



Norwegian Embassy



Project Completion Report

on the

Indian - Norwegian Cooperation Programme

regarding

Institutional and Technical Assistance

to

National Biodiversity Authority, India

CEBPOL

Centre for Biodiversity Policy and Law

National Biodiversity Authority, India
Norwegian Environment Agency, Norway
January, 2021



Norwegian Embassy



CENTRE FOR BIODIVERSITY POLICY AND LAW (CEBPOL)

Project Completion Report of the India-Norway Cooperation Programme regarding Institutional And Technical Assistance to National Biodiversity Authority, India 2011-2018

National Biodiversity Authority, India
Norwegian Environment Agency, Norway

January, 2021

Centre For Biodiversity Policy And Law (CEBPOL) Project Completion Report

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EXECUTIVE SUMMARY

The development cooperation between India and Norway dates back to the 1950's. Over the years, India and Norway have developed stable institutional structures for environmental cooperation including biodiversity conservation. The full length Project Proposal for establishing Centre for Biodiversity Policy and Law (CEBPOL) was developed in the year 2011 after a series of informal discussions between government officials of Norway and India.

Government of India through the Ministry of Environment, Forest and Climate Change (MoEFCC) and the Government of Norway through the Norwegian Environment Agency (NEA) have collaborated to set up CEBPOL at the National Biodiversity Authority (NBA), Chennai in December, 2012. The objective of establishing CEBPOL is to develop a close cooperation in strategic thinking and research on biodiversity governance of mutual interest between India and Norway. CEBPOL was envisaged to carry out research on biodiversity related policies and laws that cater to the needs of National and International rule making and subsequent implementation of issues pertaining to biodiversity.

India being a mega-diverse country, rich in biological diversity and associated traditional knowledge has, over a period of time, developed a stable institutional structure for environmental management including biodiversity conservation. A number of policies, legal and administrative measures are in place to address various aspects of biodiversity conservation.

Despite of India having a number of organizations and institutions, both within and outside the Government, dealing with various aspects of biodiversity governance such as research, education, awareness etc., there is no single organization in the country that specializes in policy and legal issues relating to biodiversity. There is therefore a need for setting up of a specialized Center for Excellence on Biodiversity Policy and Law (CEBPOL) that could inter alia provide advice and support to the Government on all biodiversity policy related issues.

Subsequent to becoming a party to the Convention on Biological Diversity (CBD) in 1992, India enacted the Biological Diversity Act in 2002 and notified Biological Diversity Rules in 2004 to give effect to the provisions of the Convention, including those relating to access and benefit sharing (ABS). India was one of the first few countries to have enacted such legislation.

In Norway, the Nature Diversity Act, 2009 is the most important piece of environmental legislation that covers the conservation of biological, landscape and geological diversity. It applies to all sectors that are responsible for managing biodiversity and the environment, or that take decisions that may have an impact on biodiversity. The Act includes provisions on species management, protected areas, alien organisms, selected habitat types, and priority species and their habitats.

Originally, CEBPOL was envisaged to work on 10 thematic areas viz., (i) Access and Benefit Sharing, (ii) Updating of NBSAPs, (iii) Operationalising the TEEB in national context, (iv) COP-11 and Beyond, (v) Mainstreaming of Biodiversity, (vi) Amendments to BDA and Its Rules, (vii) Invasive Alien Species, (viii) Interface with other Multilateral Agreements/organisations (WHO, WTO, WIPO, UNCLOS, ITPGFRA, CITES etc.), (ix) Bio-safety and (x) Nature Index. Later on, it was mutually agreed to work on five thematic areas viz., (i) Access and Benefit Sharing, (ii) Mainstreaming Biodiversity, (iii) Invasive Alien Species, (iv) Interface with Multilateral Environmental Agreements and Organizations, (v) Nature Index along with a cross theme i.e., (vi) Capacity Building, Training, Awareness raising and communications during the project implementation period of 2015-18.

In addition to Norwegian Environment Agency (NEA) that acted as Norwegian Counterpart to NBA in India, Norwegian Institutions such as Fridtjof Nansen Institute (FNI), Norwegian Institute for Nature Research (NINA), and Norwegian Biodiversity Information Centre (NBIC) have directly collaborated on thematic areas such as Access and Benefit Sharing, Invasive Alien Species and Nature Index. A total of 28 publications have been brought out by the Indian side in collaboration with their Norwegian counterpart across the 6 thematic areas. Additionally, five publications brought by FNI vouch for the extensive work done during the Programme implementation period of 2015-2018. All the publications have been widely disseminated among the stakeholders and is readily available in NBA website <http://nbaindia.org/cebpol/publication.html>.

A total of 30 National-level workshops involving Norwegian partners have been organized. About 5000 Officials have been trained under the programme across various thematic areas. Nearly 40 National-level institutions participated directly or indirectly under the programme. Exchange visits by Indian and Norwegian partners, including participation by Indian Partners in the Trondheim Conference has been regular feature of the Programme. There is a felt-need among the project partners to build on results and experiences and to take forward the recommendations generated in CEBPOL programme vouch for the success of Phase-I of the programme.

ACKNOWLEDGEMENT

The establishment of Centre for Biodiversity Policy and Law (CEBPOL), a joint initiative between Governments of India and Norway at the National Biodiversity Authority (NBA), Chennai, India has been the result of tireless efforts made by several of my predecessors. The discussions to establish such a Centre at NBA have been initiated earnestly by Officials of Ministry of Environment, Forest and Climate Change (MoEFCC). Appreciation in particular is due to Mr. M.F. Farooqui, Additional Secretary, MoEFCC, Mr. Hem Pande, who held the positions of Joint Secretary, Additional Secretary and Special Secretary, MoEFCC and as Chairperson, NBA and Dr. Sujata Arora, Adviser (CS-III Biodiversity Division), MoEFCC.

Dr. Balakrishna Pisupati and Mr. C.A. Reddy deserve special appreciation for the ground work they have done to establish CEBPOL at NBA, Chennai. Acknowledgement is due to Dr. Meenakumari and Mr. T.Rabikumar who steered the programme during its active implementation period. Dr. Purvaja Ramachandran, Secretary, NBA deserves special appreciation for organizing the end review of the programme in April, 2019 along with Ms. Bente Herstad, Norad.

Ms. Berit Lein, Ms. Gunn Mari Paulsen, Dr. Vivek Kumar, Dr. Frank Eklo, Ms. Therese Wagle Bazard, Mr. O.R. Bergum, Dr. Suresh Mathevan, Ms. Maja Stade Aaroenaes, Mr. Andreas representing the Norwegian side during various time periods in the of implementation of the CEBPOL Programme deserve special appreciation. Our sincere appreciation is also due for H.E. Hans Jacob Frydenlund, Ambassador, Norwegian Embassy for his abiding interest in the programme as well as his visit to NBA in the late 2019.

A programme of this magnitude could not have succeeded but for the active contributions made by staff engaged under the programme. Appreciation is due to Mr. J. Justin Mohan, Secretary, NBA, Mr. G. Kannan, Administrative Officer; Mr. S. Gopi Ganesa Guru, Accounts Officer for their contributions to the successful implementation of the Programme. The efforts made by Dr. J.Soundrapandi to compile this report and Mr. Singaram for the design are duly acknowledged.

Dr. V. B. Mathur, D.Phil. (Oxon.)

Chairperson

National Biodiversity Authority

Chennai, India.

ABBREVIATIONS

ABS	Access and Benefit Sharing
BDA	Biological Diversity Act
BMC	Biodiversity Management Committee
CBD	Convention on Biological Diversity
CEBPOL	Centre for Biodiversity Policy and Law
COP	Conference of Parties
CITES	Convention on International Trade in Wild Species of Endangered Flora and Fauna
DN	Norwegian Directorate for Nature Management
EIA	Environmental Impact Assessment
FNI	Fridtjof Nansen Institute
GoI	Government of India
ICAR	Indian Council of Agricultural Research
ICFRE	Indian Council of Forestry Research and Education
IAS	Invasive Alien Species
ITPGRFA	International Treaty on Genetic Resources for Food and Agriculture
IPR	Intellectual Property Rights
MAT	Mutually Agreed Terms
MoEFCC	Ministry of Environment, Forest and Climate Change
MTA	Material Transfer Agreement
M&E	Monitoring and Evaluation
NI	Nature Index
NBA	National Biodiversity Authority
NBAP	National Biodiversity Action Plan
NBSAP	National Biodiversity Strategy and Action Plan
NGOs	Non-Government Organizations
NRI's	Non Residential Indians
PM	Project Manager
PBR	Peoples Biodiversity Register
PIC	Prior Informed Consent
PMC	Project Monitoring Committee
PMU	Project Management Unit
PSC	Project Steering Committee
SBB	State Biodiversity Board
TEEB	The Economics of Ecosystems and Biodiversity
TK	Traditional Knowledge
TKDL	Traditional Knowledge, Digital Library
UNFCCC	United Nations Framework Convention on Climate Change
UNCCD	United Nations convention to Combat Desertification
UNCLOS	United Nations
WHO	World Health Organisation
WIPO	World Intellectual Property Organisation
WTO	World Trade Organisation

Background to the Programme

The development cooperation between Norway and India dates back to 1952. Several joint programmes have been undertaken by both the governments through mutually agreed engagements since then. In 2010, a letter of intent was signed between the Governments of Norway and India for technical and institutional cooperation between India and Norway, to bridge the gap between strategic thinking and research to deal with emerging and current biodiversity governance issues and policy as well as law making. This paved the way for establishment of a Centre for Biodiversity policy and Law (CEBPOL) in the National Biodiversity Authority, in Chennai, India.

Government of India through the Ministry of Environment, Forest and Climate Change (MoEFCC) and the Government of Norway through the Norwegian Environment Agency (NEA), have collaborated to set up the Centre for Biodiversity Policy and Law (CEBPOL) at the National Biodiversity Authority, Chennai in December, 2012. CEBPOL was envisaged to carry out research on biodiversity related policies and laws that cater to the needs of National and International rule making and subsequent implementation of issues pertaining to biodiversity.

The broad objective of the centre was to deal with emerging and current biodiversity governance issues and policy as well as law making. Though the focus of CEBPOL was on biodiversity policy and law, project outcomes, inter-alia also centered around mainstreaming biodiversity across sectors, management of Invasive Alien Species (IAS) as well as effective implementation of the Nagoya Protocol on Access and Benefit Sharing. The collaboration between India and Norway, under the CEBPOL programme, was broad in scope and synchronised with the objectives and scope of the Convention on Biological Diversity (CBD).

The Program was implemented by the National Biodiversity Authority (NBA) in India and the Norwegian Environment Directorate (NEA), formerly the Norwegian Directorate for Nature Management (DN). NBA and NEA both involved relevant research institutions in their respective countries.

"Establishing a Centre for Biodiversity Policy and Law (CEBPOL) in India" (Project IND-3035 10/0048) was planned for the period 2011-2016 and was further extended for two years until December 2018. During the Programme implementation period, CEBPOL had worked on five major thematic areas viz.,

Access and Benefit Sharing, Mainstreaming Biodiversity, Invasive Alien Species, Interface with Multilateral Environmental Agreements and Organizations, Nature Index along with a cross-cutting theme i.e Capacity Building, Training, Awareness raising and communications.

The key functions of CEBPOL include among others:-

- ◇ Collect, collate, analyse and disseminate information relating to biodiversity policy and law at Regional, National and International levels
- ◇ Execute short and long-term training courses and sensitisation programmes on biodiversity policies and laws for various target groups including natural resource managers, administrators, decision makers, civil society, media representatives, scientific community, judiciary, academicians and elected public representatives.
- ◇ Engage consultants, policy analysts, legal experts and interns on both short-term and long-term basis for providing professional inputs in the training, research, education, analysis and awareness activities of the CEBPOL.
- ◇ Prepare for the Government of India, country position papers on various aspects relating to biodiversity policies and law for international meetings and negotiations.
- ◇ Establish appropriate linkages with other similar centres / institutions, both nationally and internationally, for developing collaborative programmes and academic exchange in furtherance of the objectives of CEBPOL.

The goals of CEBPOL are as follows:-

- i. To provide professional support, advice and expertise to the Government of India and Norway on a sustained basis on matters relating to biodiversity policies and laws at the national level, as well as in international negotiations relating to biodiversity in multilateral forums.
- ii. To develop professional expertise in biodiversity related policies and laws, inter alia through encouragement of research, development and training in matters relating to Convention on Biological Diversity, as well as its interface with other multilateral environmental agreements and United Nations bodies.
- iii. To develop and implement an array of capacity building programmes through multidisciplinary research and customise training programmes for a wide range of stakeholders focusing on human resource development.
- iv. To facilitate interactive information sharing through web conferencing, web seminars and virtual meetings involving relevant research centres and environmental law associations within India, Norway and other countries where such expertise is available.
- v. To help develop India as a Regional and International Resource Centre for Biodiversity Policy and Law through provision of training and human resource development

Programme Steering

MoEFCC has constituted a Programme Steering Committee (PSC) on 5th September, 2013 to oversee the implementation of the CEBPOL Programme and to review and monitor its progress. The PSC was responsible for making by consensus, management decisions for the programme and holding periodic reviews. The PSC met at least once in a year and provided the required oversight to this programme

A Programme Implementation Unit (PMU) incorporating 10 members were placed at NBA, Chennai. The PMU comprised of one Programme Manager, three Consultants (biodiversity law, biodiversity policy and capacity building), three Fellows (Access and Benefit Sharing, Invasive Alien Species and Multilateral Environmental Agreements), and three Administrative Staff.

Basic Information about the Programme

The NBA and the NEA (formerly DN) agreed on an institutional and technical assistance programme for institutional co-operation in the biodiversity sector. A joint programme document, "Full length Project Proposal for establishing Center for Biodiversity Policy and Law (CEBPOL)" (hereinafter "the Programme Document"), was submitted to the Norwegian Embassy in New Delhi on June 27, 2011, and updated on November 19, 2012, with attached budget.

The MFA and the NEA entered into a contract for institutional and technical assistance to the NBA on December 10, 2012. The NBA and the NEA entered into a Technical Assistance Contract for establishing CEBPOL on April 23, 2013. The NEA and BCIL entered into a consultancy assistance agreement to provide services for the collaboration.

Programme title	Indian-Norwegian cooperation programme regarding Institutional and Technical Assistance to National Biodiversity Authority, India
Programme period	June 2011-December 2018
Programme grant provider	Norwegian Ministry of Foreign Affairs (MFA)
Partner institution in India	National Biodiversity Authority (NBA)
Partner Institution in Norway	Directorate for Nature Management (DN) (2011-2013) Norwegian Environment Agency (NEA) (2013-2018)
Contributing institutions in India	National Biodiversity Authority, Ministry of Environment, Forest and Climate Change, Government of India.
Contributing institutions in Norway	Fridtjof Nansen Institute (FNI) Norwegian Institute for Nature Research (NINA) Norwegian Biodiversity Information Centre (NBIC)
Consultancy assistance in India	Biotech Consortium India Limited (BCIL)

Programme Milestones



Letter of Intent signed between India and Norwegian 19th November 2010.





Agreement between NBA and NEA



Launch of CEBPOL

INTRODUCTION

This report, with its annexes, constitute the Programme Completion Report, following the requirements for such a report and its contents as set out in the MFA-NEA contract. Initially 10 thematic areas were selected to work on under CEBPOL, later four thematic areas (namely biosafety, CoP-11, updating NBSAPs, TEEB and amendments to BDA) were withdrawn as those were being taken care by some other programmes of MoEFCC, GoI.

Overall, the Programme had six outputs viz.,

- i. Access and Benefit Sharing
- ii. Mainstreaming Biodiversity
- iii. Invasive Alien Species
- iv. Multilateral Environmental Agreements (MEAs)
- v. Nature Index
- vi. Capacity Building (cross cutting)

This report details the activities and outputs under the six thematic areas during the programme implementation period. Key events conducted under each of the thematic area are also highlighted. It is pertinent to mention that, an end-review of CEBPOL programme was commissioned by Norwegian Embassy in New Dehi involving an Official of Norad and the final report of end review was submitted on 1st July, 2019.

