose of utilization and conservation for research, breeding and training for food and agriculture.

NBA has facilitated deposition of microorganisms in repositories outside India, a requirement for claim of novel species and publications in international journals, through introducing a separate application Form C.

NBA has so far entered into nearly 800 benefit sharing agreements on mutually agreed terms with the applicants. Benefits have also started flowing in. India was the first country to have made available to ABS Clearing House, information on an agreement in the common format developed by ABS Clearing House, to constitute the first Internationally Recognized Certificate of Compliance (IRCC) to be issued under the Nagoya Protocol. Since then, India has published 110 IRCCs on ABS Clearing House, as on 30 April 2018.

As an obligation of being a Party to the Protocol, India has submitted the Interim National Report of Nagoya Protocol in November 2017, which is available on the link <https://absch.cbd.int/search/nationalRecords?schema=absNationalReports>.

Implementation of ABS regulations is quite complex and challenging. Effective implementation inter alia requires awareness and capacity building of all stakeholders. Towards this, considerable time, money and manpower have been invested by the government over the years in awareness and capacity building. Procedures and forms of applications have been

streamlined and simplified. Online systems of filing of ABS applications have been put in place to facilitate access to all relevant information and procedures for users and providers. In this continuing process of awareness and capacity building, the latest addition is the creation of master trainer through meticulous training of legal academicians who will in turn, train researcher scientists and practitioners of ABS across the country on compliance and procedures involved.

As is evident, India has contributed significantly to the achievement of Aichi Biodiversity Target 16 at the international level, and has also achieved the corresponding National Biodiversity Target 9.

As an endeavour to take the experience of India's implementation of the Nagoya Protocol to the wider community that shares our commitment to achieve the objectives of the Convention and the Protocol, the Interim National Report has subsequently been prepared in a narrative format in a document titled 'Implementation of Nagoya Protocol on Access and Benefit Sharing: India's Experience'. The document presents the basic edifice for an effective ABS regime being implemented in the country, together with the enabling environment that supports and creates conditions for effectiveness and vibrancy of this edifice. The document also encapsulates some experiences of implementation of the ABS regime in the country. The document would be released formally on International Day for Biodiversity on 22 May 2018 and thereafter posted on the websites of CBD and NBA.







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