

Voluntary Peer-Review under the Convention on Biological Diversity

Case Study 2: India



**Ministry of Environment, Forest and Climate Change,
Government of India**

Table of Contents

Innhold

1. Background and methodology	4
2. Key facts about India	5
2.1. Country Profile	5
2.2. Economic overview	5
2.3. Overview of species and ecosystem data of India	6
2.4. National legislation and policy related to biodiversity.....	7
2.5. Membership of biodiversity-related multilateral environmental agreements.....	8
2.6. Institutional organization	9
3. Observations and recommendations to India.....	10
3.1. Institutional arrangements.....	10
3.2. National planning processes	11
3.3. National Biodiversity and Action Plan (NBAP) 2008 and NBAP Addendum 2014.....	13
3.4. Environmental Impact Assessment (EIA) and Strategic Environmental Assessment SEA) ...	16
3.5. Implementation of the Nagoya Protocol.....	17
3.6. Implementation of the Cartagena protocol	18
3.7. Implementation of CBD within other international frameworks.....	19
4. Recommendations for wider use in the Convention	21
5. Lessons learned for further development of the methodology.....	22

Acronyms

ABS	Access and Benefit-Sharing
BIOFIN	Biodiversity Finance Initiative
BD Act	Biological Diversity Act
BMC	Biodiversity Management Committee
CBD	Convention on Biological Diversity
	Convention on International Trade in Endangered Species of Wild Fauna and Flora
CITES	
CMS	Convention on the Conservation of Migratory Species of Wild Animals
EIA	Environmental Impact Assessment
FYPs	Five Year Plans
GDP	Gross Domestic Product
GEF	Global Environment Facility
IBSC	Institutional Biosafety Committee
INDC	Intended Nationally Determined Contributions
IPPC	International Plant Protection Convention
ITPGRFA	International Treaty on Plant Genetic Resources for Food and Agriculture
LMOs	Living Modified Organisms
MDG	Millenium Development Goal
MoEF&CC	Ministry of Environment, Forest and Climate Change
NBA	National Biodiversity Authority
NBAP	National Biodiversity Action Plan
NBAP 2008	National Biodiversity Action Plan from 2008
NBAP Addendum 2014	Addendum 2014 to National Biodiversity Action Plan from 2008
NBAPs	NBAP 2008 and NBAP Addendum 2014
NBT	National Biodiversity Target
NITI Ayog	The National Institution for Transforming India Aayog
NGOs	Non-Governmental Organizations
NR	National Report
PC	Planning Commission
Ramsar	Convention on Wetlands of International Importance
RCGM	Review Committee on Genetic Manipulation
SBB	State Biodiversity Board
SBI	Subsidiary Body on Implementation
SDGs	Sustainable Development Goals
SEIA	State Environment Impact Assessment Authority
SEA	Strategic Environmental Assessment
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNGA	United Nations General Assembly
VPR	Voluntary Peer Review
WHC	World Heritage Convention
WII	Wildlife Institute of India

1. Background and methodology

The Strategic Plan for Biodiversity 2011-2020 and its twenty global Aichi Targets were adopted by the Conference of the Parties to the Convention on Biological Diversity (CBD) at its tenth meeting, held in Nagoya, Japan in October 2010. Parties to the Convention have been translating these targets into national targets as part of their updated and revised National Biodiversity Strategies and Action Plans (NBSAPs). In 2011, the United Nations General Assembly (UNGA), at its 65th meeting, passed Resolution 65/161, which declared the period 2011 – 2020 to be “*the United Nations Decade on Biodiversity, with a view to contributing to the implementation of the Strategic Plan for Biodiversity for the period 2011-2020*”.

At its 12th meeting, the Conference of the Parties, in its decision XII/29, para 3: “*Takes note of the documents¹ prepared by the Executive Secretary on a proposed pilot voluntary peer-review process for the NBSAP, and requests the Executive Secretary, subject to the availability of resources, to develop a methodology for a voluntary peer-review process and to report to the Subsidiary Body on Implementation (SBI), for its consideration;*”.

The specific objectives of the Voluntary Peer Review (VPR) process according to the draft methodology are: i) to assess national progress toward the current CBD Strategic Plan and produce specific recommendations for the Parties under review; ii) to provide opportunities for peer learning; and iii) to create greater transparency and accountability to the public and other Parties.

In this connection, the Secretariat held the Inception Meeting of the informal working group for the development of a methodology for voluntary peer review of implementation of the Convention on Biological Diversity from 11 to 13 February 2015 in Tbilisi, Georgia. At the meeting, it was agreed that the revised methodology should be tested in two countries. Seven of the expert group Parties offered to participate in the review and from these Ethiopia and India were selected as countries to be reviewed, providing a good geographical and socio-economic range.

The peer review team for the India in-country visit comprised the following expert group members: Ms. Maja Stade Aarønæs, (Senior Adviser, Norwegian Environment Agency) and Ms. Hoang Thi Thanh Nhan (Deputy Director, Biodiversity Conservation Agency, Vietnam Environment Administration, Ministry of Natural Resources and Environment) and Mr. Jing Xu (Associate Professor, Chinese Research Academy of Environmental Sciences). CBD Secretariat support was provided by Mr. David Duthie, Mr. Nicolaas Van Der Werf and Mr. Maroun Abi-Chahine.

A desk study was implemented through studying the 2008 National Biodiversity Action Plan (NBAP) and the 2014 Addendum to the 2008 National Biodiversity Action Plan (NBAP) of India submitted to the Secretariat of the Convention on Biodiversity (SCBD) in 2014, the Indian 5th National Report to the Convention, and a number of other documents and videos identified and listed by the Secretariat. This desk study, combined with the scoping document prepared by India, provided the basis for an in-country visit. The agenda of the visit was prepared by the review team and the CBD Secretariat in close cooperation with Mr. Rabikumar Thangapandian, (Secretary, National Biodiversity Authority, from India), who was nominated as coordinator for the VPR process by MoEF&CC, and the visit took place in Chennai/New Delhi, India, from 18 to 22 January 2016. Unfortunately, Mr Xu was unable to participate in the in-country visit and the country visit was completed by Norway and Vietnam alone, with Mr Duthie (SCBD) as support. Mr Xu has contributed to the development of the report by providing his comments in writing.

UNEP/CBD/COP/12/25/Add.3 and UNEP/CBD/COP/12/INF/24

The aim of the in-country visit was to allow the review team to build on the desk study with additional direct information from officials and stakeholders. During the in-country visit 17 interviews meetings were held. The list of meetings is given in Annex 1. Based on findings from both the desk study and the in-country visit, the review team formulated this report. Chapter 2 contains some key background information compiled from the literature.

The review team decided early to concentrate the review on the framework for implementing the Convention on Biological Diversity in India including issues such as institutional organization and planning processes. India is a complex and diverse country at so many different levels, and it was not within the capacity of the team to go into detail on a number of issues. The report reflects the experiences of the review team from information gathered through studying literature and undertaking interviews within the existing limitations in time and human resources available.