The Review Team comprised of Ms Bente Herstad, Team Leader, Policy Director, Norad and Ms Charu Jain, National Expert, Director, Advit Foundation, India recommended to build on the experiences of CEBPOL and to continue facilitating cooperation between Indian and Norwegian experts in biodiversity policy and law.

Programme Outputs (Thematic Areas)

Almost all the planned activities have been accomplished during the project implementation period. Altogether 35 seminars/workshops/policy dialogues/ expert consultation have been conducted.

A total of 29 publications have been produced. The total direct outreach is more than 5000 individuals belong to 40 national and three international institutions. Approx 1320 individuals have been trained directly through different capacity building activities among which 535 (40.50%) were Scientists, 245 (18.60%) policy makers, 222 (16.80 academia), 123 (9.30%) Industry personnel, 68 (5.20%) legal professionals, 41 (3.10%) development professionals, 28 (2.10%) media professionals and 58 (4.40%) others.

Outcomes of CEBPOL

Activity	Number
Workshops Conducted	30
Officials trained	5000 ^[1]
Institutions trained	300 ^[2]
National Institutions involved – Direct & Indirect	40
International institutions involved – Direct	3

[1] Policymakers, Academia, Practitioners, Students

[2] Line Departments, Research Institutions, SBBs, BMCs, Bio resources based companies

Budgets Matter

Funds from Norwegian Government has been fully utilized against the allotted budget. The overall CEBPOL programme budget is Rs.17,45,08,708. An amount of Rs.4,30,00,001 (24.64%) contributed by the MoEFCC, Government of India. The Indian and the Norwegian partners have jointly requested Rs. 13,15,08,707 (75.36%) as grant from the Royal Norwegian Embassy for activities. Of which an amount of Rs.5,52,33,657 (48%) allocated to Indian partner and Rs.7,62,75,050 (52%) to Norwegian partner.

The expenditure against the budget has shown a good incremental growth over the years. In case of Government of Norway Fund, the expenditure against the budgeted amount has been increased over the years from 0% to 100% (0%, 22%, 29%, 56% and 100% respectively in 2014, 2015, 2016, 2017 and 2018). Whereas, in case of Government Fund, it has been increased over the years from 25% to 56% (25%, 52%, 33%, 33% and 56% respectively in 2014,2015,2016, 2017 and 2018).

The financial position as on 31.12.18 Norwegian fund with BCIL is Rs.38,50,000 and Government of India fund is Rs.52,11,620. On considering the committed expenditure, the expected balance of Norwegian fund with BCIL is Nil balance and Government of India fund is Rs.45,45,007.

All the funds utilised has produced the quality output, be it a publication or conducting the awareness generation or capacity building activities. All the publications have been distributed to a large number of stakeholders. A couple of thousand scientists, academia, policy makers, industry personnel got trained by a number of seminars.

The recruitment of project personnel was delayed in the beginning and the full team put in place in the beginning of 2015. The position of Programme Manager remained vacant for almost two years (in 2014 and 2016). The engagement of external experts also got delayed due to unforeseen administrative reasons. This have impacted into a delayed implementation of some activities.

Theme - I

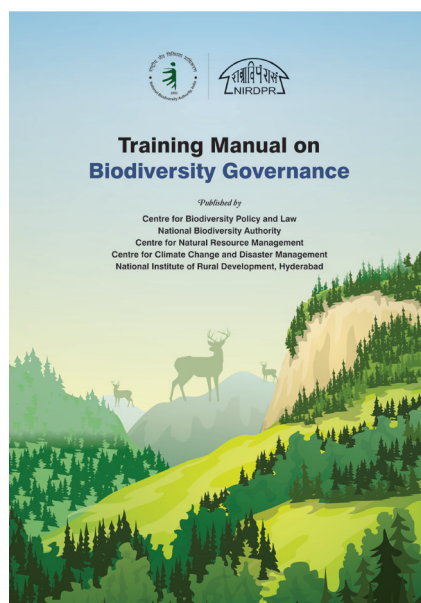
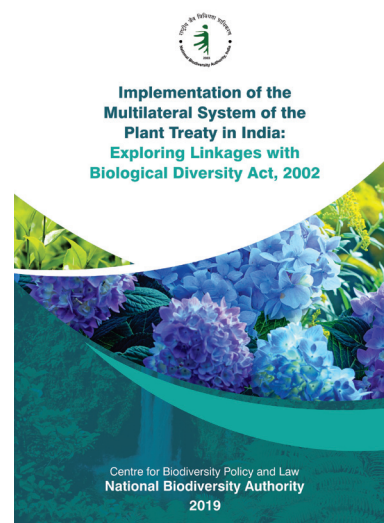
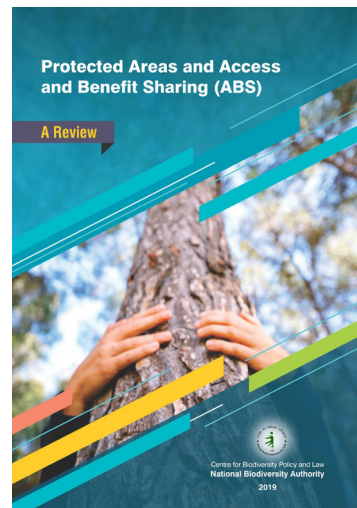
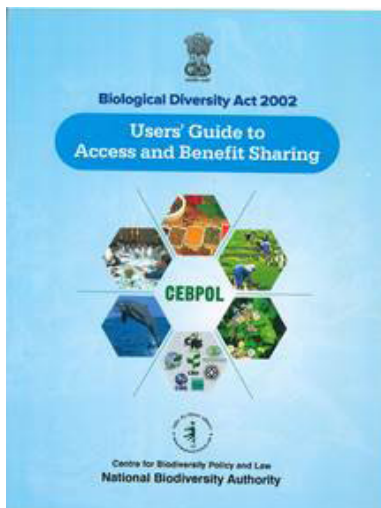
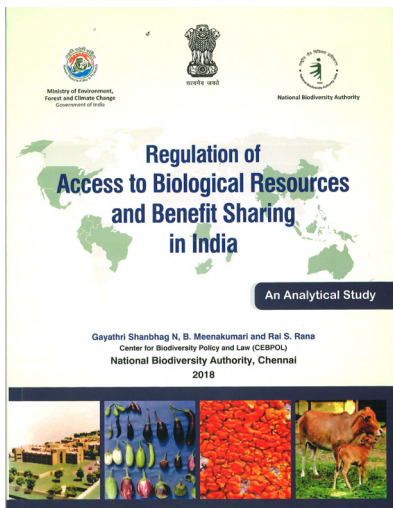
1. ACCESS AND BENEFIT SHARING

The Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization to the Convention on Biological Diversity provides an international legal framework for implementing the third objective of the Convention on Biological Diversity., i.e., the fair and equitable sharing of the benefits arising out of the utilization of genetic resources. This objective, in turn contributes to the conservation and sustainable use of biodiversity.

Issues related to ABS focusing on national implementation of provisions of the Biodiversity Act (2002) and Rules (2004) and subsequent review of the Act and Rules as appropriate in response to the Nagoya Protocol on ABS were the main focus of this thematic area. A number of studies have been completed on ABS issues collaboratively with Norwegian Institute (Fridtjof Nansen Institute) and independently at CEBPOL NBA. FNI has done five studies on different issues on ABS and brought out quality publications. CEBPOL NBA has also brought out seven publications viz.,

- i. Regulation of Access to Biological Resources and Benefit Sharing in India: An Analytical Study
- ii. "Users' guide on ABS" authored by Shivendu K Srivastava (2017).
- iii. Protected areas and ABS – A Review
- iv. Sector specific access and benefit sharing (ABS) compliance – scope and challenges – a review
- v. Strategy paper on synergies between ITPGRFA and BD Act
- vi. Review of selected national legislations relating to access and benefit sharing
- vii. Training Manual on Biodiversity Governance

Two bi-lateral experience sharing workshop have been conducted where the scientists, policy makers of Norway and India had shared their experiences.



1.1. Activities and Outcomes

1.1.1. Interim National Report on the Implementation of the Nagoya Protocol

In decision NP-1/3, paragraph 4, the Conference of the Parties serving as the meeting of the Parties to the Nagoya Protocol (COP-MOP) had requested Parties to the Protocol to submit an interim national report on the implementation of the Nagoya Protocol, on November, 2017, in a prescribed format. Ministry of Environment, Forest and Climate Change (MoEFCC) assigned the task of preparation of interim national report for India to NBA.

CEBPOL collected Relevant literature from the CBD website and reviewed the same. Conducted discussions with experts on various components of interim report and came up with a brief concept note. With the use of in-house capacity of the NBA (followed the questioner / interview methods), the Preliminary Draft of Report was been prepared. The draft report was presented in an expert consultation meeting at MoEFCC, Delhi and obtained comments. Based on the comments further modifications was done on the interim report.

Outcome: *Preparation of the Report on Interim National Report on the Implementation of the Nagoya Protocol.*

1.1.2. Sector Specific Access and Benefit Sharing (ABS) Compliance: Scope and Challenges: A Review

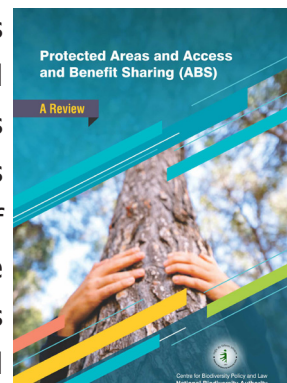
This study aims for the better/effective sector specific industrial ABS compliance. As the nature and volume of biological resources used by different industries vary substantially sector specific approaches / detailed study on different industrial sectors like; Pharmaceuticals, Botanical medicines, Crop development, Horticulture, Crop protection, Biotechnology (in the field other than health care and agriculture), nutraceuticals / personal care and cosmetics help for the ABS actors for effective implementation.

Outcome: *Report on: 'Sector Specific Access and Benefit Sharing (ABS) Compliance: Scope and Challenges: A Review*



1.1.3. Protected Areas and Access and Benefit Sharing (ABS): A Review

This activity attempted to study the protected areas in different ecosystems (forests, marine, wetland, etc.) and examines the ABS issues associated with protected areas. As protected areas are buffer zone of biodiversity with varieties of flora & fauna, bio-prospecting and commercial value of protected areas are huge. Hence one should explore the scope of ABS mechanism in Protected Areas and the pre-conditions for its implementation. The report also thoroughly examined various protected areas in India and its scope.



In this regard:

Outcome: Report on: Protected Areas and Access and Benefit Sharing (ABS): A Review

1.1.4. Ways and Means of Monitoring/ Utilization of India's Biological Resources in other Countries

Section 18(4) of the Biological Diversity Act, empowers NBA to monitor the grant of patents outside India on inventions on any biological resource obtained from India or knowledge associated with. In brief, the study emphasised on map out the extent of utilization of Indian biological resources in patenting activities outside India. During 2017, the emphasis (along with the IPR Officer, NBA) is on the 'Marine Biological Resources and Patenting'.

In this regard CEBPOL initiated the collection and review of literature pertaining to 'Marine Biological Resources and Patenting' and drafted an outline on the study on "Patenting based on Indian Marine Biological Resources and Scope for ABS: Trend, Issues and Challenges".

1.1.5. Compilation and review of national ABS legislations

The review of national ABS legislations is a comparative study of selected ABS regulations in order to assess the implementation of the Nagoya Protocol at the domestic levels. Necessary parameters for review of ten countries were identified. A template for data feed in the matrix was prepared. Specific provisions that pertain to these parameters were extracted from those legislations and set out in the matrix. After studying the provisions by comparing and contrasting with

each other, a report was prepared. Regular Skype meetings were held with the Norwegian partner, Ms. Liv Stephanie Bantle to complete the report.

The report was completed in April and was sent to the Technical Committee for review. Comments from the Technical Committee have been incorporated in the report. The findings of the study were jointly presented at the Fridtjof Nansen Institute, Oslo, Norway on 29th August 2018. The comparative study was much appreciated by the participants of the seminar. It was also presented at the CEBPOL Dissemination Workshop in New Delhi, on 5th December 2018. The outcome of the study is reflected in the form of a report to be published.



1.1.6. Disclosure of source and origin of bio-resources in patent applications

This activity involved a desk review of approximately 1800 patents granted in India from April, 2013 to July, 2017 based on a set of criteria. Details such as patent applicant name, title of patent, applicant's country, biological resources used, their sources, whether first examination report asks for disclosure of source, etc. are captured in the matrix. BCIL was requested to revise the matrix developed after desk review of the Indian patents due to some inconsistencies. Due to some discrepancies, BCIL has been requested to work on a revised matrix on an updated format and this process is underway. A draft report has been submitted.

1.1.7. Training and capacity-building in relation to BD Act provisions with special focus on ABS

The event "Capacity Building Workshop on Access and Benefit Sharing (ABS) provisions of the Biological Diversity Act and E-Filing Process of ABS Applications" for patent attorneys was held on 14 September 2018 at NBA Conference Hall, Chennai. Patent attorneys were identified as the target audience for this capacity-building activity. It was decided to invite patent attorneys from law firms and biotechnology companies and enlighten them on the provisions and procedures under the Biological Diversity Act and Rules. Potential participant law firms and attorneys were invited for the Patent Attorney workshop. Eminent speakers from different backgrounds participated as panellists for the discussion forum.

1.2. Events Organized By Cebpol Under Abs Thematic Area

1.2.1. Consolidating CEBPOL-Sharing of experiences on ABS held on 3-4 February, 2015 at Chennai.

The National Biodiversity Authority (NBA) in collaboration with the Norwegian Environment Agency (NEA) organized a workshop for sharing experience on biodiversity, and especially on ABS. The workshop was held on February 3 and 4 at hotel Aloft, Chennai. The main objective of organizing this workshop was to share experiences of India and Norway on some of the identified thematic areas of the cooperation. Those included Access and Benefit Sharing (ABS), Invasive Alien Species, Biosafety, Nature Index (NI) and National Biodiversity Action Plan (NBAP).

The workshop was inaugurated by Mr. Lars Andreas Lunde, Deputy Minister, Ministry of Climate and Environment, Norway, and it was presided over by Shri Hem Pande, Additional Secretary, MoEF&CC and Chairman, NBA. Around 70 delegates & experts from India and Norway participated and took part in the deliberations. The workshop saw a diverse representation from various organizations like the Ministry of Climate and Environment Norway, the Royal Norwegian Embassy, the



Norwegian Environment Agency, Fritjof Nansen Institute, Authority Members from India, Officials from MoEF&CC and NBA, invited resource persons and experts, special invitees from Tamil Nadu Government, Officials from State Biodiversity Board and the CEBPOL team.

The workshop comprised of Technical Sessions and a Work Group Discussion. The Work Group Discussions considered how to follow up the work undertaken by FNI in the Work Programme for the year 2015. The participants of the workshop were divided into 3 groups and the topics discussed were: a) Implementation of NP in India; b) User country measures on ABS; and c) TT as a benefit sharing mechanism. Following the workshop, a field trip was organised to Marakannam and Mahabalipuram, heritage sites depicting various ecosystems.

1.2.2. Consultative Conference on Biodiversity Governance for SBBs- Challenges and Prospects on 25-26 October, 2016 at International Training Centre, NLSIU, Bangalore.



NATIONAL LAW SCHOOL OF INDIA UNIVERSITY, BENGALURU
in association with
**CENTRE FOR BIO-DIVERSITY POLICY & LAW,
NATIONAL BIO-DIVERSITY AUTHORITY, CHENNAI**

**Consultative Conference on
Biodiversity Governance for State Biodiversity Boards: Challenges and Prospects**
Date: 25th and 26th October, 2016
Venue : International Training Centre, NLSIU





Law School of India University, Bangalore, organised a two-day Consultative Conference for State Biodiversity Boards to address the challenges and prospects of biodiversity governance in India during 25-26 October 2016 in Bangalore.

The program was organised in-campus in the International Training Centre of the University. The objective of the conference was to address and build capacity on the issues related to biodiversity governance faced by the State Biodiversity Boards in their respective jurisdictions. 20 representatives from 16 States participated in the Conference in addition to the delegates from CEBPOL, NBA and the host organization. The conference had 6 sessions.

It was consolidated that the major challenges identified are on three different levels, (i) governance level, mainly in relation to the constitution and operationalization of the third layer of governance, i.e. the BMCs; (ii) issues of interpretation of law and (iii) operational issues like complexity in collection of benefits, ascertaining state jurisdiction etc. The session was concluded by Prof. Ramesh emphasising on the need for capacity building in relation to law interpretation and problem solving. It was observed that there are differences in the operational procedures in different State Biodiversity Boards. Uniformity in procedure would be highly desirable to bring in more clarity and certainty in the whole ABS system. Further equipping the BMCs with the required capacity to perform their statutory functions and the desirability of devising training of trainers' program all over India with State level orientation were a few more tasks identified during this program.

1.2.3. Experience Sharing Workshop on Access and Benefit Sharing & Invasive Alien Species held from 8-11 March, 2017 at NBA, Chennai.

The experience sharing workshop on ABS and Invasive Alien Species was held on 8 -11 March 2017 at NBA, Chennai. The Norwegian delegates (Ms. Maja Stage Aaronaes, Dr. Inga Elise Bruteig, Dr. Ulf Hanno Pichl, Ms. Toril Loennechen Moen, Ms. Astrid Berge and Dr. Sunniva Margre the Due Aaggard) the Indian experts on ABS (Dr.R.S.Rana, Prof. M.K.Ramesh, Dr. Mangal Rai, Dr. Oommen V. Oommen, Dr. Sharan Gouda) and the NBA/ CEBPOL team participated in this workshop.

Presentations were made by the Norwegian and Indian delegates followed by a field trip being organized to Hyderabad to understand the ABS mechanism at grassroots



level. There was also a parallel session being held on Invasive Alien Species and Access and Benefit Sharing wherein, information was shared about current status and trends in Invasive Alien Species research and ABS mechanism being implemented in India and Norway.

1.2.4. Awareness workshop on Guidelines for Access to Biological Resources under the Biological Diversity Act, 2002 on 24th March, 2017 at Gujarat University, Ahmedabad

An awareness Workshop on the Guidelines for Access to Biological Resources under the Biological Diversity (BD) Act, 2002 was organized at Hotel Starottel, Ahmedabad on March 24, 2017. The workshop was organised by BCIL with support from DBT and CEBPOL, NBA in collaboration with Gujarat State Biotechnology Mission (GSBTM), Government of Gujarat.

The workshop was aimed at creating awareness about the provisions of the BD Act, 2002 and in particular, the 'Guidelines on Access to Biological Resources and Associated Knowledge and Benefits Sharing', 2014 in order to facilitate regulatory compliance. It also served as an interactive platform for clarifying issues regarding ABS among participants and enabled getting valuable feedback regarding the problems faced by the applicants.



Prof.M.K.Ramesh, NLSIU Bangalore, Shri T.Rabikumar, Secretary NBA, Dr. Shivendu K. Srivastava, Member Expert Committee on ABS, Dr. Rupam Mandal AND Dr. Prabha NAIR from CEBPOL were the key resource persons at the workshop. The workshop was attended by more than 90 participants which include scientists from public and private sector engaged in research utilizing biological resources, IP officials from industry, institutes and government agencies.

1.2.5. Expert Consultation on “Interim National Report on the Implementation of the Nagoya Protocol” on 26th May, 2017

Expert consultation on “Interim National Report on Implementation of Nagoya Protocol” on 26th May, 2017 at New Delhi. The First Expert Consultation on “Interim National Report on the Implementation of the Nagoya Protocol” was held on 26th May, 2017 at the Godavari Hall, MoEFCC, Delhi. 12 experts participated in this consultation. The meeting was convened under the chairmanship of Dr. Amita Prasad, Additional Secretary, MoEFCC. Subsequently, Dr. Sujata Arora, Adviser, MoEFCC made a detailed presentation on “Interim National Report on Implementation of Nagoya Protocol on ABS: Background and Context”. Shri T. Rabikumar, Secretary NBA presented the draft report and explained all the questions and their respective answers with the background of the Nagoya Protocol text/message. Experts agreed to the draft report and made their remarks on each question and proposed suggestions wherever required.



1.2.6. Expert Consultation on “Interim National Report on the Implementation of the Nagoya Protocol” on 5th October, 2017 at Indus Hall, Jal Wing, MoEFCC, New Delhi

Article 29 (Monitoring and Reporting) of the Nagoya Protocol mandates parties to submit a report to the CBD for monitoring the implementation of its obligation under the protocol. The Conference of the Parties serving as the meeting of the Parties (COP-MOP) to the Nagoya Protocol had requested Parties to the Protocol to submit an interim national report on the implementation of the Nagoya Protocol, twelve months prior to the third meeting of the COP MOP (that is by 1 November 2017). Parties are requested to submit to the Secretariat their interim national report, through the ABS Clearing-House (in electronic form), in the prescribed format. While preparing the report, countries are required to involve all relevant stakeholders in order to ensure a participatory and transparent approach to its development.

The interim national report is a useful tool for both Parties and non-Parties to the Nagoya Protocol to assess the level of implementation of the Nagoya Protocol, as well as gaps, and needs in terms of capacity. Information submitted through the interim national report could also serve to share experiences, challenges, solutions and best practices among countries in relation to the implementation of the Nagoya Protocol. In this regard, the interim national report is a valuable

tool for building and developing capacity to implement the Nagoya Protocol and for designing capacity-building activities more effectively. MoEFCC assigned the task of preparation of interim national report for India to the National Biodiversity Authority (NBA). NBA assigned the work to Centre for Biodiversity Policy and Law (CEBPOL). With the use of in-house capacity of the NBA, the preliminary draft of the Interim National Report on the Implementation of the Nagoya Protocol was prepared.

The report was discussed in the First Expert Consultation organized at MoEFCC on 26 May, 2017. Based on the suggestions of the experts, the revised draft is prepared by including information such as awareness generation/ capacity building programs organized at state levels and the details on the ABS Implementation by the State Biodiversity Boards.

The modified draft was discussed on 5 October, 2017, in the Second Expert Consultation. Based on the suggestions/ feedback from the Second Expert Consultation meeting, the report has been modified further and circulated to all the experts for their final comments. Based on the comments from the experts, further modification on the report has been made and NBA submitted the final draft to the MoEFCC in the end of October. The final report was submitted to the CBD on 1 November 2017. The report can be accessed in the link <https://absch.cbd.int/database/NR/ABSCH-NRIN-238716>.

1.2.7. Supporting creation of critical mass of ABS experts to implement the Nagoya protocol on ABS

Under the aegis of CEBPOL 12 workshops were conducted across the country for varied range of stakeholders including policy makers, scientists, academia, industry personnel, legal and media professionals, officials of related line departments, state biodiversity boards, biodiversity management committees and Local Self Governance functionaries

Biodiversity mainstreaming is the process of embedding biodiversity considerations and concerns into policies, strategies and practices of key public and private actors that rely on biodiversity, so that biodiversity is conserved, and sustainably used, both locally and globally. The concept of mainstreaming biodiversity was included in Article 6(b) of the Convention on Biological Diversity which calls parties to “integrate the conservation and sustainable use of biological diversity into relevant sectoral or cross sectoral plans, programs and policies”.

Policy documents on mainstreaming biodiversity into agriculture, forestry, marine and inland fisheries and aquaculture have been produced through a number of regional and national level consultations with the policy makers and subject experts.

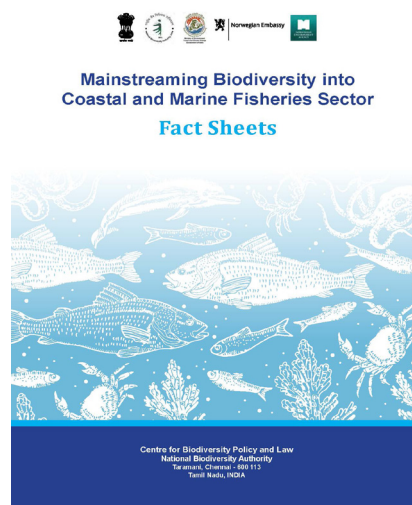
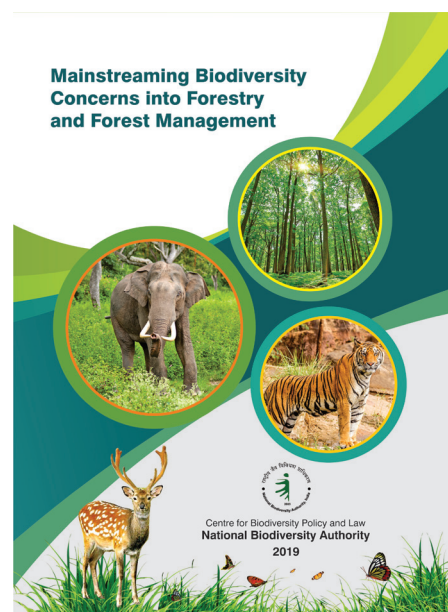
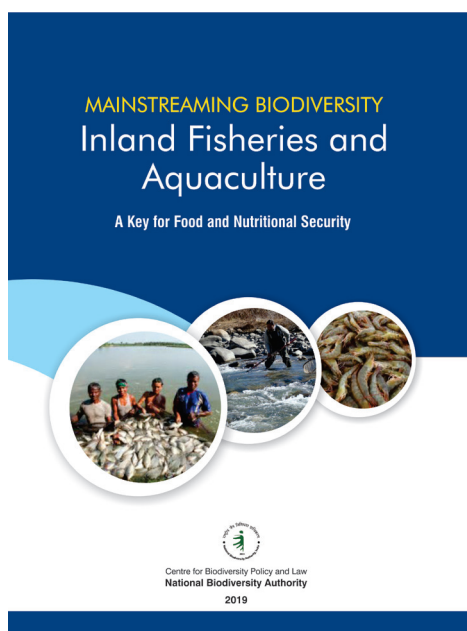
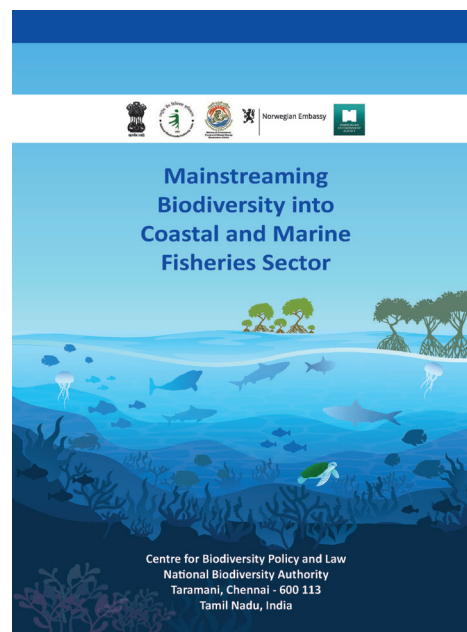
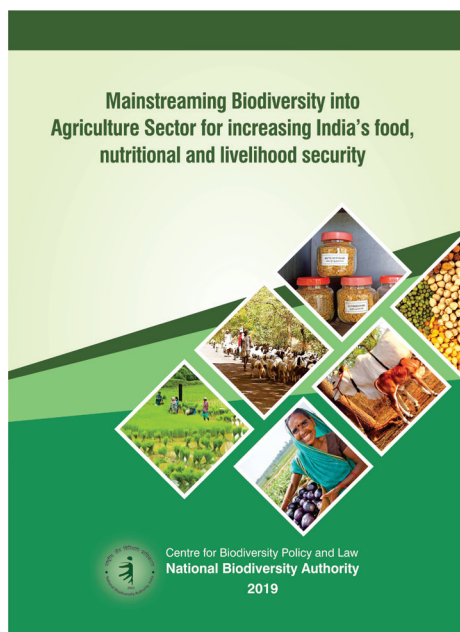
Theme - II

2. MAINSTREAMING BIODIVERSITY

The centre has conducted a number of capacity building workshops on biodiversity governance for a wide range of stakeholders including State biodiversity boards officials, legal professionals and Local Self Governance functionaries. CEBPOL, NBA has signed a MoU with National Institute of Rural Development and Panchayati Raj, Hyderabad and brought out first of its kind Training Module and Manual on Biodiversity Governance. The Training of Trainers (ToT) programmes have been rolled out in four regional places covering all the states of the country and built capacity of more than two hundred trainers including faculties of State Institute of Rural Development, officials from State Biodiversity Boards and related line department officials. The trainers imparted the same training in the state and district to build capacity of a larger group of stakeholders to materialize the objective of UN Decade of Biodiversity and Aichi Targets.

Publications

- i. Policy Brief on “Mainstreaming Biodiversity into Agriculture Sector for increasing India’s food, nutrition and livelihood security”.
- ii. Policy document on “Mainstreaming Biodiversity in Coastal and Marine Fisheries Sector”
- iii. Policy document on “Mainstreaming Biodiversity into Inland Fisheries and Aquaculture – a key for Food and Nutritional Security”
- iv. Policy Brief on “Mainstreaming Biodiversity into Forestry and Forest Management”.
- v. Fact Sheets on “Mainstreaming Biodiversity in Coastal and Marine Fisheries Sector”



2.1. Activities and Outcomes

2.1.1. Mainstreaming Biodiversity into Agriculture Sector for Increasing India's Food, Nutritional and Livelihood Security

Agrobiodiversity plays a crucial role in achieving food security, eradicating hunger, improving human nutrition and essential functions in the agricultural landscapes. In India, agriculture and allied sectors provides food and nutritional security for nearly 1.3 billion Indians, around 54.6% of population is engaged in agriculture and allied activities and contributes 17.4% to the country's Gross Value Added for the year 2016-2017. For increasing and conserving India's biodiversity wealth, it is important to mainstream biodiversity concerns into the agriculture sector.

CEBPOL prepared policy intervention document following a consultation process. Dr. Ajay Parida, Former Director, MSSRF Foundation, Chennai was selected as the technical expert for undertaking this study.

a. Literature review and policy analysis

Desk review was carried out by reviewing various schemes and policy documents of the Ministry of Agriculture and Farmer's Welfare (MoA & FW) such as:

- ◇ National Food security mission
- ◇ National mission on sustainable agriculture
- ◇ National mission on oilseeds and oil palm
- ◇ Mission for Integrated Development of Horticulture
- ◇ National livestock mission
- ◇ National Mission on Bio economy
- ◇ Cancun declaration, 2016
- ◇ CBD approach paper on Biodiversity, Food System and Agriculture, 2015, CBD SBSTTA
- ◇ Agriculture policy
- ◇ National Biodiversity Action Plan (NBAP)

- ◇ State of Agriculture report and other relevant documents pertaining to the agriculture sector

b. Institutes/Experts visit

During the study period, the following institutes/experts were visited:

- ◇ Dr. R.S. Rana, Chairman, Expert committee on Agro-biodiversity
- ◇ Dr. Mruthyunjaya, Economist and policy expert on 30 September, 2016 at Bangalore
- ◇ Dr. Gupta, Scientist, Bioversity International on 19 January, 2017 to get technical information on seed production and production cost at the national level
- ◇ Dr. Krishna Kumar, Director, South and Central Asia, Bioversity International and held discussion on 24 April, 2017 at New Delhi. Collected literature related to agro-biodiversity index and horticulture issues.
- ◇ Dr. Ravi Khetarpal, Regional Advisor, Strategic Science Partnership, Centre for Agriculture and Biosciences International (CABI), South Asia on 24 and 25 April, 2017 and collected inputs on agriculture related invasive species and other policy documents.
- ◇ Dr. Pratibha Brahmi, Head, Germ Plasm Division, National Bureau of Plant Genetic Resources (NBPGRs), ICAR on 24 April, 2017 and visited their gene bank and learned about the conservation of traditional seed varieties at NBPGRs.