2. Key facts about India

2.1. Country Profile

Located in South Asia, India is the world’s seventh-largest country by land area. Home to a multilingual and multi-ethnic society, India is bounded by the Indian Ocean on the south, the Bay of Bengal on the south-east and the Arabian Sea on the south-west. The country shares its land borders with Pakistan to the west, China, Nepal and Bhutan to the north-east, and Bangladesh and Myanmar (Burma) to the east. While India is in the proximity of Maldives and Sri Lanka in the Indian Ocean, the Andaman and Nicobar Islands share a maritime border with Indonesia and Thailand ([Source: Maps of the world](#)). The Indian mainland extends between 8°4'N to 37°6' N latitudes and from 68°7' E to 97°25' E longitudes. Thus the latitudinal and longitudinal extent of India is of about 29 degrees. It measures about 3,214 km from north to south, and 2,933 km from east to west. India can be divided into 10 biogeographic zones. These are the Trans Himalayan zone, the Himalayan zone, the Desert zone, the Semiarid zone, the Western Ghats zone, the Deccan plateau zone, the Gangetic plain zone, North east zone, the Coastal zone and Islands present near the shore line.

The country’s population of about 1.24 billion people is composed of many ethnic groups, speaking over 1,000 languages and following six major religions. With an annual population growth rate of 1.3 per cent, India is projected to become the most populous country in the world by 2035.

2.2. Economic overview

India’s economy grew at a remarkable average annual rate of 7.26 percent over the past five years. Between 2014 and 2015, the manufacturing sector grew by 8.4 percent, up from 4.4 percent a year ago. India has also established itself as a growing foreign investment destination, with foreign capital inflows of over US\$ 31 billion in 2015.

Issue	Number	Year
Total Population (In Billions)	1,24	2014
Area (million hectares)	328,73	
Sex Ratio (females per 1000 males)	940	2011
Child Sex Ratio (females per 1000 males)	914	2011

Gross Domestic Product (Current US \$) (millions)	1,727,111	2010
Contribution of Agriculture to GDP (%)	14,62	2009-10
Contribution of Industry to GDP (%)	20,16	2009-10
Contribution of Services to GDP (%)	65,22	2009-10
GNI per capita (current international \$)	3,550	2009-10
GDP Growth Rate (%)	8,0	2009-10
Human Development Index Value (HDI)	0,547	2011
HDI Rank (out of 187)	134	2011
Literacy Rate (%)	74,04	2011
Male Literacy Rate (%)	82,14	2011
Female Literacy Rate (%)	65,64	2011
Life Expectancy at Birth (in Years)	65,4	2011
Poverty Headcount Ratio (%)	29,8	2009-10
Global Hunger Index (GHI)	23,7	2004-09

Source: [UNDP](#)

(http://www.in.undp.org/content/dam/india/docs/india_fact_sheet_economic_n_hdi.pdf)

2.3. Overview of species and ecosystem data of India

India, a megadiverse country with only 2,4% of the world's land area, harbours 7-8% of all recorded species, including over 45,000 species of plants and 91,000 species of animals. It is also amongst the few countries that have developed a biogeographic classification for conservation planning, and has mapped biodiversity-rich areas in the country. Of the 34 global biodiversity hotspots, four are present in India, represented by the Himalaya, the Western Ghats, the Indo-Burma, and the Nicobar Islands (Sundaland). Thirty-nine (39) separate sites in the Western Ghats, located across the States of Kerala, Karnataka, Tamil Nadu and Maharashtra, were inscribed on the United Nations Education Scientific and Cultural Organization (UNESCO) World Heritage List in 2012.

With over 200 diatom species, 90 dinoflagellates, 844 marine algae and 39 mangrove species, the marine floral biodiversity of India is remarkable. Endemism is significant across different plant groups in India. About 4045 species of flowering plant (angiosperms) endemic to India are distributed amongst 141 genera belonging to 47 families. In terms of endemism of vertebrate groups, India's global ranking is 10th in birds, with 69 species, fifth in reptiles, with 156 species, and seventh in amphibians, with 110 species. As one centre of origin of cultivated plants, India has 15 agro-climatic zones. It is considered to be the primary centre of origin of rice. A total number of 811 cultivated plants and 902 of their wild relatives have been documented so far. India also has a vast and rich repository of farm animals, represented by a broad spectrum of native breeds of cattle (34), buffaloes (12), goat (21), sheep (39) and chicken (15). The great diversity of traditional farming systems and practices in different parts of India contribute to the food security of hundreds of millions of people across the country. The livestock sector too plays an important role in the Indian economy and is an important subsector of Indian agriculture ([Source: Fifth National Report](#)).

Climate across India ranges from equatorial in the far south to alpine in the upper Himalayas. Based on the Köppen system, India has six major climatic subtypes, ranging from arid desert in the west, alpine tundra and glaciers in the north, and humid tropical regions supporting rainforests in the southwest and the island territories. The country experiences four seasons: winter (January–February), summer (March–May), a monsoon (rainy) season (June–September) and a post-monsoon period (October–December). The seasons vary in intensity and duration from one region to another. Temperatures can exceed 40°C (104°F) during the daytime in summer. The rain-bearing monsoon clouds are attracted to the low-pressure system created by the Thar Desert. Winter in peninsula India experiences mild to warm days and cool nights. The highest temperature recorded in India was 50,6°C (123,1°F) in Rajasthan in 1955. The lowest recorded was -45°C (-49 °F) in Kashmir ([Source: CITES and CBD implementation in India: https://cites.unia.es/cites/file.php/1/files/Thesis_Ajay_Kumar_Saxena.pdf](https://cites.unia.es/cites/file.php/1/files/Thesis_Ajay_Kumar_Saxena.pdf))

India aims to have 33% of its land area under green cover. According to *India State of Forest Report 2013*, in 2013 India had 24,01% of its land area under forest and tree cover of which 21,23% (69,79 million hectares) was under forest. Compared with 2011, forest cover has increased by 0,587 million hectares to 2015.

India has a coastline of over 7,500 km. Indian coastal ecosystems comprise mudflats, sandy beaches, estuaries, creeks, mangroves, coral reefs, marshes, lagoon, sea grass beds and sandy and rocky beaches that extend to 42,808 sq. km.

India has a rich diversity of inland wetlands owing to wide variation in rainfall, hydrology, physiography, geomorphology and climate. Their distribution in the country range from high altitude lakes and swamps of the Himalaya, fertile alluvial floodplains of the Ganga and Brahmaputra, salt lakes of the arid zone, tanks of the Deccan plateau, and lakes and marshes on the east coasts. As per data contained in National wetland Atlas of 2011, India has 15,26 million ha area under wetlands, roughly equal to 4,6% of her land area. Of this, inland wetlands constitute 69,22% (10,56 million ha) ([Source: TEEB for India](#)).

2.4. National legislation and policy related to biodiversity

Protection of the environment, based on local knowledge systems and practices, is ingrained in Indian ethos and enshrined in the Constitution of India (Article 48A² and Article 51(A)(g)³). Key laws related to biodiversity include the Indian Forest Act, 1927, Wildlife (Protection) Act (1972), Forest Conservation Act (1980), Environment Protection Act (1986), Biological Diversity Act (2002). Key policies are the National Forest Policy 1988, National Wildlife Action Plan (2002-2016), National Environmental Policy (2006), National Biodiversity Action Plan (NBAP (2008)) and its 2014 Addendum, and the National Action Plan for Climate Change (2008). In addition, India has recently strengthened implementation mechanisms in policy, legislative and administrative measures for biodiversity conservation and management. In this context, major positive initiatives include: (i) Biological Diversity Act and Rules; (ii) Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights Act, 2006); (iii) Wildlife Crime Control Bureau; (iv) Green India Mission;

² 48A. Protection and improvement of environment and safeguarding of forests and wild life —The State shall endeavour to protect and improve the environment and to safeguard the forests and wild life of the country.