Visited NBPGRs ex-situ gene bank collection centre and learned about the collection procedures of seeds. It was noticed that more than 4 lakh plant genetic resources are collected and conserved for breeding purpose.

During the seed fest celebration at Wayanad, Kerala, visited some of the on-farm conservation sites in the Wayanad region and documented the on-farm conservation practices carried out by the local farmers and visited the following sites:

Shri Cheruvayal Raman's rice farm (conserving more than 45 local traditional varieties of rice)

Shri Shaji tuber farm site (conserving more than 100 varieties of tubers)

Integrated farming system (Cultivation of medicinal plants, poultry and fish)



On farm conservation sites (rive filed and tuber) in Wayanad

c. Approaches adopted for mainstreaming biodiversity into Agriculture sector

- ◇ Ecological intensified agricultural practices;
- ◇ Maintenance of biodiversity in the production landscapes;
- ◇ Sustainable consumption, reduced food waste and sustainable diets.

d. Consultative meetings

A national level consultative meeting was organised on 20 January at PUSA, New Delhi. More than 37 experts participated from various agriculture related research organisations viz PPV&FRA, World Agroforestry Centre, CABI, MSSRF, Bioversity International, NBPGRs, National Bureau of Insect Genetic resources and officials from NITI Aayog, MoA&FW and MoEFCC took part in the deliberation.

During the inaugural session, Professor Ramesh Chand, Member, NITI Aayaog presided over the discussion meeting; Dr. Meenakumari, Chairperson, NBA delivered the key note address and Dr. Amita Prasad, Additional Secretary, MoEFCC delivered the special address.



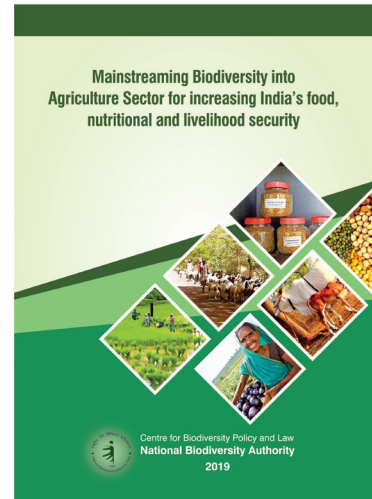
During the technical session, Dr. C. Thomson Jacob, Consultant (Biodiversity Policy) Centre for Biodiversity Policy and Law (CEBPOL) made a detailed presentation on the draft recommendations emerged from the policy analysis, which includes:

- (a) Incentives for farmers conserving traditional varieties (involved in on farm conservation practices);
- (b) Conservation of traditional seed varieties;
- (c) Identification of economically potential agricultural bio resources;
- (d) Conservation of native pollinators;
- (e) Encourage using bio-pesticides/insecticides;
- (f) Preparation of watch list for conserving livestock;
- (g) Preparation of agrobiodiversity index in the agrobiodiversity hotspots;
- (h) Notification of Biodiversity Heritage Sites for conserving agrobiodiversity rich areas; (i) National policy on Invasive Alien Species; and

e. Preparation of Report

A consolidated recommendation was prepared and shared with the experts for getting their inputs. Responses received from the participants were

incorporated in the policy intervention document. The first draft report on Mainstreaming Biodiversity into the agricultural sector for enhancing India's food basket was submitted to the MoEFCC/technical review committee on 30 June, 2017 for their comments. After receiving their comments, the policy document was revised and resubmitted to NBA. Finally, the document was printed and it was released by Dr. M. S. Swaminathan on 8 February, 2019.



Release of the Agrobiodiversity policy document by Dr. M.S. Swaminathan at MSSRF, Taramani, Chennai

2.1.2. Mainstreaming Biodiversity into Coastal and Marine Fisheries Sector

India is the second largest producer of inland fishes and the second largest aquaculture nation in the world. The total fish production in India has increased from 5.66 MMT in 2000-01 to 11.41 MMT (7.77 MMT from inland and 3.64 MMT from marine) in 2016-17. The transformation of inland fisheries from traditional capture

fisheries to commercial scale aquaculture has led to an increase in fish production. Some of the major concerns related to the inland sector includes river water pollution, agriculture runoff, water abstraction, diminishing environmental flow, sedimentation, spread of invasive alien species, destructive fishing practices, illegal trade of ornamental fishes, etc.

Dr. Yugraj Singh Yadava, Director, Bay of Bengal was selected as the technical expert for undertaking this study. The steps followed for the mainstreaming report are detailed below.

a. Literature review and policy analysis

During the study period, the following documents were reviewed:

Approach paper: SBSTTA, 2015 document on Biodiversity and Fisheries, Strategies Scientific and technical issues related to the Implementation of the Strategic plan for biodiversity 2011-2020.

- ◇ National policy on Marine Fisheries, 2004
- ◇ Schemes and programmes of the marine sector
- ◇ United Nations Convention on the Law of the Sea, 1982
- ◇ FAO code of conduct for responsible fisheries
- ◇ Marine product export development Authority Act, 1972
- ◇ The Economics of Ecosystems and Biodiversity, India initiative - Interim Report
- ◇ Marine fishing regulation Acts promulgated by the coastal states

- ◇ Guidelines on central Sector scheme on Blue Revolution: Integrated Development and Management of Fisheries, 2015. Published by DAHD&F, MoA&FW, GoI
- ◇ Environmental Protection Act, 1986
- ◇ Integrated Fisheries Policy Analysis Toolbox. A report prepared for the fisheries management for sustainable Livelihood Project (FIMSUL), 2011
- ◇ Coastal Regulation Zone Notification 1991 and 2011
- ◇ Coastal Aquaculture Authority Act, 2005
- ◇ CMFRI annual reports
- ◇ Coastal and marine protected areas in India. Published by WII, ENVIS report

b. Institutes/Experts visit

During the study period, the following institutes and experts were visited:

- ◇ Dr. A. Gopalakrishnan, Director, Central Marine Fisheries Research Institute (CMFRI), Kochi for collecting marine data and information on marine schedule species;
- ◇ Dr. Ravi Sankar, Director, Central Institute of Fisheries Technology (CIFT), Kochi - on various biodiversity friendly technologies available for reducing by catch;
- ◇ Shri Kumar, Marine Product Export Development Authority - marine products exported from India;
- ◇ Dr. Ramesh and Dr. P. Krishnan, National Centre for Sustainable Coastal Management (NCSCM), Anna University - Discussed on increasing the MPA coverage;
- ◇ Dr. Kuldeepal, National Bureau of Fish Genetic Resources (NBFGRs);
- ◇ Dr. Sivakumar, Head, Wildlife Institute of India - to get inputs for achieving 10% MPA as indicated in the Aichi and SDGs;

- ◇ Dr. Kirubakaran, Scientist G, NIOT and collected information related to marine bio-prospecting and ballast water issues

c. Approaches for mainstreaming biodiversity

- ◇ Ecosystem approach;
- ◇ Access and user rights;
- ◇ Marketing incentive and export;
- ◇ Policy and institutional strengthening.

d. Consultative meeting

A national level consultative meeting was organised on 25 November, 2016. Nearly 31 experts from various institutions took part in the discussion, viz: BoBP, NCSCM, SBBs, NBFGRs, NIOT, MSSRF, NAARM, NFDB, FAO, Fisheries survey of



India, International Collective in Support of Fish workers, MPEDA, CIBA, CIFT, etc.

The recommendations of the report are as follows:

- ◇ Protection of biodiversity rich coastal and marine areas
- ◇ By-catch reduction
- ◇ Strict implementation of seasonal fishing ban by the coastal states
- ◇ Protection of access and user rights of traditional fishers
- ◇ Co-management of fishery resources (e.g. Sindhudurg and East Godavari)
- ◇ Designating rich coastal areas as Biodiversity Heritage Sites
- ◇ Facilitate access and Benefit sharing in the coastal and marine in the EEZ
- ◇ Constitution Coastal BMCs and preparation of coastal PBRs by the coastal states/UTs
- ◇ Regulating ballast water discharge for controlling the marine Invasive Alien species

Presentation from Ms. Eva, Norway

Ms. Maja and Ms. Eva, Directorate for Nature Management, Norway made a presentation through Skype and answered all the queries raised by the participants. Ms. Maja shared some of the documents pertaining to the conservation of marine resources and Norway's experience in conserving marine biological resources.

e. Preparation of report

After the consultative meeting, the final consolidated report was submitted to the NBA on 28 July, 2017 and it was circulated among the MoEFCC/ technical review committee for their comments. The inputs received from the technical review committee were incorporated in the final report and it was printed and released by Dr. M.S. Swaminathan on 8 February, 2019.



f. Fact sheets prepared on Marine issues:

To increase the awareness and capacity on marine biodiversity issues, 10 facts sheets (5000 copies printed) were prepared for the benefit of policy makers, researchers, SBBs, BMCs, etc.

- ◇ India's Coastal and marine faunal diversity
- ◇ Ecological Sensitive area
- ◇ Ecologically or Biologically Significant Marine areas and Marine Protected areas
- ◇ Ecosystem Approach to Fisheries Management (EAFM)
- ◇ Invasive Alien species
- ◇ Co-management
- ◇ C&M species under Indian Wildlife Protection act, 1972
- ◇ India's National Biodiversity Targets: Linkages with Coastal and Marine Sector
- ◇ Sustainable Development Goal-14: Life Below Water

g. Contribution to the National Marine Policy (NMP)

CEBPOL participated in the national consultative meeting for the preparation of the National Marine Policy at CIBA, Chennai and provided inputs for the revision of NMP. The recommendations emerged from the CEBPOL study report was synthesised and it was communicated to the DoA & FW for incorporating into the NMP. Some of the suggested recommendations included are:

- ◇ Mainstreaming biodiversity conservation in production processes;
- ◇ Species-specific and area-specific management plans;
- ◇ Conservation of Ecologically and Biologically Significant Areas and Vulnerable Marine Ecosystems (VMEs);
- ◇ Protection of iconic and endangered and threatened (ETP) species etc and creation of fish refugia;

2.1.3. Mainstreaming Biodiversity into Inland Fisheries and Aquaculture – A Key for food and Nutritional Security

Dr. V. V. Sugunan, Former Assistant Director General, ICAR, was selected as the technical expert and a discussion meeting with Dr. Vasu was held on 28 June, 2017 at NBA for developing a road map to undertake a study on the linkages between the inland fisheries sector and biodiversity. A tentative time line was developed.

a. Literature review and policy analysis

A policy analysis was carried out by reviewing various schemes, programmes and projects of the inland fisheries sector implemented by the Ministry of Agriculture and Farmers Welfare.

b. Institutes/Experts visit

During the policy analysis study, the following research institutions and experts were visited:

Central Institute of Fisheries Research Institute (CIFRI) on 11 and 12 May, 2017 and interacted with the scientists and collected following publications: Vision documents, draft inland fisheries policy, annual reports, newsletters and policy papers and other information resources.

- ◇ Dr. Basanta Kumar Das, Director, CIFRI
- ◇ Dr. V. R. Suresh, Principal Scientist and Head of Division, CIFRI
- ◇ Dr. S.K. Manna, Project Management, Environment Cell, CIFRI
- ◇ Mr. U.K. Sarkar, Principal Scientist, CIFRI
- ◇ Dr. Arun Pandit, Principal scientist, CIFRI
- ◇ Ms. Anjana Ekka, Scientist, CIFRI
- ◇ Visited Coastal Aquaculture Authority,
- ◇ Central Institute of Brackish Water Aquaculture
- ◇ Director, Wetland International, New Delhi

c. Consultative meeting

- ◇ A concept note on the above thematic area was prepared for organising two consultative meetings and it was circulated widely to the experts.
- ◇ Two national consultative meetings on (a) Mainstreaming biodiversity into Inland fisheries and (b) Aquaculture and cold water fisheries was held on 28 and 29 of November, 2017 at National Academy of Agricultural Research Management, Hyderabad.
- ◇ The objectives of organising this consultative meeting is to (a) Develop a roadmap for achieving the National Biodiversity targets and Sustainable Development Goals (SDGs) goals related to the inland fisheries sector; (b) Integrate biodiversity related activities into the existing schemes, projects, programme and plans of the concerned ministry towards increasing the aquatic biodiversity wealth of the country into the inland water bodies; (c) Develop a framework for the conservation of the ecologically representative areas in inland waters especially those of particular importance for species, biodiversity and ecosystem services.





d. Recommendations of the consultative meeting:

1. Mapping of unused water bodies and brought them under the cultivation practices
2. Conservation of indigenous fish genetic resources
3. A suitable Indian model for valuation of ecosystem services in the inland water bodies
4. Action to empower regulated the activities of the freshwater aquaculture
5. Regulate the activities of hatcheries and covert into multi species fish seed hatcheries.
6. Incentives for conserving indigenous varieties
7. Policy on Invasive alien species and avoid unintentional introduction of invasive

8. Certification and eco-labelling
9. Post-harvest processing and value additions
10. Designating unique ecologically fragile ecosystems as fish sanctuaries

The final report was submitted to NBA and it was circulated among the MoEFCC/ Technical Review committee for their review and comments. After receiving their comments, the report was finalised and released by Dr. M.S. Swaminathan on 8 February, 2019.



e. The synthesis of the study report was communicated to the DoA & FW and the following points were integrated into the Draft National Inland Fisheries and Aquaculture Policy

- i. Conservation of indigenous fisheries resources and restoration of natural productivity through ecosystem restoration
- ii. Major thrust need to be given to diversification of species in both freshwater and brackish water systems by establishing hatcheries, brood stock multiplication centres and nuclear breeding centres
- iii. Habitat conservation measures for protection and rehabilitation of native fish stock in association with concerned agencies
- iv. Entry of any exotic species meant for aquaculture including brood stock, seed and specific pathogen free stocks etc. needs to be regulated
- v. Collection and trade of native ornamental fish species from natural waters require regulation by the concerned States/UTs
- vi. The database on native ornamental fish species need to be further strengthened. Collection and trade of native ornamental fish species from natural waters require regulation by the concerned States/UTs

2.1.4. Mainstreaming Biodiversity Concerns into Forestry and Forest Management

Forest are fundamental to food security and livelihood of millions of people. As major repositories of biodiversity, forests cover about 21.54% of the total geographical area of the country. Conservation concerns in the forestry sector include loss of biodiversity, spread of invasive alien species, over harvesting of non-timber forest produce, shifting cultivation and conversion of forest lands etc.

Dr. Giridhar Kinhal IFS (Retd.), Ex - Principal Chief Conservator of Forest, Madhya Pradesh and Former Director, Indian Institute of Forest Management was selected as the technical expert for undertaking this study. A discussion with Dr. Kinhal was organised on 3 June at Holiday Inn hotel to develop a road map for the preparation of policy intervention document for the forestry sector.

a. Literature review and policy analysis

Reviewed the 10 year administrative reports of the MoEFCC (from 2008 to 2017); to see the linkages between forestry sector and biodiversity

Reviewed the approach paper - SBSTTA, 2015, UNEP/CBD/SBSTTA/19/INF/17, on strategic issues related to the implementation of the Strategic Plan for Biodiversity 2011-2020. Conservation and Sustainable use of Forest Biodiversity

- ◇ India State of Forest Report, 2017
- ◇ The Economics of Ecosystems and Biodiversity, India initiative - Interim Report Working Document
- ◇ National Forest Policy, 1988
- ◇ National REDD+ Strategy India, 2018. Published by MoEFCC, GoI
- ◇ National working plan Code, 2014
- ◇ Good practices on mainstreaming biodiversity into the forestry sectors
- ◇ National Mission for Green India
- ◇ National afforestation and eco-development scheme
- ◇ Project on biodiversity conservation and human wellbeing
- ◇ Forest certification of timber and non-timber forest products
- ◇ Project on biodiversity conservation and rural livelihood improvement project
- ◇ Mainstreaming conservation and sustainable use of medicinal plant diversity
- ◇ National river conservation programme; etc
- ◇ Mainstreaming Biodiversity in Road and Rail Transportation Projects for Promoting Smart and Green Infrastructure

b. Consultative meeting

- ◇ Concept note on linking forest and biodiversity was prepared and shared with Dr. G. Kinhall. The draft note includes information on



(a) Global/Indian scenario - Forestry issues; (b) review on ongoing schemes, programmes, projects of the MoEFCC; (c) Contributory and non-contributory factors to biodiversity; (d) success stories; (e) list of stakeholders/ institutions working on forestry issues.

- ◇ For undertaking this study, a series of stakeholder consultations/ policy dialogues were organised. The study provides strategies and action elements to incorporate long, medium and short term processes in to forest governance of the Government of India and state forest departments.
- ◇ Three regional policy dialogues were organised in various parts of India such as Telangana (28 April,2018), Gujarat (28 May, 2018) and Assam (28 June, 2018) and one national policy dialogue was organised in NBA, Chennai on 5 September, 2018 and the following recommendations were brought out though intensive deliberations.
- ◇ The expert participants from forest departments, relevant NGOs and research agencies made a comparative assessment of the National Working Plan Code vs expectations of the NBAP and identified the

gaps. This document provides a step-wise guidance to help the forest professionals to progressively integrate biodiversity conservation themes/actions and processes into the forest management.

Recommendations of the consultative meeting

- i. Protection of ecological representative areas (other effective area based conservation measures viz sacred groves, wetlands, connecting corridors, eco tone regions, nesting habitat, wintering habitats, fly over habitats of the migratory birds, etc).
- ii. Minimise genetic erosion and safeguarding genetic diversity (Biodiversity assessment in the protected areas for every five years).
- iii. Facilitate access and benefit sharing (Sustainable harvesting, value addition and marketing of NTFPs enhanced among the NTFP gatherers and to facilitate ABS outside the PAs).
- iv. Sustainable management of forest resources (Forest certification promoted).
- v. Integration of local institutions (such as Vana Samrakshana Samithi, JFMCs, EDCs, Panchayat Raj institutions (PRIs) and BMCs).
- vi. Biodiversity governance (a guiding document for synergising biodiversity and MEAs and national policies/legislations).

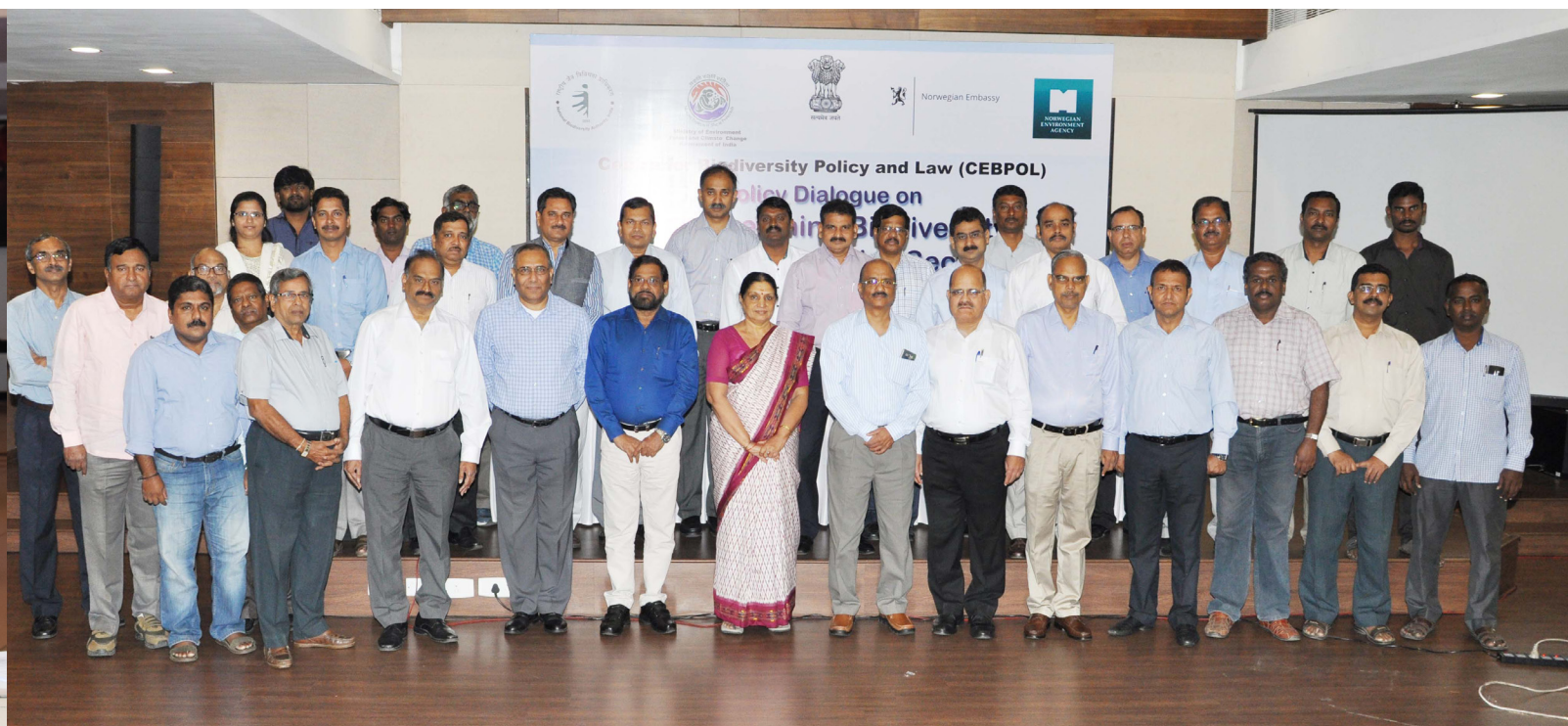


2.2. Events Organized By Cebpol Under Mainstreamingthematic Area

2.2.1. Policy dialogue on Mainstreaming biodiversity into the fisheries sector held on 25th November 2016 at NBA, Chennai.

The Centre for Biodiversity Policy and Law (CEBPOL) organised a Policy Dialogue on mainstreaming biodiversity into the fisheries sector on November 25 at the National Biodiversity Authority (NBA) conference hall, Chennai. Around 30 fishery experts from various organisations participated in the deliberation. Shri. T. Rabi Kumar, Secretary, NBA, delivered the welcome address and Dr. B. Meenakumari, Chairperson, NBA, gave a brief introduction about the activities of CEBPOL and an overview of the objective of the policy dialogue.

During the technical session, Dr.Yugraj Singh Yadava, Director, Bay of Bengal Programme, highlighted the salient features of the draft national policy on marine fisheries, 2016 published by the Ministry for Agriculture and Farmers welfare and Dr. C. Thomson Jacob, Consultant, Biodiversity Policy, CEBPOL, presented the draft recommendations of the policy analysis carried out under the CEBPOL programme. The inputs provided by the experts during the deliberations on marine protected area, designating Biodiversity Heritage Sites in coastal areas, technology to decrease fish by-catch, seasonal ban on fishing, engaging fisher



men in conservation, co-management of conservation of marine areas and the need for increasing awareness and capacity building etc., will be incorporated appropriately in the draft.

2.2.2. Policy Dialogue on “Mainstreaming biodiversity into the agricultural sector” held on 20th January, 2017 at New Delhi.

Under the theme Mainstreaming Biodiversity a national level consultative meeting on Mainstreaming Biodiversity into the Agricultural sector was organised on 20th January at PUSA, New Delhi. More than 37 delegates have participated from various agriculture related research organisations viz CABI, MSSRF, Biodiversity International, PPV&FRA, World Agroforestry Centre, NBPGRs, NBIGRs and also officials from MoA&FW and MoEFCC participated in the deliberation. To increase the food basket of our country, it was recommended to adopt ecologically intensified agricultural farming practices and to mainstream biodiversity into various schemes, programmes, projects and plans of the Agricultural Ministry. Professor Ramesh Chand, Member, NITI Aayog presided over the discussion meeting and emphasised to adopt organic farming practices towards increasing the biodiversity wealth of our country. Dr. Meenakumari, Chairperson, NBA and Dr. Amita Prasad, Additional Secretary, MoEFCC delivered the Key note address. Dr. C. Thomson Jacob, CEBPOL, NBA coordinated the event.



2.2.3. Consultative meeting on "Mainstreaming Biodiversity into the open and cold water Fisheries" held on 28-29 November, 2017 at The National Academy for Agricultural Research Management (NAARM), Hyderabad

A two-day national consultative meeting on "Mainstreaming Biodiversity into the Open Water Fisheries and th th Aquaculture" was Organised on 28 and 29 November, 2018 at ICAR - National Academy of Agricultural Research Management, Hyderabad, Telangana. More than 50 delegates including reputed experienced scientists from the sector and practitioners have participated in the deliberation and brought out a policy intervention document for mainstreaming biodiversity into the inland fisheries sector.



2.2.4. Policy dialogue on “Mainstreaming Biodiversity Concerns in Forestry and Forest Management”

Three Regional Policy Dialogues on Mainstreaming Biodiversity into the Forestry & Forest Management were conducted on 28th April, 28th May and 28th June, 2018 respectively at Hyderabad, Ahmedabad and Guwahati. A number of senior foresters, academia, practitioners and State Biodiversity Board officials actively participated these dialogues. The main objective was to find out how the biodiversity concerns have been taken care with Forest Work Plan Code 2014, the Gap in it and how to overcome the gap towards achieving the National Biodiversity Targets thereby Aichi Targets. The learned participants contributed very meaningfully and brought out some recommendation for mainstreaming biodiversity into forestry and forest management. The dialogues were participated by Dr. B. Meenakumari, Chairperson NBA, Mr. T. Rabikumar, Secretary, NBA and conducted by the externally engaged Consultant Dr Giridhar Kinhal, Former PCCF, Madhya Pradesh, with the support from CEBPOL Team.



“Mainstreaming Biodiversity Concerns in Forestry and Forest Management” @
NBA, Chennai



Theme - III

3. INVASIVE ALIEN SPECIES

An alien species is a species, subspecies or lower taxon, introduced outside its natural past or present distribution, which includes any part, gametes, seeds, eggs, or propagules of such species that might survive and subsequently reproduce. Whereas an invasive alien species refers to an alien species whose introduction and/or spread threaten biological diversity of the region/habitat (CBD, 2002).

Studies highlighted that Invasive Alien Species have been emerging as the second biggest threat to global biodiversity after habitat destruction and it is expected to soon surpass the damage caused by habitat destruction and fragmentation. Recent studies highlighted that one-sixth of the global land surface is highly vulnerable to invasion, including substantial areas in developing economies and biodiversity hotspots. On the other hand most countries have limited capacity to act against invasions.

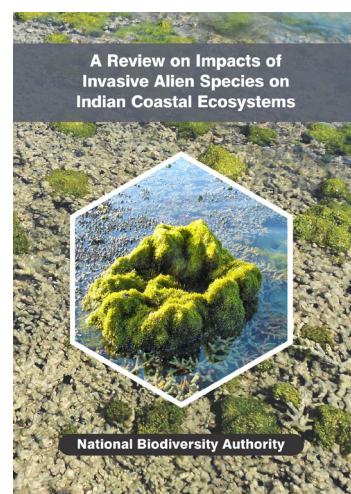
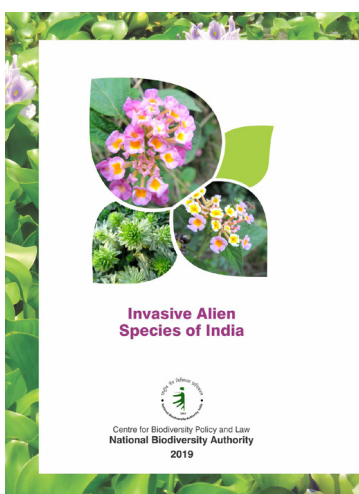
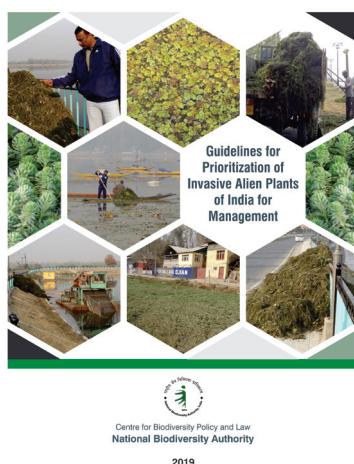
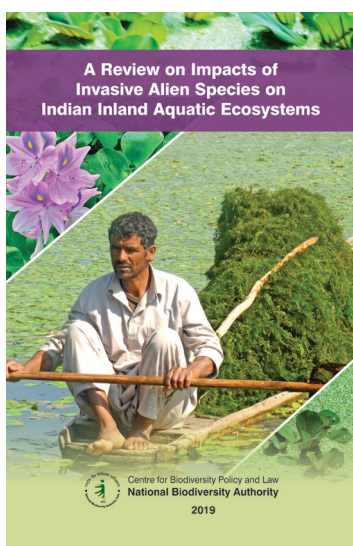
Under this theme, CEBPOL had worked on gathering the existing scientific information about the impact of Invasive Alien Species in different ecosystems (forest, agriculture, aquatic and island ecosystems) of India. CEBPOL also prepared a comprehensive lists of Invasive Alien species in identified ecosystems and make the list available to policy makers, researchers and public.

NBA has constituted an Expert Committee on Invasive Alien Species consisting 18 renowned and experienced Scientists from different institutes across the country under the direct facilitation from CEBPOL. Readily available ecosystem-wise literatures of invasive alien species were reviewed and thoroughly analyzed the reported species. After a long debate and deliberation on it, a draft list has been prepared including 169 species under four categories of ecosystems like terrestrial plants, agriculture, aquatic and islands. The list was placed before the Authority Meeting and it was suggested for further circulation to a large number institution in the country who are working on it.

Publications

- i. A Review on Impacts of Invasive Species on Indian Inland Aquatic Ecosystem
- ii. Guidelines for prioritization of Invasive Alien Plants of India for Management

- iii. Impacts of Invasive Alien Species in Island Ecosystems of India with special reference to Andaman Group of Islands
- iv. Strategies for control and management of some select Invasive Alien Species endangering Indian Biodiversity
- v. List of IAS
- vi. A Review on Impacts of Invasive Species on Indian Coastal Ecosystem



3.1. ACTIVITIES AND OUTCOMES

3.1.1. Preparation of Comprehensive national list of invasive species

CEBPOL, NBA collected the readily available ecosystem-wise literatures of invasive alien species and analyzed the reported species. During the consolidation, anomalies such as wrong citation, biased definition and information in most of the published list were removed. Some of the lists declared the naturalized species as invasive, and similarly some lists declared the invasive species as naturalized. The accepted name and the synonym of a species were simultaneously reported in the same list mentioned as different species. In a worst-case scenario, the native species has also been reported as invasive alien.