³ 51A(g) to protect and improve the natural environment including forests, lakes, rivers and wild life, and to have compassion for living creatures;

(v) Mahatma Gandhi National Rural Employment Guarantee Act; and (vii) setting up the National Fisheries Development Board (2006). Biodiversity has been mainstreamed in the agricultural sector e.g. National Policy for Farmers (2007); Protection of Plant Varieties and Farmers' Rights (PPV&FR) Act; International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA)), in forestry policies (e.g. Forest Rights Act), in planning and development (e.g. EIA Notification 2006), in tourism (e.g. National Wildlife Action Plan (NWAP)), and in the fishery sector (e.g. National River Conservation Programme, National Lake Conservation Plan, National Wetland Conservation Programme) ([Source: CBD](#)).

2.5. Membership of biodiversity-related multilateral environmental agreements

The Ministry of Environment, Forests and Climate Change is the nodal Ministry in the Government of India for all Multilateral Environmental Agreements except the International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA) and International Plant Protection Convention (IPPC) which are under the Ministry of Agriculture & Farmers Welfare. The agreements include the UN Framework Convention on Climate Change (UNFCCC) and its Kyoto Protocol, the Convention on Biological Diversity (CBD), the UN Convention to Combat Desertification (UNCCD), the Basel Convention on Trans-boundary Movement of Hazardous Substances, the Vienna Convention for the Protection of the Ozone Layer, the Montreal Protocol on Substances that deplete the Ozone Layer, the Stockholm Convention on Persistent Organic Pollutants, the Rotterdam Convention, the Ramsar Convention, Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), etc.

An International Co-operation Division within the MoEF&CC coordinates all issues related to international environmental cooperation. The Division is the nodal Division for the United Nations Environment Programme (UNEP), the South Asia Cooperative Environment Programme (SACEP) and the Global Environment Facility (GEF). It coordinates environmental issues related to the United Nations Development Programme (UNDP), the World Bank, the United Nations Industrial Development Organization (UNIDO) and also deals with regional bodies like the Economic & Social Commission for Asia & Pacific (ESCAP), the South Asian Association for Regional Cooperation (SAARC), the Association of South-East Asian Nations (ASEAN), the Asian Development Bank (ADB), the European Union (EU), the India-Brazil-South Africa (IBSA) Summit on Environment, etc., within the Ministry.

India hosted the eleventh meeting of the Conference of the Parties (COP 11) to the Convention on Biological Diversity (CBD) and the sixth Meeting of the Parties to the Cartagena Protocol on Biosafety (COP/MOP 6), held from October 1-19, 2012 in Hyderabad.

India signed the Cartagena Protocol on Biosafety and became a Party on September 11, 2003. India also ratified the Nagoya-Kuala Lumpur Supplementary Protocol on Liability Redress to the Cartagena Protocol on Biosafety in December, 2014.

The Nagoya Protocol on Access and Benefit Sharing (ABS) entered into force on October 12, 2014. India signed the Protocol on May 11, 2011, and ratified it on October, 9, 2012, thus becoming a Party immediately on entry into force of the Protocol. At the first meeting of the Conference of the Parties serving as the meeting of the Parties to the Nagoya Protocol held in Pyeongchang, Republic of Korea in October 2014, India was invited to preside over the meeting as the host country had not ratified the protocol.

2.6. Institutional organization

Biodiversity conservation in India is the responsibility of both the Federal (Central) and State Governments and the government structures for managing biodiversity are set up from the federal level to the local level.

According to the Government Rules of Business, the Ministry of Environment, Forests and Climate Change (MoEF&CC) is the nodal agency in the administrative structure of the Central Government for the planning, promotion, co-ordination and overseeing of the implementation of India's environmental and forestry policies and programmes, including biodiversity considerations. MoEF&CC is in charge of formulating legislation and policy and other statutory functions under various environmental, forest and wildlife laws including granting clearances for various activities or projects based on their potential environmental impacts.

The Biological Diversity Act was enacted in 2002 to give effect to the Convention on Biological Diversity, with special emphasis on fair and equitable sharing of benefits arising out of the utilisation of the biological resources and knowledge associated. The scope of the Act includes use of biological resources and associated knowledge occurring in India for commercial or research purposes or for the purposes of bio-survey and bio-utilisation, or for obtaining intellectual property rights for any invention based on research or information on a biological resources obtained from India. It provides a framework for access to biological resources and sharing of the benefits arising out of such access and use.

The Biological Diversity Act (2002) is implemented through a decentralized system including the National Biodiversity Authority (NBA), State Biodiversity Boards (SBBs) and Biodiversity Management Committees (BMCs) with defined jurisdictions and responsibilities. NBA shall regulate activities related to access to biological resources and fair and equitable sharing of benefits by granting approvals. NBA also advises the Federal Government on matters relating to the conservation of biodiversity, sustainable use of its components and equitable sharing of benefits arising out of the utilization of biological resources. NBA advises the State Governments in the selection of areas of biodiversity importance to be notified as Biodiversity Heritage Sites and measures for the management of such sites. Besides managing ABS issues, NBA is also mandated by MoEF&CC to work on tasks like the NBAP revision, preparation of National Reports to the CBD and initiatives such as The Biodiversity Finance Initiative (BIOFIN) and the Centre for Biodiversity Policy and Law (CEBPOL).

The function of the State Biodiversity Boards (SBBs) is to advise the State Government, subject to any guidelines issued by the Central Government, on matters relating to the conservation of biodiversity, sustainable use of its components and equitable sharing of the benefits arising out of the utilization of biological resources. Further, the SBBs shall regulate by granting of approvals for commercial utilization or bio-survey and bio-utilization of any biological resource by Indians.

The Biodiversity Management Committees (BMCs) are to be constituted by every local body within its area for the purpose of promoting conservation, sustainable use and documentation of biological diversity. This includes preservation of habitats, conservation of land races, folk varieties and cultivators, domesticated stocks and breeds of animals, microorganisms and chronicling of traditional knowledge relating to biological diversity. The main function of the BMCs is to prepare People's Biodiversity Registers (PBRs) by documenting local biological resources and associated traditional knowledge. NBA and SBB shall consult the BMCs while taking any decision relating to utilization of biological resources and knowledge from their territorial jurisdiction.

3. Observations and recommendations

3.1. Institutional arrangements

Observations

According to the Biodiversity Act, 2002; NBA, the SBBs and the BMCs have a broad mandate on biodiversity conservation, sustainable use and access and benefit-sharing (ABS). However, the specific provisions in the Act mainly concern ABS. On issues concerning ABS, NBA is the responsible institution at the Federal level, the SBBs are responsible at the State level and the BMCs are responsible at the local level. This provides NBA, the SBBs and the BMCs with a strong mandate on ABS from the BD Act while other legislations like Forest Act, Wildlife Protection Act and Forest Conservation Act address issues related to Conservation and Sustainable use. This can be explained by the fact that the BD Act was not meant to substitute any existing Acts concerning biodiversity, but be an addition to already existing legislation relating to forests and wildlife. Since the above mentioned institutions are mandated through the Act, the work undertaken by them mainly focuses on ABS.

Constitution of BMCs is a continuous process initiated by the local bodies (gram panchayats). Setting up BMCs at the local level is a challenging task. Since its establishment, NBA has supported creation of SBBs in all 29 States and facilitated establishment of around 37,769 BMCs. However, the distribution of the BMCs across the States is highly variable, with 23,743 in Madhya Pradesh alone, whilst three States (Bihar, Haryana, and Jammu and Kashmir) have not established any. There are about 250,000 local bodies in India, implying that more than 200,000 additional BMCs or similar structures will need to be established in order to have the three level system set up and operational for the whole country.

The BMCs are important for the implementation of the BD Act and have a specific role in relation to the granting of permission to use biological resources and knowledge. Where the BMCs are not in place, the already established local bodies may be consulted, as according to rule 14.3 in the Biological diversity rules. In order for the local bodies to be able to undertake this responsibility more capacity building may be needed.

Recommendations

The organizational structure planned for implementation of the BD Act is impressive. In order for the BD Act to be implemented as intended it is recommended that the establishment of BMCs should be prioritized. Where the BMCs are not operational other solutions should be sought for securing local level involvement in applications for access to biological resources. Scaling up the BMCs to operate at the higher level of the sub-district (Tehsil level) is one possibility that could be relevant to explore further.

While the regulatory framework on ABS is well defined in the BD Act, more guidance may be needed for the engagement of NBA, the SBBs and the BMCs in the implementation of aspects of conservation and sustainable use.

3.2. National planning processes

Observations

The Planning Commission (PC) was set up in 1950 and is responsible for assessing all resources of the country, augmenting deficient resources, formulating plans for the most effective and balanced utilisation of resources and determining priorities. The Planning Commission decides the design and size of sectoral schemes and allocates funding for their implementation.

Planning in India is organized through formulation of Five-Year Plans (FYPs), and the current plan runs from 2012-2017. A similar structure is set up at the State level, where the Planning Commission at the State level is a financial body that allocates funding to the different departments and government schemes. The current FYP is an ambitious document with a number of clear and monitorable objectives and targets relevant for CBD in the chapter concerning MoEF&CC.

In 2014 it was decided to replace the Planning Commission with NITI Aayog. The mandate of the Planning Commission, and NITI Aayog, is general planning for the country, while the more detailed planning mainly occurs within the different sectors. The functions and responsibilities of NITI Aayog are still under development and the implications of the transformation for the mandates of other governmental institutions remains to be seen. However, the new organizational model will most likely give more power to the States, and also move away from FYPs to provide more flexibility in the timeline of planning cycles. The change in the organizational structure for planning can be seen as another step in India's transformation from a highly centralised planning system to more decentralised planning processes. The status of economic and social development in India's States is diverse and transferring more authority to the States may enable more State-specific priorities to emerge.

The Ministry of Environment, Forest and Climate Change (MoEF&CC) is the nodal agency in the administrative structure of the Central Government for planning, promotion, coordination and overseeing implementation of India's environmental and forestry policies and programmes. As biodiversity is a multi-disciplinary subject, several other Ministries/Departments and affiliated agencies at the central and state levels are also undertaking biodiversity related programs. According to the BD Act "the Central Government shall, as far as practicable wherever it deems appropriate, integrate the conservation, promotion and sustainable use of biological diversity into relevant sectoral or cross-sectoral plans, programmes and policies." Besides MoEF&CC, biodiversity is also dealt with by ministries such as Ministry of Agriculture & Farmers Welfare, Ministry of Earth Sciences, Ministry of Science and Technology among others. The review team is of the understanding that the special responsibility held by MoEF&CC as a nodal agency for the environment is mainly operating at the policy development level. The planning and implementation of activities related to environment under other ministries is monitored by the respective Ministry.

The Ministries of the Government of India implement activities on specific issues under a number of different schemes. In addition to the work undertaken by MoEF&CC, a total of 23 Ministries/Departments and 77 schemes have been identified as contributing positively to biodiversity. Each scheme is the responsibility of a single nodal Ministry at the Federal level. The characteristics of a scheme may change over time depending on the priorities of the nodal Ministry and the priorities set in the five-year plans. In order to assess whether they benefit biodiversity over time they will need to be tracked. The review team was not able to make an accurate transition (mapping) between the 77 schemes identified as contributing to the NBAP and the 175 actions listed

in the NBAP 2008 and the indicators listed in NBAP Addendum 2014. Most of the 77 schemes listed clearly have potential positive impacts on biodiversity.

Some of the 77 schemes identified as contributing to biodiversity may not only favor biodiversity, but have other objectives linked to social and economic development and improved livelihoods. The potential ecological impacts need to be taken into account in the designing and implementation of these schemes by the responsible ministry.

The NBAP Addendum 2014 included a study of funding of biodiversity in 2013-2014, assessing the budget allocations within MoEF&CC contributing to the NBTs and assessing schemes with bearings on biodiversity in other Ministries/Departments. The Biodiversity Finance Initiative (BIOFIN) under UNDP will build on the study and review expenditures and costs of achieving the NBAP and the NBTs. Further, BIOFIN will provide an approach to identify and mobilise the financial resources needed for implementing the NBAP and making progress towards achieving the NBTs. BIOFIN India is hosted in NBA with technical assistance from Wildlife Institute of India and the National Institute of Public Finance and Policy.

India has elaborate systems for implementing many of the obligations under CBD. The planning processes in India are complex, involving a number of institutions in an elaborate structure. The complexity of the system has the advantage that it prevents negative consequences arising from rushed decisions, but also implies that there is a long process starting from the FYPs and other strategic planning documents (like the NBAP) down to the documents that trigger specific implementation activities on the ground. It seems like the major challenges are not the absence of systems, but the challenge of executing the systems with the amount of work it implies and resources available.

Recommendations

Both the NBAP and the FYP are strategic policy documents, with the latter being of primary importance for financial allocations. Since the FYPs are strategic policy documents covering all major issues of the government and determining the total budget for the period, it would be an advantage if the processes would be aligned so that the NBAPs may feed into the FYPs on biodiversity priorities. The recent changes in the planning cycles may open for new ways of aligning policy development for biodiversity with national development planning, and efforts should be made to seek coherence between relevant planning documents important for biodiversity. The decentralization of governance implies that State level policy on biodiversity will become even more important and should be given higher priority in the implementation of the NBAP.

In addition to the existing monitoring regime through NITI Ayog, a more robust monitoring mechanism is required to capture the implementation of the NBT within the other ministries.

It is further recommended to undertake a mapping of the activities and indicators for the 77 schemes and compare them with the NBT with respect to their alignment. According to the review team's knowledge, this may partly be undertaken by the BIOFIN project.

It is relevant for MoEF&CC to have close dialogue with the 23 Ministries that are responsible for schemes with importance for biodiversity. It is recommended that MoEF&CC looks into possible measures to undertake in order to encourage that the schemes make full use of their potential to contribute positively to biodiversity.

Full use should be made of the assessment of the budgeted funding for biodiversity in the NBAP Addendum 2014. This may provide a useful baseline for assessing biodiversity funding over time and

for reporting on Aichi target 20 on mobilization of financial resources. Further, the findings of BIOFIN on expenditures and financial resources needed for achieving the NBAP and the NBTs should feed into the planning processes under the new planning regime in order to stimulate a targeted approach to implementation.

3.3. National Biodiversity and Action Plan (NBAP) 2008 and NBAP Addendum 2014

Observations

India approved their first NBSAP (National Policy and Macro level Action Strategy on Biodiversity) in 1999. Thereafter, the Ministry of Environment and Forests implemented an externally-funded GEF project on the development of a NBSAP in 2000-2003, under which 33 State level, 10 eco-region level, 18 local level and 13 thematic action plans were prepared. On the basis of these action plans, a final technical report of the NBSAP project was prepared. The NBAP 2008 was developed prior to the CBD Strategic Plan for Biodiversity 2011-2020. In the light of the Strategic Plan 2011-2020 and the Aichi Biodiversity Targets, India has undertaken a process of updating its NBAP in order to further build synergies between the NBAP and Aichi Biodiversity Targets. The principal part of the NBAP Addendum 2014 consists of the 12 National Biodiversity Targets (NBTs). The NBTs have been cross-linked to both the Aichi Biodiversity Targets and the 175 actions from the NBAP 2008 which, in principle, allows monitoring and reporting of both the NBT at the national level and the contribution to the Aichi targets at the global level. For each NBT, a number of composite indicators have been developed and a specification of the composite indicators (“description of indicator”) is presented.