CEBPOL, NBA realized the need for avoiding ambiguity in definition and terminologies at the same time thought about the necessity of developing criteria that needed to be adopted for declaring a species as invasive. With the Help of the Expert committee constituted by NBA the aforesaid issues were resolved. Fellow on IAS, has been acted as the coordinator of the committee and conducted three EC meeting to finalize the list of IAS compiled by CEBPOL.

a. NBA Expert Committee on invasive alien species with assistance of CEBPOL carried out the following tasks:

- ◇ National Biodiversity Authority (NBA) constituted an 18-member expert committee on invasive alien species under Subsection (2) of Section 13 of the Biological Diversity Act, 2002 read with Rule 11 of Biological Rules, 2004.
- ◇ The objective of the committee is to advise NBA on issues related to the preparation of consolidated list of invasive alien species reported in India. Further, the committee also provides inputs on reports and other materials including brochures, handouts, booklets, research and review articles developed by NBA.
- ◇ The first meeting of the expert committee (EC) on invasive alien species was held on 12 January 2017 at the NBA. Members discussed the importance of developing a national list of invasive alien species during deliberation. The chairperson of the NBA mentioned that the Centre for Biodiversity Policy and Law (CEBPOL) NBA has already started compiling the listing of invasive alien species of different

ecosystems and assured that it will be placed in the second EC meeting for comments.

- ◇ A draft list of invasive alien species in different ecosystems [terrestrial aquatic (inland and marine) and agro ecosystems] was placed in the second EC meeting held on 29 June 2017 at the NBA. During deliberations, members expressed that the proposed draft list of invasive alien species requires minor revisions. Chairperson of NBA and chairman of the EC stated that the list would be shared with EC members and subject experts in order to fine-tune it. After a series of discussions with EC members and different experts through mail, over phone and personal discussion, the draft list of invasive alien species of different ecosystems was prepared and the same was placed in the third meeting of the EC for finalization.
- ◇ The third EC meeting was held from 6 to 7 February 2018 at the NBA, Chennai, under the chairmanship of Dr. C.R. Babu. Apart from the EC members, NBA invited the members/representatives and researchers from various institutions identified by the National Biodiversity Action Plan, viz., SACON, Forest department, DoS, Wetland International, South Asia, WII, CAS in Marine biology, ICRF (forest invasive species cell), CABI South Asia (NBAP 2014). After the series of two-day discussion, the final list of invasive species has been prepared, and reviewed by the members and the committee finalized a list of 169 invasive alien species in different ecosystems of India. For public and other stakeholders opinion the list was hosted in NBA website for comments (hosted on 9/10/18 - 23/10/18), and received comments were incorporated and the final list was submitted to NBA and CEBPOL for further action.



Details of the Invasive Alien species reported in India

S.No.	Details of the Species and Ecosystem	Total
Terrestrial Ecosystem		
	Terrestrial plants	53
Total		53
Aquatic Ecosystem		
	Microorganism reported in freshwater and brackish water	15
	Aquatic plants (inland)	7
	Fishes	14
	Marine invasive species	19
Total		55
Agriculture Ecosystem		
	Fungus	16
	Bacteria	5
	Virus	3
	Nematode	1
	Invasive Insects	22
Total		47
Major Island Ecosystem		
	Insects	2
	Cnidaria	1
	Mollusca	1
	Fishes	2
	Amphibian	1
	Reptile	1
	Birds	2
	Mammals	4
Total		14
	Terrestrial plants	53
	Aquatic Ecosystem	55
	Agriculture Ecosystem	47
	Island Ecosystem	14
	Overall Indian IAS species	169

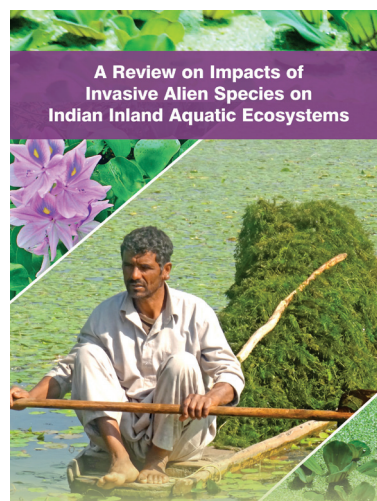
Third EC meeting 6 to 7 February 2018 at the NBA



3.2. Gather existing information/scientific studies about the impact of known IAS in India in selected ecosystems or the species that are known to be problematic. Based on the collected information a review document will be prepared. Make the collected information and the report available to policy makers, researchers and public.

3.2.1. Report - Review on the impacts of invasive alien species on Indian inland aquatic ecosystems.

This report focuses on the Invasive Alien Species (IAS) of inland aquatic systems of India, impacts of IAS on biodiversity and ecosystems, information/research gap in the field and management of IAS. The main aim of this report is to document the information on inland aquatic invasive species of India and to forward action plans for management of IAS besides forwarding the information/research gaps so as to address the issue in future. This report further examines the ecosystem and economic impacts of IAS on inland aquatic ecosystems. This report is based various published and unpublished data in the form of research papers, reports and popular articles and unpublished dissertations collected from universities

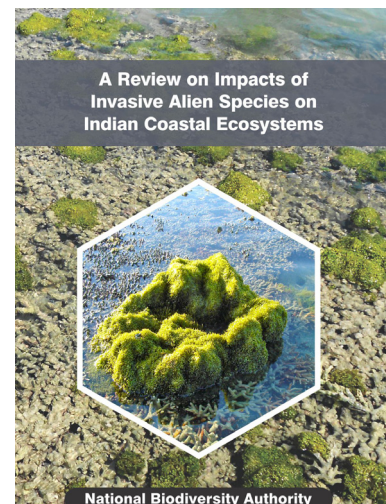


and research institutes across India. The common pathways for the entry of aquatic invasive species and probable steps that are recommended by the experts to control and prevent, the establishment of IAS species on Indian aquatic system are also discussed.

The report discussed about the impacts of water hyacinth, exotic cultural and ornamental fishes, on Indian wetlands. It also discussed about the impacts of exotic fishes in major Indian rivers and provided suggestion and recommendation for an invasive free inland aquatic system.

3.2.2. Report - Review on the impacts of invasive alien species on Indian Coastal Ecosystems.

This report focuses on the impacts of invasive alien species (IAS) on the Indian coastal system. The main aim of this report is to create awareness and to stress the need of understanding, effective prevention, control and management of the coastal invasive species in Indian states and union territories. This report examines how the Indian coastal diversity is being affected by the invasion of exotic organisms and is being prepared based on various published and unpublished data and personal communication in the form of research papers reports and popular articles available online and also dissertations collected from different universities and research institutes.



This report discusses and highlights the common pathways for the entry of IAS and probable steps that are recommended by experts to control and prevent the establishment of such organisms in Indian coastal system. In addition, this report discusses about the management of IAS and also suggests some of the vital areas for further research.

Further, this report detailly discussed about the impacts of *Kappaphycus alvarezii*, *Litopenaeus vannamei*, and *Carijoa riisei*. CEBPOL also elaborated on the ballast water issues and their associated problems.

Finally we provided recommendations for minimize the impacts of coastal invasion.

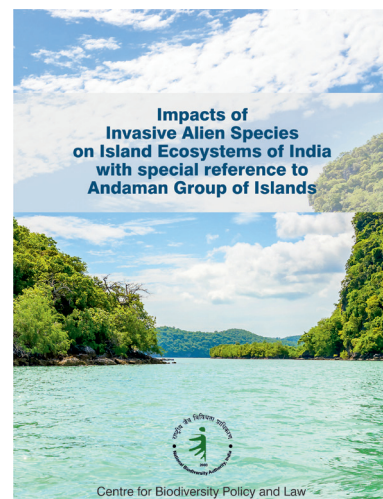
3.2.3. Report- Impacts of Invasive Alien Species on Island Ecosystems of India with special reference to Andaman Group of Islands

Globally, a number of studies have highlighted that IAS cause significant damage to the biological and ecological diversity of islands and destabilize the economy of some island nations. Ironically, ever-increasing globalization and the ongoing environmental changes significantly facilitate the dissemination of invasive species.

The Indian coastal and inland areas support nearly 1,208 islands and many of them are uninhabited. On the other hand, a number of Indian island species are at bay due to bioinvasion. Especially in Andaman group of islands the native vegetation is highly affected and is altered by the introduced herbivore species such as elephant and chital. Chital continually feed on the sapling and reduce the natural extension of native plant species. Studies also confirmed that the introduced mammals are the main agents for the local extinction of some native plant species in Andaman group of islands. Further, the studies also confirmed that invasive mammals drastically changed the species' richness and zonation pattern in several parts of Andaman.

Likewise, the marine ecosystem of Andaman and Nicobar was highly invaded by snowflake coral *Carijoa riisei*. A recent report by the Zoological Survey of India (ZSI) stated that a 100-m-long abandoned jetty of Kundol region of Nicobar Islands was completely covered to a depth of 3–20 m by *C. riisei*.

Obviously, the need of the hour is to develop a robust scientific planning to detection and eradicate invasive species in island ecosystems. A platoon of experts (inter- and intrascience) including taxonomists, ecologists, and resource managers should be established for better prevention and effective management of invasion in Indian islands. Formulating new strategies and action plans with updated technology will be highly helpful for better island management.

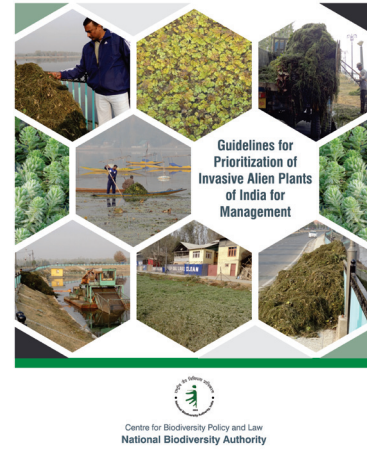


3.3. Report- Preparation of Guidelines for Prioritization of Invasive Alien Plants of India for Management

Process adopted for prioritization of invasive alien species

About 54 terrestrial and 8 aquatic invasive alien plant species have been identified based on the published literature and EC on Invasive Alien Species. To confirm the invasiveness of the species for prioritization, a decision tree in the form of flowchart has been developed by CEBPOL after due consultation with experts.

in order to get the information about the IAS plants from various stakeholders, data sheets were prepared. The surveyors can download the data sheet and the manual of alien species from NBA. Finally the filled in the datasheets will be (hard /soft copy) received from all the stakeholders and it will be thoroughly analysed and the scores for different criteria will be summed up and finally a prioritized list of invasive alien species for management will be prepared.



Action points suggested

- i. CEBPOL/NBA needs to organize five regional workshops (North, South, East, West and Central India) to get the flawless inputs. This invasive species prioritization exercise (ISPE) needs to include the experts from the respective geographical region,
- ii. The questionnaires developed by CEBPOL should be circulated to all the SBBs and other relevant stakeholders to provide the detail information on each invasive alien plant species occurring in the respective geographical boundaries within two months' time period.
- iii. CEBPOL should publish the prioritized species along with their current status of research, biology and suggested management strategy.

3.3.1. Report - Strategies For Control And Management Of Some Selective Invasive Alien Plant Species Endangering Indian Biodiversity

The current strategic action plan proposed the following attributes for an effective management:

- i. Prevention
- ii. Early detection and rapid response
- iii. Control and management
- iv. Legislation
- v. Education and outreach and Priority actions, Action Points

Further, CEBPOL provided a detailed Management and control of *Prosopis juliflora*, *Parthenium hysterophorus*, *Mikania micrantha*, *Lantana camara* and *Eichhornia crassipes* in Indian ecosystems. For each species, we have provided a small introduction biology, impacts and the available management methods viz., Mechanical Control Methods, Biological Control, Chemical Control, Control by Utilization and Legislation. We have also provided the recommendation for the effective control of the species in Indian context.



Theme - IV

4. INTERFACE WITH OTHER MULTILATERAL ENVIRONMENTAL AGREEMENTS (MEAs) / ORGANIZATIONS

There are very many multilateral environmental agreements (MEAs) dealing with various environmental issues, currently in force. Biodiversity is in one way or the other related to, or impacted by such agreements and this calls for better synergies among the functions and objectives of each of them for overall improved implementation and effectiveness.

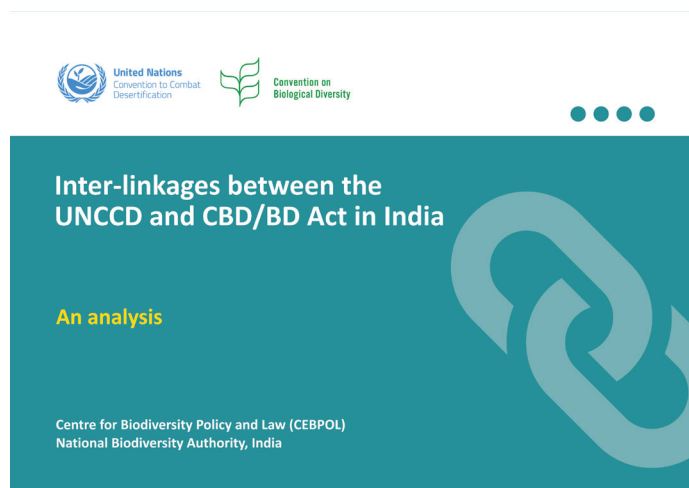
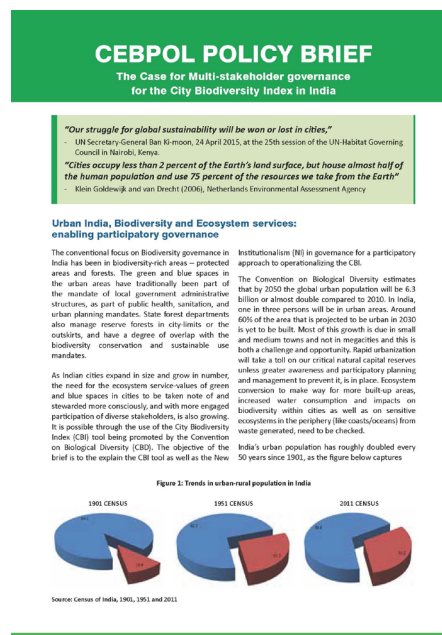
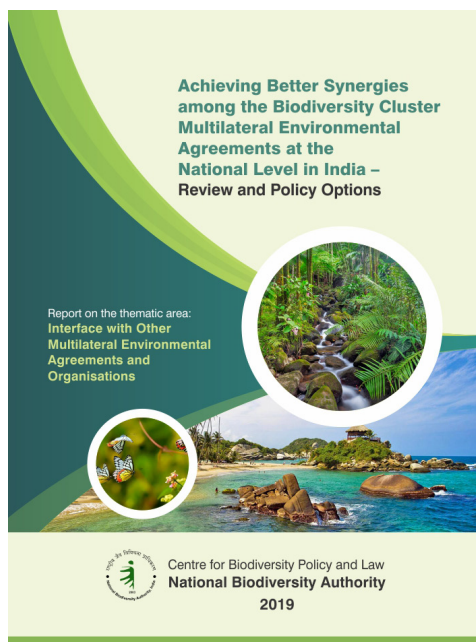
Activities under this theme include developing strategy papers on interlinkages between biodiversity related MEAs such as Implementing ITPGRFA through the Biological Diversity Act, linkages between the BD Act and UNCCD; Using the IPBES conceptual framework to study the theme Cities and Biodiversity in Bangalore and Chennai, with a focus on governance and a policy brief based on the analysis; Organising collaborative exercises with decision makers like MEA National Focal Points to prepare a road map for MEAs synergies; and a Policy brief on tourism sector synergies for relevant MEAs.

Two consultative meetings have been conducted under CEBPOL where all the National Focal Points of BLG MEAs, their nominees and subject experts attended and discussed on how to bring more synergy. A couple of outreach activities also carried out in connection with celebration of World Wetland Day for generating awareness among the students towards linking CBD and Ramsar conventions objectives.

Publications

- i. Using the IPBES conceptual framework to examine the CBD theme of 'Cities and Biodiversity' in India with a special focus on governance, institutional arrangements and drivers of biodiversity loss in two cities
- ii. Policy Brief: The case for multi-stakeholder governance for the City Biodiversity Index in India

- iii. Linkages – Sectoral, Institutional, and Policy framework based – between the BD Act and UNCCD in India’
- iv. Achieving Better Synergies among the Biodiversity cluster Multilateral Environmental Agreements at the National Level in India – Review and Policy Options



4.1. ACTIVITIES AND OUTCOMES

4.1.1. Workshop on synergies among biodiversity related Multilateral Environmental Agreements in India during October 3-4, 2016 in Manesar, Gurgaon, Haryana

CEBPOL organised a two-day workshop on Synergies among Biodiversity related Multilateral Environmental Agreements (MEAs) at Heritage Resort, Manesar, Haryana, on October 3-4 2016. The objective of the workshop was to raise awareness on the scope for synergies so as to encourage stronger coordination among stakeholders, in the context of implementation of the National Biodiversity Targets and Sustainable Development Goals. The following seven biodiversity related MEAs were included: Convention on Biological Diversity, Convention on International Trade in Endangered Species of Wild Fauna and Flora, Convention on the Conservation of Migratory Species of Wild Animals, Ramsar Convention (Convention on Wetlands), World Heritage Convention, International Treaty on Plant Genetic Resources for Food and Agriculture, and International Plant Protection Convention.

The Chief Guest in the workshop was Mr Lars Andreas Lunde, Deputy Minister, Ministry of Climate and Environment, Norway. Dr Amita Prasad, Additional Secretary,



MoEFCC, presided over the event. Mr. Nils Ragnar Kamsvag, Ambassador, Royal Norwegian Embassy, New Delhi; Dr. B. Meenakumari, Chairperson, NBA; and Shri T. Rabikumar, Secretary, NBA were also present.

India's National Focal Points for these seven conventions or their representatives, the representatives of scientific and management authorities associated with these agreements, and various national and international NGOs attended the workshop. In his address, the Norwegian Deputy Minister highlighted the importance that Norway accords to cooperation with India, in sectors such as environment. Dr Amita Prasad spoke of the challenges of the growing population, and rising aspirations as well as the need for development to be sustainable and mindful of the resource base on which it rests. The participants in the break-out groups discussed the possible avenues to strengthen coordination in areas such as Data mining, Reporting, Capacity Building and Communication and outreach activities.

4.1.2. Consultative meeting on "Implementation of the Multilateral System of the Plant Treaty in India: Exploring Linkages with Biological Diversity Act 2002 for Better Synergies" to deliberate upon the identified points, on 8th May, 2017 in National Biodiversity Authority, Chennai.



Expert consultation on “Synergies between MLS guidelines & BD Act” held at Hotel Turyaa, Chennai on 8th May, 2017. The meeting was aimed at finalising recommendations of the study report on the multilateral system of International Treaty on Plant Genetic Resources for Food and Agriculture as implemented in India and its linkages with the BD Act at the operational level. The meeting was chaired by Dr. R. S. Rana, Chairman, NBA Expert Committee on Agro-biodiversity and attended by Dr. Kuldeep Singh and Dr. Prathibha Brahmi from NBPGR, Dr. Upadhyay from ICRISAT, Mr. Gunasekaran from Department of Agriculture and Cooperation and three officials nominated by MoEFCC. The meeting was attended by Secretary, Chairperson, and Technical Officer (BS) of NBA, and CEBPOL team.

4.1.3. National Focal Point interaction meeting on “Synergies among Biodiversity related Multilateral Environment Agreements” on 5th October, 2017 at Indus Hall, Jal Wing, MoEFCC, New Delhi

A consultation with NFPs of BLG MEAs was conducted on 5th October, 2017 at MoEFCC, as a follow-up meeting of the first national level workshop on BLG-MEA synergies held in October 2016. This CEBPOL activity is informed by the CBD - Conference of the Parties (COP) emphasising, from the beginning, the importance of Cooperation with other biodiversity related conventions (COP II/13, IV/15, VI/20, VII/26, X/20, XII/6 among others), and facilitating through collaborative exercises with UNEP/WCMC conceptual clarity and guidance to parties on the scope for synergy. Creating a collaborative platform for NFPs to facilitate their information sharing and joint proposal development to access GEF funds is one such proposed synergy. It was decided at the meeting that NFPs priority areas for synergy, including to strengthen existing planning frameworks like SDG-NBTs in their operations, and to meet common capacity building needs, would be identified through development and circulation of a questionnaire. The seven key Biodiversity-related MEAs working together under the aegis of the CBD, include, besides the CBD and its protocols, Convention on International Trade in Endangered Species of Wild Fauna and Flora, Convention on the Conservation of Migratory Species of Wild Animals, Convention on Wetlands/Ramsar Convention, World Heritage Convention, International Treaty on Plant Genetic Resources for Food and Agriculture and International Plant Protection Convention.

4.1.4. **Linkages between the UNCCD and CBD/BD Act: An Analysis**

This CEBPOL Study Report has analysed linkages and synergies in implementing the United Nations Convention to Combat Desertification and the UN Convention on the Biological Diversity in India based primarily on review of the National Agriculture Policy, 2000, National Biodiversity Action Plan, 2008 and the Biological Diversity Act, 2002. Both these legally binding Conventions were adopted during the UN Conference on Environment and Development, held in Rio in June 1992, also known widely as the Rio Earth Summit, and have been ratified by 196 Parties, including India, making them acceptable nearly universally.

As the dynamics of land, climate and biodiversity are inseparably connected, the UNCCD collaborates closely with the other two Rio Conventions dealing with biodiversity and climate change. This report discusses three broad aspects of the linkages across eight areas having potential for developing synergies in implementing the UNCCD and the CBD in India.

The report also points out an important gap in developing synergies in implementing multilateral environment agreements in India, namely, lack of clearly naming the key institutions along with their specific roles and developing a joint administrative mechanism for smooth working. It concludes with a recommendation urging the main actor in synergistic implementation, namely, the National Biodiversity authority (NBA) to initiate the process across the eight areas identified and collaborate more effectively with the Central Government to leverage its role in undertaking the task.



Inter-linkages between the UNCCD and CBD/BD Act in India

An analysis

Centre for Biodiversity Policy and Law (CEBPOL)
National Biodiversity Authority, India

4.1.5. Using the IPBES conceptual framework to examine the CBD theme of ‘Cities and Biodiversity’ in India with a special focus on Governance, Institutional arrangements and Drivers of biodiversity loss in two cities.

The 2015 CEBPOL Workplan deliberated and approved by MoEFCC called for ‘A study on IPBES with a view to enhance India’s contribution to the IPBES process’. The study Using the IPBES Conceptual Framework to examine the CBD theme of Cities and Biodiversity in India with special focus on governance, institutional arrangements and drivers of biodiversity loss: the case of two cities, was subsequently conceptualised and approved. The Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) is unique for leveraging the importance of ecosystem services in relation to biodiversity. One of the platform’s key tools – the conceptual framework – also helps to place governance at the centre of the discussion on what is happening to nature and nature’s benefits to people across various geographical scales. The IPBES_CF is thus eminently suited to examine the CBD theme of Cities and Biodiversity, with a focus on governance which is one of its three sub-foci, in relation to India’s many and burgeoning urban areas.

The report examines, through a combination of primary and secondary research, governance of Biodiversity and Ecosystem services in two Indian cities across the four sub themes of

- i. Awareness and engagement with biodiversity and ecosystem services, as well as the synergy or lack thereof, within the local administration
- ii. Relationship between levels of government in relation to Cities, Urban Biodiversity and Ecosystem Services
- iii. The role of ‘other governance actors’ like local NGOs in stewardship of ecosystem services, locally, and
- iv. Governance of the Real Estate Housing sector as an indirect Driver of Biodiversity Loss for which the Private Sector is a key actor

Functionaries in key urban local bodies and federal government agencies with a local presence were interviewed in relation to (a) above. A total of 27 officials were interviewed as well as requested to provide information to a questionnaire to gauge their awareness and engagement with BDES in the city, and

attitudes towards synergy with other actors. Local NGOs engaged in stewardship of ecosystem services (rainwater harvesting, waste management) and private builders were also contacted and interviewed.

The findings show that while some positive signs are visible, there are also areas where things can be made better. While awareness is at moderate levels, engagement with aspects, such as controlling the negative spill-over effects of poor solid waste management on biodiversity and ecosystem services leaves scope for improvement, the reasons for which can be located in various other issues that need sorting-out. Problematic structural arrangements whereby, of the combined expenditure of union, state, and local governments; that of the last tier, closest to the people and with the bulk of service delivery functions, accounts for less than 6.5% have been flagged. Adequate financial devolution, and more pro-active promotion of multi-stakeholder governance, informed by New Institutionalism in governance literature, in contrast to old-style Public Administration, is what the report makes a case for.

4.1.6. Policy Brief on the City Biodiversity Index as a tool for Multi-stakeholder governance.

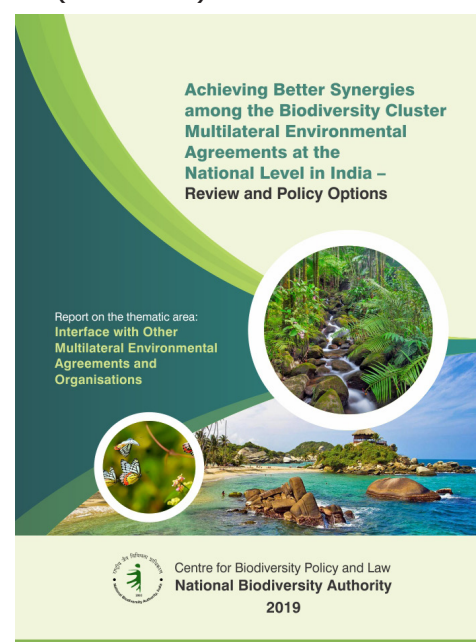
A companion exercise to the previous report, the City Biodiversity Index (CBI), as a tool, is examined for the ways it can bring about much needed synergy and ownership of the National Biodiversity Targets among the urban populace. The objective of the brief is to support State Biodiversity Boards to form meaningful partnerships and networks to institutionalise the CBI. The policy brief establishes the case for why governance of biodiversity and ecosystem services (BD&ES) is important – cities are growing in number and size and their collective impact on BD&ES is significant. They also present opportunities through the blue and green spaces within and in their vicinity, as well as human and institutional resources that can form part of a participatory governance model. The brief goes on to discuss ways and means to adapt the CBI to the Indian context, in the light of the user's guide to the CBI and various human and institutional resources available in the Indian context for partnering opportunities.



4.1.7. **Achieving Better Synergies among the Biodiversity cluster Multilateral Environmental Agreements at the National Level in India – Review and Policy Options**

This review and policy options document on Strengthening MEA synergies is intended to aid planning for more synergised action at the national level on possible Biodiversity-cluster MEA synergies. Synergies within this cluster, with the Convention on Biological Diversity articulating and initiating the need for the same, are intended to strengthen biodiversity conservation and sustainable use objectives. Identifying the areas where this guidance developed at the international level (by CBD/UNEP/WCMC supported exercises) lends itself to adaptation at the national level, informs the focus on this report. The cooperating conventions include, besides the CBD and its protocols, Convention on Wetlands/Ramsar Convention, Convention on the Conservation of Migratory Species of Wild Animals (CMS), Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), World Heritage Convention (WHC), International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA) and International Plant Protection Convention (IPPC).

The thinking on Indian 'options for synergies' had its genesis at the first consultative National Workshop on MEA Synergies organised by CEBPOL in October 2016. Focusing the options on issues that need to be addressed with regard to the policy frameworks currently available – especially the SDGs, Strategic Plan, Aichi Targets and NBAP; and groundwork begun by NGOs working in and around MEA sites, forms the mainstay of the report. Livelihoods and SDG-related synergies around Ramsar sites, and areas allied to Medicinal Plant Conservation Areas within MEA sites are two key proposals furthered by the report.



With regard to livelihoods and SDG-related synergies around Ramsar sites, greater emphasis on data gathering, quantifying information where relevant, applying statistical measures of significance to make the case for how they support SDGs has been identified as an important area of work that will facilitate synergy, especially with CMS and CBD. Capacity Building as an area of Synergy through scope for exchanging good practices, learning and handholding with respect to managing invasive through handicrafts, ecotourism initiatives etc, has also been

identified. While the CEPA initiatives of existing NGOs are commendable – WWF, NCF, CEE and ATREE – there is also a need, to give just one example, for CEPA to extend beyond traditional target groups of school children and local communities to mainstream media and key sectors within government and decision makers to inform more 'green' and integrated approaches rather than one where departments are working at cross purposes. CEPA is also, therefore, discussed as a potential area of strengthened synergy.

Similarly, the potential and promise of wild populations of medicinal plants is that if properly conserved, managed and sustainably used, it is a resource that can ensure health security and livelihood security for local communities. Every ecosystem, ranging from dry deserts of Rajasthan which have the most therapeutically active neem, to those in the cold dessert regions of Lahaul/Spiti have ecosystem-specific medicinal plant resources that are most appropriate to treat ailments common to that region. In recognition of this fact Foundation for Revitalisation of Local Health Traditions (FRLHT), Bengaluru, has focused on promoting Medicinal Plant Conservation and Traditional Knowledge for Enhancing Health and Livelihood Security of Local Communities, across the country in a number of ways. A few of the existing pilots, being attempted in MEA-site related MPCAs by Trans-Disciplinary University, Bangalore are discussed as furthering MEA-site based synergy around livelihood-supporting SDGs.

4.1.8. Webcast on 23rd February, 2018 at Anna University, Chennai for B.Tech Students on the occasion of World Wetlands Day.

A webcast on "Wetlands for Sustainable Urban Futures" was organized on 23 February, 2018, in partnership with Rockefeller Foundation's 100 Resilient Cities Chennai project, in commemoration of World Wetlands Day and International Day of Women and Girls in Science together. The webcast venue was Anna University TAG Auditorium and was attended by about 100 students. The webcast was organised with the express purpose of bringing contextually relevant learning to students pursuing a Bachelor's degree in civil engineering and architecture/ planning and to offer solutions and examples of addressing the challenge of saving urban wetlands while meeting the existing and continually growing need for built environment/infrastructure. Through this unique partnership, international experts - Doug Watkins a wetlands ecologist with 25+ years' experience in advisory, management and stakeholder engagement in Australia and Asia and David R Rosa who works in Florida and the Caribbean as the Environmental Manager for an

engineering firm, offered examples from their work in high density Asian cities of how wetlands were protected through green building design and planning. Fellow, MEAs CEBPOL, introduced the intent of the webcast and its focus as well as facilitated an interactive discussion with the students on the key messages and take-aways after the screening.



Theme - V

5. NATURE INDEX

The Nature Index (NI) is a monitoring tool that helps to monitor or assess the state/trend of biodiversity in an ecosystem. The NI methodology and database developed by Norwegian Institute for Nature Research (NINA), Norway is very well suited to gather data and assess the state of biodiversity in India. The NI tool will be useful for the policy makers to design a targeted action for better management of India's biodiversity. Under the CEBPOL programme, NBA is prepared a NI for Chilika lake and Great Himalayan National Park in collaboration with NINA.

Pilot study on Nature Index on two sites on two types of ecosystems, one in wetland ecosystem (Chlikia Lake, Odisha) and another in forest ecosystem (Great Himalayan National Park, Himachal Pradesh) has successfully completed. The report brought out the clear picture of the health of both the ecosystems and suggested some recommendations which may be taken care immediately. The NI methodology found very effective to know the present status and trend of the ecosystem health and thereby is having high potentially to know a particular ecosystem thoroughly and is suggesting in declaring it as Biodiversity Heritage Site on the basis of scientific basis.