The review team has mainly focused on India's NBAP from 2008 and the updated NBAP Addendum from 2014. In this report these two documents are referred to as the two NBAPs.

The review team has the impression that the NBAPs are policy documents providing a framework for further development within the Ministries that will result in measures that will ensure biodiversity considerations are taken across sectors. It appears that the timelines presented in the NBAPs are quite flexible, e.g. the timelines for the NBAP 2008 are presented as indications of when the implementation should optimally be achieved. Further, the implementing agencies in the NBAPs are presented as being indicative.

The Biodiversity Finance Initiative (BIOFIN) will review expenditures and costs of achieving the NBAP and the NBTs and provide an approach to identify and mobilise the financial resources needed for implementing the NBAP and making progress towards achieving the NBTs.

The adoption of the NBAPs does not lead to the allocation of funds for its implementation, rather the objectives of the NBAPs will have to be implemented through schemes and programs of the relevant ministries. The NBAP provides the sectoral ministries with a flexibility to integrate biodiversity concerns in their respective schemes. Hence the objectives and the indicators for the NBTs will need to be reflected in the schemes in order to allow for monitoring of the NBTs. During the planning process for the FYP, baselines are prepared and targets set for each scheme. Since the baselines for the formulated action points/indicators are not reflected in the NBAPs, it is not known to the review team which baselines are available. The timeline for monitoring of indicators in the NBAP Addendum 2014 implies that the first monitoring should take place in 2016.

The information pertaining to implementation of each of the schemes is publically available and as of the understanding of the review team the data for monitoring the indicators in the NBAP may be gathered by extracting information from reports from relevant ministries.

India's fifth national report (NR5) to the CBD mainly lists a selection of relevant initiatives for biodiversity, without referring to the action points in the NBAP 2008, or the relevant indicators in the NBAP Addendum 2014. According to the implementation matrix for the NBAP 2008, some of the action points have an indicative term of when optimal level of implementation will be achieved of 5 years, hence in 2013, but they were not reported on in the NR5 from 2014.

The Addendum to the NBAP was adopted in 2014 in order to update the NBAP 2008, keeping in view the Aichi Biodiversity Targets as a framework. The NR5 was submitted in 2014, in accordance with the reporting requirement following from the reporting cycle decided by the CBD. Due to the timing of the NBAP and the NR5, the opportunity was not provided for the NR5 to assess how far India had come in accomplishing the National Biodiversity Targets, nor to identify the gaps in implementation or the challenges constraining implementation. Similarly inconvenient, the previous NBAP was adopted in 2008, in response to the National Environmental Policy, 2006, and NR4 was submitted in 2009 to report on the 2010 Biodiversity Target. A longer time span between the finalization of an NBAP and the reporting to CBD would facilitate documentation of more of the ongoing biodiversity implementation in the report.

Although the timing of the preparation of the NR4 (2009) was similar, the report managed to provide a more substantive assessment of the implementation of the NBAP. NR4 reports extensively on the objectives of the NBAP 2008 and lists challenges and constraints for each of the 11 objectives. The report further rates the progress in implementation into three categories (fair, good and very good) and presents challenges that need urgent attention.

A total number of 29 States and the 7 union territories prepared State Biodiversity Action Plans as part of the extensive NBAP process in 2000-2003. It appears however that the ownership of the NBAP 2008 and the 12 National Biodiversity Targets (NBT) at the State level is quite variable between the States. As of early 2016, no States have revised their SBAP to align it with the NBAP 2008 or the NBAP Addendum 2014, although some States have started the process. States are obliged to develop a State Action Plan on Climate Change, but the same obligation has not been set for State Biodiversity Action Plans. The decentralization process for planning in India implies that the strong "ownership" of the NBAP and the NBT at the State level will become even more important.

In the self-assessment undertaken in preparation for the VPR, India states that mainstreaming of biodiversity within the forestry sector has been a success while mainstreaming in other sectors, like inland water, agriculture and marine and coastal, is challenging. A likely explanation for this is that forest and environment has been under the same ministry at the Federal level since 1984, and is situated within one department at State level unlike the other issues that are situated within other Ministries or departments.

The process between 2000-2003 of developing a NBSAP was highly interactive, involving a broad range of stakeholders at all levels. The NBAP 2008 and the NBAP Addendum 2014 is building on that process, while the degree of involvement has focused on other Ministries and some major NGOs at the federal level.

NGOs have an important role in biodiversity conservation and sustainable use in India. They contribute with relevant research and in the development of policy documents. Examples of NGOs playing a major role in the implementation of CBD include the role of Kalpavriksh in the NBAP process in 2000-2003, and the MS Swaminathan Research Foundation's (MSSRF) involvement in the development of the BD Act. NGOs may have capacity, resources and competencies that are supplementary to what is available in government institutions. They may also have different

structures, funding sources and international and national networks that may complement what is available within the government.

Recommendations

The processes for developing NBAP 2008 and NBAP Addendum 2014 have resulted in an indicative list of responsible agencies and a flexible list of indicators for the Actionable Points (2008) and the National Biodiversity Targets (2014). The interpretation of this by the review team is that the indicators will need to be further refined and defined before leading to action.

By referring to the action points in the NBAP 2008, and present monitoring of the relevant indicators in the NBAP Addendum 2014, India's sixth national report (NR6) to the CBD has the opportunity to report progress of implementation on a more general level than possible by mainly listing a selection of relevant initiatives. BIOFIN is already involved in the identification of financial resources needed for implementing the NBAP, and it is recommended to explore how BIOFIN may contribute to the development of a monitoring system for the NBAP.

It is recommended that future NRs should put more emphasis on analysis and synthesis of the specific targets and indicators defined in the NBAPs and less emphasis on description and listing of initiatives and activities. This will enable improved documentation of progress made and capture more of the overall effort that has been undertaken. The format of the NR4 for India, including presenting of challenges and constraints in the implementation of the NBAP, and presenting challenges that need urgent attention, is recommended as a valuable way to approach NR6.

A longer time span between the preparation of the NBAP and the reporting to the CBD would be an advantage for India and in the future it is recommended if there are measures that may be taken to promote an improved timing. The next NR is due in 2019 and it is recommended that optimal use is made of the ample time available to provide a full assessment of implementation of the National Biodiversity Targets that could feed into the development of a new biodiversity policy document.

It is recommended that the States in India should be recognized as crucial nodes in the implementation and monitoring of the NBAP and the development of SBAPs should be prioritized. It is further recommended that all States develop a State Biodiversity Action Plan, similar to the obligation to develop a State Action Plan on Climate Change, and that guidelines should be issued in this regard. The States function at a more operative level and will be able to define State relevant targets using the national NBT as a framework.

Collation of monitoring data from the implementation of the SBAPs would also enable presentation of more of the efforts that are undertaken in the country to be reported to CBD. Monitoring of implementation and sharing this information will provide an opportunity for the States to showcase their successful efforts and share best practices and in this way provide a motivation for further action across States. The increased focus on the State level will be even more relevant with the progressing decentralization process.

Cross-sectoral involvement in the preparation of biodiversity policy documents, including the involvement of the relevant planning institution, needs to be ensured both at the Federal level and at the State level. Exploring ways to enhance sectoral ownership of implementation of policy documents would also be helpful. Augmenting Involvement of other Ministries in the preparation of NRs and reporting on the indicators for the NBTs would encourage other Ministries to be more actively involved in the work.

The National Biodiversity Authority considers the NBAPs to be the principal national instruments for mainstreaming biodiversity concerns in India. Cross-sectoral mainstreaming of biodiversity is challenging for many CBD parties and the national targets are generally weaker on the sector-oriented targets, like Aichi Target 3, 4 and 10, compared with the more biodiversity-centred targets. However, integrating biodiversity in all sectors is crucial for halting the loss of biodiversity. The National Targets in the NBAP Addendum 2014 are also less focused on the more sector-oriented Aichi targets. It is recommended that ways should be sought to consider the Aichi targets that were given limited attention in the NBAP Addendum 2014 and the result should be included in the reporting to CBD. The development of indicators for the SGDs may be relevant in this regard, see 3.7 “Implementation of CBD within other international frameworks”.

Enhanced implementation of the NBTs could be facilitated by increased ownership among the NGOs and civil society to the NBTs and the defined indicators. A valuable initiative in this regard was a workshop organized in 2014 with the Indian National Committee members of IUCN to discuss how committee members could contribute in achieving the NBTs. In the development of the next NR it is recommended that sufficient opportunities are given to NGOs and other stakeholders to provide information and showcase their contributions to the implementation of the NBAP through providing information on the relevant indicators.

3.4. Environmental Impact Assessment (EIA) and Strategic Environmental Assessment (SEA)

Observations

India has set up an elaborate system for the issuing of environmental clearance for interventions with a potential impact on biodiversity. Environmental clearance is needed for activities which may impact the environment. In addition, a forest clearance is needed for interventions in forested areas and a wildlife clearance is needed for interventions in areas covered by the Wildlife (Protection) Act.

Environmental Impact Assessments (EIA) is mandatory under the Environmental (Protection) Act (1986) for acquiring clearance for 40 specific activities, which covers most activities of relevance. Certain activities are exempted from preparing an EIA, including the development of railroads and defence-related strategic roads. EIAs are undertaken by qualified persons/institutions approved by the government, for example the Wildlife Institute of India (WII). A forest clearance is issued by MoEF&CC and the mandate is delegated to the regional offices for smaller projects.

The main challenge with the system of issuing clearances seems to be to follow up the requirements set in the granting of clearance. Both the granting and the following up of requirements are the mandate of MoEF&CC and also the State Environment Impact Assessment Authority (SEIA). For certain project categories, SEIAs are the competent authority to give clearance. The amount of work is overloading the institutions responsible. The implication of this may be that it is not enough resources to ensure that the requirements are actually being fulfilled. This may ultimately result in the EIA process being more of a desk exercise than a tool for ensuring optimal use of natural resources for sustainable development.

An initiative to streamline EIA processes has been initiated by MoEF&CC defining the timelines and increasing transparency through the process. The intention is that the granting of clearance will become more efficient.

The review team has the impression that most of the planning frameworks are sector specific and operate in isolation of each other. This may lead to competition and overlap between different

framework mandates and result in contradictory policies and legal provisions. Environment is a cross-cutting issue and environmental considerations need to be undertaken by most sectors, making it especially vulnerable in a system of independent policy development.

Spatial planning in India is mainly undertaken within a sector, with EIA as a tool for ensuring that environmental considerations are undertaken. This may result in fragmented planning focusing on the effect for the specific intervention in that specific site. If more interventions are occurring within an area, the combined effect may not be captured and also the cumulative effects of all interventions at the landscape level are not taken into account. Examples of application of Cumulative Environmental Impact Assessment and Strategic Environmental Assessment in India are available, but a systematic legislative framework for requiring such assessments are not in place.

Recommendations

It is recommended that possible solutions to improve the monitoring ability of the system for environmental clearance should be considered. Further decentralization of the monitoring of clearance permits to the State Environment Impact Assessment Authority (SEIA) should be strengthened.

As of June 2016, there are 193 projects awaiting environmental clearance (see <http://environmentclearance.nic.in/>) and the MoEF&CC needs to ensure that the pressure for quicker clearance of projects does not compromise the quality of the review process.

India currently does not have a system for Strategic Environmental Impact Assessments (SEAs), however the application of the concept has been discussed for some time. If India is to really achieve “development without destruction”, which is a priority for the sitting government, it could be explored further how to make use of the SEA concept in order to enable the consideration of the potential environmental impact at the landscape level.

3.5. Implementation of the Nagoya Protocol

Observations

India, being a megadiverse country with long traditions for use of biological resources, has a large potential to be an important provider of genetic resources and associated traditional knowledge. The potential enshrined in the mechanism as an income generating measures is also widely recognized in India. India was one of the first countries establishing legislation for the implementation of the Nagoya Protocol and has been an inspiration for provider countries in the implementation of the obligations under the Protocol. India is the party with the highest number of entries on the Access and Benefit-Sharing Clearing House Mechanism website, setting a good example for other parties in the sharing of experiences and practices.

The Nagoya Protocol is implemented through the Biodiversity Act 2002, its Rules from 2004, and the “Guidelines on Access to Biological Resources and Associated Knowledge and Benefits Sharing Regulations” adopted in 2014, which provide the legal and institutional framework for Access and Benefit Sharing (ABS) management in India. While to the Nagoya Protocol covers genetic resources and associated traditional knowledge, the BD Act covers all biological resources. There are a number of exemptions which include items notified as normally traded as commodities.

The BD Act (2002) differentiates between national users and foreign users and also the different activities which are regulated. Persons/entities bound to apply for approval from NBA are (i) Non-Indians, (ii) Non-Resident Indians, (iii) Non-Indian entities, and (iv) Indian entities with non-Indian

participation in their share capital or management. In case the biological resource will be transferred from Indian users to any of the above mentioned categories, approval by NBA is also required. Citizens of India and Indian entities without any non-Indian participation in their share capital or management shall obtain the permission of the relevant State Biodiversity Boards when they carry out commercial utilization of biological resources.

The Guidelines (2014) broadly stipulate that benefit sharing may be accomplished either through a monetary and/or a nonmonetary mode. It also sets a range of possible percentages for sharing of benefits in different cases: e.g. for commercial utilization, transfer of results of research, or intellectual property rights. Up to early 2016, NBA has received 1,106 applications, of which 220 Mutually Agreed Terms (MAT) documents have been signed and approval granted. Benefit sharing received is about INR 30,00 Crores (approximately USD 5,000,000), mostly for access to red sander timber.

Within the NBAP Addendum 2014, ABS has its own dedicated NBT, number 9, and is also mentioned in NBT 11 with respect to traditional knowledge. However, the NR5 does not report against the indicators associated with these two targets, even though quantitative information on the number of application approvals is readily available on the NBA website – see <http://nbaindia.org/content/683/61/1/approvals.html>.

According to the BD Act, the Biodiversity Management Committees should be consulted by NBA and the SBB when taking decisions concerning the use of biological resources and knowledge occurring within the jurisdiction of the BMC. However, as mentioned under 3.1: "Institutional arrangements", this requirement becomes challenging to implement when only a limited number of BMCs have been established compared to the total number of panchayats (government bodies at the local level).

India is in the forefront in the implementation of the obligations under the NP and an inspiration for other Protocol parties. However, some important procedures are still not in place, such as establishment of checkpoints. The role of checkpoints should be to collect or receive, as appropriate, relevant information related to prior informed consent, to the source of the genetic resource, to the establishment of mutually agreed terms, and/or to the utilization of genetic resources. In addition, the limited number of BMCs means the local bodies (gram panchayats) needs to fulfil the role as the local level institution for granting permission to access biological resources under the BD Act.

Recommendations

The system for granting access is comprehensive and resource demanding. Until now, few revenues have been acquired from the signed agreements compared to the investments in establishing and operating a system for granting access. Gradually more experience is gained in the operation of the system and the approval process is becoming more efficient. At some point India may want to consider to undertake a review of the efficiency and effectiveness of the BD Act and its implementation. In the efforts to improve efficiency and effectiveness of implementation it could be explored if there are alternative procedures for granting access that could improve the cost-benefit ratio compared to the existing system.

3.6. Implementation of the Cartagena protocol

Observations

The Government of India has, since the late 1980s, created a comprehensive framework for ensuring safety while dealing with transboundary movements of LMOs. Currently, there is a three tier system of approval for LMOs and products. Initial assessment of the approval applications begins at the

institutional level, i.e. with the product developer, through the Institutional Biosafety Committees (IBSCs). The IBSC evaluates the proposal and recommends it to the next higher authority, the Review Committee on Genetic Manipulation (RCGM). The RCGM, after an in-depth evaluation, sends its recommendations to the Genetic Engineering Approval Committee (GEAC) for final approval.

To date, India has not imported any LMOs for the purpose of intentional release into the environment. Applications have been received for conduct of trials using imported LMOs. However, the applications requesting direct introduction into the environment were not considered for this use, but instead permitted only for research under contained use. In respect of the use of domestic LMOs, Bt cotton is the only transgenic crop approved, in 2002, for commercial cultivation in India.

India's NBAP is one of only a few NBSAPs submitted that explicitly mention biosafety, and LMOs are specifically mentioned in several of the action points in the NBAP 2008 and are reproduced in the NBAP Addendum 2014.

It could be argued that India has acted inconsistently in its recent treatment of LMOs. The regulatory system has been changed many times over the recent years and is likely to change again with the possible formation of a Biotechnology Regulatory Authority of India (BRAI) following the adoption of the National Biotechnology Development Strategy 2015-2020 in December 2015. The system for approval of LMOs provides for considerations of the economic benefits through evaluation of the agronomic performance. The LMOs that have been approved for use until now have been developed nationally, any transboundary movements (imports) of LMOs have not been permitted.

It is difficult to assess the actual, or potential, impact of increased use of LMOs on biodiversity. Bt crops may have potential adverse impacts on non-target species and ecosystems; the potential for weediness in genetically modified crops, the stability of inserted genes and development of resistance in target organisms. Use of Bt crops may also lead to changes in the application of insecticides. If Bt cotton has greater yield, then this could lead to an intensification of cotton production and land sparing for other use, which might benefit biodiversity. On the other hand, increased profitability of Bt cotton could lead to an expansion of cotton grown (extensification), then this could lead to a loss of biodiversity. Currently, the 2008 NBAP and the 2014 Addendum do not contain indicators that would allow the trends described above to be measured.

Bt cotton has been adopted by many farmers in India, accounting for more than 90% of the cultivated area. India is an important export country for cotton and have been given a specific responsibility under the Cartagena protocol in documentation of the impact of Bt cotton on the environment.

Recommendations

It is recommended that NBA and/or MoEFCC should more clearly document the positive and/or negative impacts that the use of modern biotechnology in different sectors may have on biodiversity, notably as associated with different kinds of agricultural practice (large vs. small scale, irrigated vs. rain fed). Baselines and indicators should be developed to monitor these potential impacts.

3.7. Implementation of CBD within other international frameworks

Observations

The potential for implementing CBD through other international frameworks is vast. Some of the initiatives that are contributing or may contribute to the implementation of the objectives of CBD are described below.

In India the biodiversity issue is often linked to human welfare, livelihood and development in order to create greater interest in the topic. The challenges for India are huge when it comes to social and

economic development and human-centred biodiversity arguments are generally more accepted than biodiversity-centred arguments. Water is sometimes used as an entry point to implement measures to improve biodiversity. The awareness of the value of clean water is high and river cleaning is a high priority in India and has been so for many years.

Ecosystem services may be a concept that could be further emphasized in biodiversity conservation and sustainable use in order to increase the awareness of the value of biodiversity among people in India. The ecosystem service concept is a way of visualising how humankind benefits from nature and could be used for making the NBTs relevant for the SDGs and the national development agenda. The TEEB (The Economics of Ecosystems and Biodiversity) India Initiative is an ongoing project considering the economic value of ecosystem services and biodiversity in three ecosystems (forests, wetlands and coastal and marine ecosystems).

The MDGs have served as a useful target for India's development during the past 15 years since their adoption. India adopted a set of national indicators for monitoring progress towards most of the MDGs. Overall, reports⁴ on India's progress towards the MDGs considered it good with just a few targets failing to make progress.

The Sustainable Development Goals (SDGs) were only finally adopted in mid-2015 and there is no explicit mention of them in the NBAP Addendum 2014. NITI Aayog has been given the role of coordinating the SDGs at the national level and this work has been starting up in 2016. The Ministry of Statistics and Programme Implementation (MOPSI) has put considerable effort into the development and measurement of appropriate targets and indicators for the MDGs and may also be given the role in the development of the indicators for the 17 SDGs. Especially the indicators for SDG 14 and 15 are related to biodiversity.

As part of its obligations under the Framework Convention on Climate Change (UNFCCC), India has communicated its Intended Nationally Determined Contributions (INDCs). The targets include the creation of an additional carbon sink of 2,5 to 3 billion tonnes of CO₂ equivalents through additional forest and tree cover by 2030 through the full implementation of Green India Mission and other programmes of afforestation. Actions proposed also include tripling of wind power and large-scale expansion of solar power.

The actions proposed under the INDC can be both a threat and an opportunity for biodiversity in India. The scale of the many renewable energy initiatives represents a major pressure on biodiversity through natural resource extraction, location of large-scale wind and solar installations, dam construction and pollution. On the other hand, the transition to renewable energy sources may provide opportunities for biodiversity by replacing non-renewable energy sources with high negative direct and indirect impact on biodiversity with more biodiversity friendly alternatives.

Recommendations

If the awareness of biodiversity values is low, the concept provided by TEEB of recognizing, demonstrating and capturing the range of benefits provided by ecosystems could provide a useful approach for increasing the acknowledgement of biodiversity. It is recommended that the ecosystem service concept should be further explored, building on the experiences from the TEEB India Initiative. The aim should be to increase the awareness of the value of biodiversity among policy makers, within the government, with businesses and in the population.

⁴ See http://in.one.un.org/img/uploads/India_and_the_MDGs.pdf

The recent adoption of the SDGs and the ongoing process for defining their implementation nationally provides an excellent opportunity for enhancing the awareness of the importance of biodiversity for the national development agenda, and for approaching the Aichi targets that are more sector-oriented and poorly covered in the NBTs.

A number of the initiatives proposed in the INDC have great potential to benefit biodiversity within agricultural systems, and in marine, coastal and riverine ecosystems. Perhaps the biggest potential for biodiversity lies with the ambitious plan to sequester an additional 2,5-3 billion tons of carbon in forests. If managed carefully, this could add a significant amount of biodiversity-rich forest to the total forest area with obvious benefits for biodiversity. The National Forest Policy, 1988, clearly prohibits conversion of natural forests for monocultures. However, with the extensive afforestation programmes planned in India it is recommended to examine how the forests planted may move from timber oriented forest systems to more biodiversity oriented forest systems, including agrobiodiversity.

The targets include the creation of an additional carbon sink of 2,5 to 3 billion tonnes of CO₂ equivalents through additional forest and tree cover by 2030 through the full implementation of Green India Mission and other programmes of afforestation.

4. Recommendations for wider use in the Convention

India experiences many of the same challenges as other Parties to the CBD and many of the recommendations in chapter 3 are relevant for several convention Parties. India is in the forefront in implementation of the Nagoya Protocol, and an inspiration for many Parties in their efforts to comply with the obligations under the protocol. The legal framework for the national implementation of the Protocol was in place in 2002/2003 with the BD Act and India was the first Party to issue an internationally recognized certificate of compliance (IRCC) in October 2015.

India has elaborate management systems set up for the different elements of biodiversity conservation and sustainable use. Examples are the system for issuing environmental clearances and the system for forest management. India's policies and legal framework may be an inspiration for other parties when developing and revising their national systems for dealing with these issues.

Mapping of biodiversity funding is an endeavour many parties have still not embarked on. Lessons may be learned from India's experiences with the exercise in the NBAP Addendum 2014 and the work to be undertaken by the BIOFIN project in this regard.

Based on the observations in India it is recommended that Parties should ensure the appropriate timing of NBAP development with respect to other relevant planning processes at the national level. This will facilitate coherence between the planning processes and enable synergistic implementation and mainstreaming.

Parties are recommended to make full use of the opportunity provided by the development of NBSAP in facilitating deliberations on biodiversity priorities through broad involvement of stakeholders. This will promote ownership to the process and the outcome and enable mainstreaming and awareness raising. India undertook an impressive exercise in the years 2000-2003 in the development of the NBAP with broad stakeholder involvement. The process and the outcomes are thoroughly described on the website of Kalpavriksh

(<http://kalpavriksh.org/index.php/conservation-livelihoods1/biodiversity-and-wildlife/national-biodiversity-strategy-action-plan>) and elements of this could be an inspiration for other parties.

National Reports to the CBD should be a useful tool for conservation and sustainable use of biodiversity through the documentation of progress and identification of gaps and challenges. This requires broad involvement of stakeholders, across all relevant sectors, in the development process, an agreed set of indicators and a monitoring framework for assessing changes over time. The timing of the development of the NBAP in relation to the preparation of the national reports to CBD is important in order to enable documentation of the progress that has been made in implementation.

5. Lessons learned for further development of the methodology

Process

In planning of a review, the time from the initiation of the process (the country is “accepted” for a review) until the final report is expected should be at least six months to allow for sufficient time for the different steps in the review.

The guidance available for the review team (in the annexes to the methodology) should be further developed in order to provide a flexible framework for future review teams and to streamline the VPRs across countries. The reviews should also build on the experiences from reviews already undertaken. The India VPR team built on the experiences made during the Ethiopian VPR, and with more reviews undertaken; a larger experience base will be developed. The role and mandate of the CBD secretariat during the different steps of the VPR should be considered and more clearly defined to ensure that the resources invested from the CBD secretariat are used efficiently.

The country under review will need to set aside enough time to engage with the review team before and after the in-country visit in addition to facilitate the visit itself.

The finalization of the report is an important part of the VPR process. When setting the timeline for the review enough time will need to be set aside for dialogue between the review team and the country under review in the finalization phase. Also, both the review team and the country under review need to adhere to a strict time schedule in the finalization phase.

Desk study

In order to get the most out of the in-country visit, sufficient time will need to be invested in the desk study phase. The desk study phase will also be used for the preparation of the in-country visit and the time needed for preparing the visit should not be underestimated.

The experience from the VPR in India was that the amount of information available was overwhelming and strict prioritization of what to study was necessary. Gaining necessary understanding of the institutional and planning frameworks for exploring biodiversity governance through reading documents was also a challenge. This understanding was improved during the first part of the study visit by presentations and dialogue with government officials. It is recommended that the understanding of the governance structure should be promoted during the desk study through close dialogue between the review team and the country under review.

It should be considered how the review team could be better prepared for the in-country visit without demanding a substantial increase in time invested. In this regard, the mandate and tasks of the CBD secretariat should be considered and also the expected investments by the country under review in providing material and information through self-assessment.

The review team should agree on an outline for the report and divide responsibility for the issues to be considered. The desk study should ideally result in a draft report for the review including specific questions to be further explored during the in country visit. Investment in the desk study will save time during the writing of the report.

The identification of interviewees should be an interactive process between the review team and the country under review. The review team should make use of relevant networks for identification of relevant interviewees, especially those outside the government. Preferably, the list of interviewees should be prepared well before the visit, giving the review team time to prepare specifically for each interview. The review team could make use of a general set of questions to be asked in all interviews and possibly also to be shared with the interviewees before the in-country visit. The questions may also be utilized to obtain input from relevant people/organizations that are not available for an interview.

In-country visit

Information about the VPR and the aim of the interview should be shared with the interviewees before the visit in order for them to know that to expect. The interviews should create an environment for discussion that may begin with a deliberation on some open-ended questions and will move into a dialogue.

It is recommended that the review team organize an internal meeting after each set of interviews to identify the main findings from the interviews and discuss potential recommendations and issues for further examination. This will facilitate more targeted discussions for the upcoming interviews and will provide input to the report.

The programme for the visit should contain some flexibility to enable the inclusion of extra interviews if deemed necessary and in order to give the review team sufficient time to coordinate and discuss the findings during the visit.

Annex I: Programme of in-country visit CBD January 18 to January 22

1st Day -18-01-16- Chennai
Interaction with NBA <ul style="list-style-type: none"> - Presentation on the development of NBSAP - Presentation on National Biodiversity Authority and its activities - Implementation of the Biological Diversity Act 2002
Interaction with the State (Provincial) Biodiversity Boards <ul style="list-style-type: none"> - Telangana - Meghalaya
Interaction with the officials of Regional office of Ministry of Environment, Forest and Climate Change.
2nd Day -19-01-16- Chennai
Interaction with the Principal Chief Conservator of Forests, Tamil Nadu Forest Department and his team
Interaction with Prof.M.S.Swaminathan, Institute for Financial Management and Research, WRI India, The C.P. Ramaswami Aiyar Foundation, Madras Institute of Development Studies
Interaction with the Officials of Tamil Nadu (Provincial) Planning Commission
3rd Day -20-01-16- Delhi
Interaction with CBD National Focal Point, and interaction with the senior officials of the MoEFCC
Visit to Department of Agriculture and Cooperation and interaction with senior officials
Visit to Protection of Plant Varieties & Farmers' Rights Authority
Visit to National Bureau of Plant Genetic Resources (NBPGR), and interaction with officials of NBPGR
4th Day -21-01-16- Delhi
Visiting WWF-India office and interact with WWF, WTI and IUCN
Discussion with Director Ministry of Environment, Forests and Climate Change dealing with Biodiversity related issues
Visiting National Institute of Public Finance and Policy and interact with senior official

Interaction with the Ministry of AYUSH and Council of Scientific and Industrial Research (CSIR)
5th Day -22-01-16- Delhi
Visiting UNDP-India office and interact with officials of UNDP, GIZ, USAID, Ford Foundation and UNESCO
Interaction with the Director General of Forests and Special Secretary, MoEF&CC, Additional DG (wildlife) and other senior officials of Forest department, National Tiger Conservation Authority and National Zoo Authority