Development of Nature Index for two pilot sites/biogeographic regions that compliments the actions of establishment of Biodiversity Heritage Sites under the Biodiversity Act and Rules of India

Nature Index - India Report

**A Pilot Study in Chilika Lake and
Great Himalayan National Park**



Centre for Biodiversity Policy and Law
National Biodiversity Authority
2019

5.1. ACTIVITIES AND OUTCOMES

5.1.1. Inception Meeting for Nature Index 15-09-2015 at MoEFCC, New Delhi



Workshop on Nature Index Pilot Study held on 28-29 January 2016 at Bhubaneswar, Odisha





5.1.2. Workshop on Nature Index Pilot Study held on 12-13 October, 2017 at Ambassador Resorts Pvt. Ltd, Manali, Himachal Pradesh

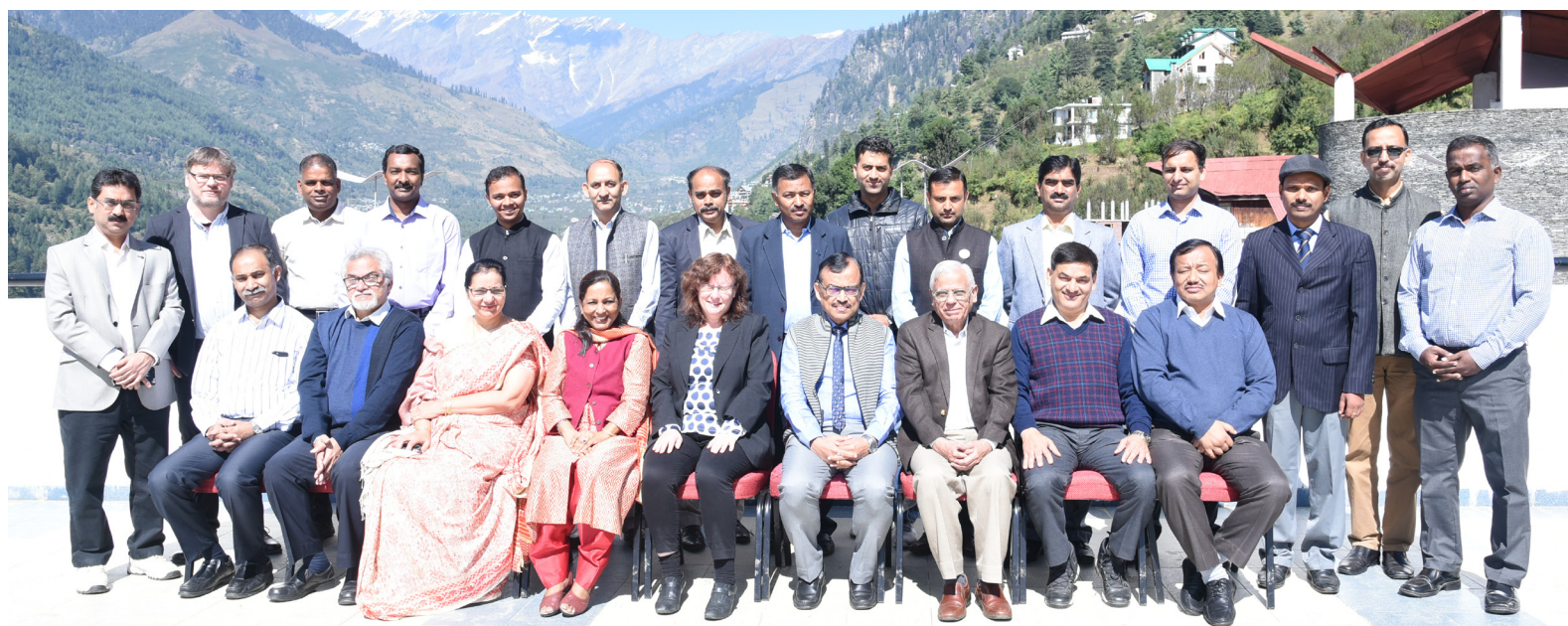
The Nature Index (NI) is one of the identified thematic areas under the CEBPOL program. A pilot study was carried out in two biodiversity rich areas i.e. Chilka Lake, Odisha & Great Himalayan National Park (GHNP), Himachal Pradesh (H.P) with the technical support from Norwegian Institute for Nature Research (NINA) under CEBPOL programme. This pilot study is aimed at understanding the suitability of NI in Indian context. The study was based on the secondary data on identified species known as indicators. The time series data was shared with NINA. NINA has analysed the data and a draft report has been compiled by CEBPOL. A workshop was organised on 12-13 October, 2017 to review the draft report with the park authorities and experts. High level government officials like Dr. Amita Prasad, Additional Secretary, MoEF&CC; Dr. Sujata Arora, Senior Advisor, MoEF&CC, Mr. T. Rabikumar, Secretary, NBA; Scientists from NINA (Dr. Signe Nybo, Research Director & Dr. Stein Are Saether, Research Scientist), pilot site park managers, some other scientists from different national institutes along with



CEBPOL Team members attended the workshop. It was an excellent deliberation with whole hearted participation of all the attendees.

NI in the present form is developed at the country level. In India, the experts felt that it has potential to be used at a protected area level as a monitoring and planning tool. As a way forward, the following recommendations were made:

- (a) Two dissemination workshops need to be organised in first half of 2018 – one for the select park managers from different states and other for the managers of wetlands including Ramsar sites.
- (b) NI is a potential tool to know the health of an ecosystem. Though it has been made for national level in Norway, it may be better used in India at Park level. The consideration of pressure factors will improve its efficacy for this.
- (c) In the present study, plants have not been included as indicators. Plants are important indicators and the experts opined that while taking up full scale NI study, plants may also be included as indicators.
- (d) Capacity building training programme may be conducted for different stakeholders and for that CEBPOL-NINA collaboration may be extended.



5.1.3. **Nature Index India Report – A pilot study in Chilika Lake and Great Himalayan National Park**

a. Preparatory process, data collection and report writing

- ◇ During the inception meeting held in September, 2015 at MoEFCC, New Delhi, two pilot sites (Chilika and GHNP) were identified for undertaking a biodiversity assessment study using Nature Index (NI) policy tool with the help of Norwegian Institute of Nature Research.
- ◇ Polygon map, census and catch data, photographs, atlas, newsletters and other scientific publications were collected from CDA and GHNP authorities.
- ◇ The digital polygon maps of Chilika Development Authority (CDA) and GHNP were integrated into the NI database
- ◇ The NI database was customised by NINA and the Indian partners were trained on NI database during the NI workshop held on 28 and 29th January, 2016 at Bhubaneswar, Orissa.
- ◇ Indicator species were finalised from Chilika (25 species) and GHNP (14 species)
- ◇ Experts identified for various thematic indicators and the reference value was fixed for each indicator
- ◇ Time series data on indicator species were fed into the NI database

by NBA

- ◇ Data analysis and quality check was done by NINA and shared the final result/graphs for all the indicators to NBA
- ◇ Report writing and the interpretation of data was carried out by the Policy Consultant, CEBPOL and the ground reality was checked with the experts
- ◇ Draft final report was shared with Dr. Signe, Director for her comments
- ◇ After incorporating her comments, the final version was submitted to NBA for publication.
- ◇ Following resources persons were contacted:
- ◇ Dr. Mohanthy, Fish experts, Chilika Development Authority
- ◇ Dr. Balachandran, Deputy Director, BNHS (collected details about the migratory and the residential birds of Chilika).

5.1.4. Dissemination of Nature Index study

The outcome of the findings were presented during the CEBPOL dissemination workshop held on 5 December,



2019 and also during the 17th World Lake conference held at Tsukuba, from Japan, 2 -19 October. My paper "Biodiversity evaluation using Nature Index tool in Chilika Lake, Odisha, India - A case study" was selected for both oral and poster presentations.

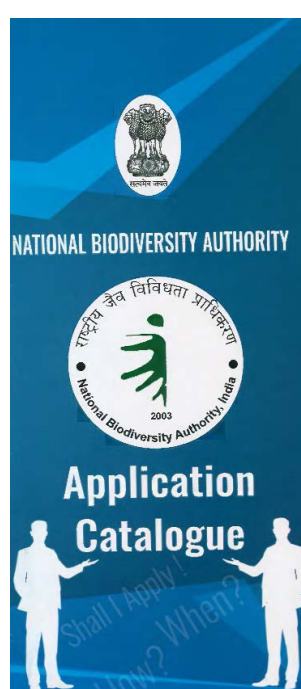


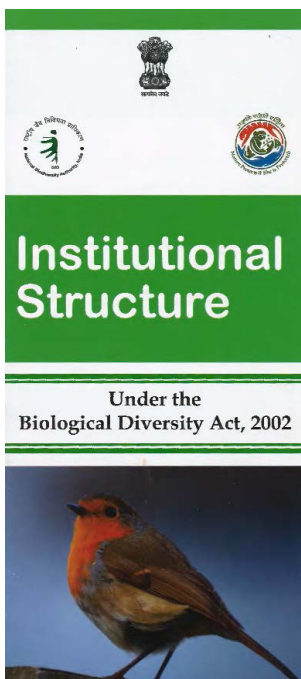


Theme - VI

6. TRAINING, CAPACITY BUILDING AND HUMAN RESOURCE DEVELOPMENT

Building and strengthening of the capacity of institutional structures and human resources is highly essential to successfully implement the BD Act in India. CEBPOL was committed to this through various activities such as training, awareness raising, workshops, seminars, exhibitions, campaigns, conferences, competitions, consultations etc, mainly focussing on researchers, students, scientists, industries, media, general public and such other stakeholders. CEBPOL organized a number of international and national workshops and consultative meeting for varied stakeholders.





6.1. Awareness Workshop on Guidelines for Accessing Biological Resources under the Biological Diversity Act, 2002 were organized by CEBPOL

Biotech Consortium India Limited (BCIL), with the support from Department of Biotechnology (DBT), Ministry of Science and Technology, Government of India and Centre for Biodiversity Policy and Law (CEBPOL), organized a series of six (6) one-day "Awareness Workshops on Guidelines for Access to Biological Resources under the Biological Diversity Act, 2002". These workshops were organized, one each at Delhi (June 13, 2016), Guwahati (June 22, 2016), Kolkata (June 24, 2016), Pune (June 29, 2016), Hyderabad (July 25, 2016) and Bangalore (July 28, 2016)

The objective of these workshops was to create awareness regarding the provisions of the Biological Diversity Act and Guidelines on access to biological resources for research institutions, academia and industry. The workshops also aimed to provide a platform for interaction and clarification of issues regarding access and benefit sharing amongst concerned stakeholders following the release of new guidelines so as to strengthen compliance in research activities involving the use of bioresources. The proceedings of the workshop were prepared and released in the form of report.



6.2. Workshop on "Capacity-building on Access & Benefit Sharing (ABS) provisions of the Biological Diversity Act and e-filing process of ABS applications" for the Patent Attorneys held on 14 September, 2018 at NBA, Chennai

The Centre for Biodiversity Policy and Law (CEBPOL) organized a half-day Capacity building workshop on Access and Benefit Sharing (ABS) provisions of the Biological Diversity Act and E-Filing Process of ABS Applications on 14th September 2018 at the conference hall of the National Biodiversity Authority (NBA). The workshop was attended by 22 participants belong to 10 Law firms across India. The programme is aimed to provide better clarity on the provisions of the BD Act and e-Filing Process of ABS Applications for effective implementation of the Act. A presentation was made by the Technical Officer (Benefit Sharing), NBA on "Overview of ABS mechanism in India & e-filing of online ABS application". A Panel discussion on "Harmonization of the Biological Diversity Act and Patent Applications" was held. The panelists were Dr. B. Meenakumari, Chairperson, NBA; Mr. Sharana Gowda, Assistant Controller of Patents and Designs, Chennai; Dr. Shikha Rastogi, Principal Scientist, Council of Scientific & Industrial Research, New Delhi; Dr. Elumalai, Assistant Professor, The Tamil Nadu Dr. Ambedkar School of Excellence and Dr. Narasimhan, Ethno – Botanist, Former Professor, Madras Christian College, Chennai. The participants sought for clarification on various issues and the same were clarified. The program was coordinated by Dr. Rupam Mandal, Program Manager, CEBPOL. Ms. Anjali Sugadev, Consultant (Biodiversity Law); Ms. Rejini Simpson, Consultant (Capacity Building) of CEBPOL.



6.3. National Media Workshop on Biodiversity held on 31st October- 1st November, 2018 at Indian Institute of Mass Communication (IIMC), New Delhi

CEBPOL and the Indian Institute of Mass Communication (IIMC) came together to address lack of awareness on biodiversity conservation among the media. CEBPOL has conducted two days National Media Workshop on Biodiversity on 31st October and 1st November 2018 at IIMC. The aim of the workshop was to enhance the knowledge base of journalists on issues related to biodiversity, highlight the efforts in conserving and sustaining the rich natural resources, and to enhance journalistic skills and encourage evidence-based reporting on biodiversity. It sought to bring together on a common platform, ecologists, environmentalists and media professionals to promote biodiversity as an agenda for the media. The two days National Media Workshop on Biodiversity brought together media practitioners from across the media-landscape including language media. There were presentations, panel discussion and field visit to Yamuna Biodiversity Park which is Nature Reserve of Delhi. The workshop was actively participated by nearly 22 journalist and reporters across country. They were come up with different media scribes like Print Media, Broadcast Media, and New Media.

The programme was inaugurated by Dr B Meenakumari, Chairperson, NBA; Professor Gita Bamezai, IIMC and Shri K.G Suresh, Director General, IIMC. Dr Sudhirendar Sharma, Director, Ecological Foundation, New Delhi; Dr. J. Soundarapandi, Project Manager, Indo-ASEAN, NBA; Professor C.R Babu, Environmentalist and Professor Emeritus; Dr Gopal Krishna M S, Toxics Watch and Dr Vibha Varshney, Associate Editor, Down to Earth were the delegates.



6.4. CEBPOL Dissemination Workshop on 5th December, 2018 at Indian Habitat Centre, New Delhi

The Centre for Biodiversity Policy and Law (CEBPOL), National Biodiversity Authority organized a one day Dissemination Workshop on the Outcome of CEBPOL Programme on 5th December 2018 at the India Habitat Centre, New Delhi. The programme aimed to share the outcome of the programme with partners and stakeholders. 40 representatives from different departments and state biodiversity boards participated in the Workshop in addition to the delegates from CEBPOL.

The programme was formally inaugurated by Shri Praveen Garg, Additional Secretary & Financial Advisor, MoEFCC; Dr. B. Meenakumari, Chairperson, NBA; Dr Sujata Arora, Advisor, MoEFCC; Dr. Aina Holst, Head, Biodiversity Section, Norwegian Environment Agency; Mr. Nils Ragnar Kamsvag, Ambassador, Norwegian Embassy, India; and Shri.T. Rabikumar, Secretary, NBA. The delegates Mr. Andreas Benjamin Schei, Senior Adviser, Norwegian Environment Agency and Mr.Suresh Mathevan Senior Advisor, Royal Norwegian Embassy, New Delhi were



also took part in the workshop. The inauguration session was conducted by Mr. T. Rabikumar, Secretary, NBA.

Followed by the inauguration the Technical sessions composed of Presentation on Study findings on ABS by Dr .Prakash Nelliya, Fellow (ABS) and Ms. Anjali Sugadev, Consultant (Biodiversity Law); Study findings on Mainstreaming Biodiversity & Nature Index by Dr. C. Thomson Jacob, Consultant (Biodiversity Policy); Presentation on Study findings on MEAs by Ms. Sandhya Chandrasekharan, Fellow (MEA); Presentation on Study findings on IAS by Dr. S. Sandilyan, Fellow (Invasive Alien Species). The outcomes were well received, accepted and appreciated by the participants who conveyed that they look forward to reading the reports.

Nearly 100 professional from various departments viz., CSIR, Law Firm, State Biodiversity Boards, Forestry, Agriculture, Fisheries along with NBA and CEBPOL officials. The programme was ended with vote of thanks by Dr. Rupam Mandal, Programme Manager, CEBPOL.



6.5. Training of Trainers (ToT) programme on Biodiversity Governance held on 13-15 November 2018 at NIRDPR, Hyderabad and 18-20 December, 2018 at NIRD & PR-NERC, Guwahati

CEBPOL organized the capacity building programme for Panchayati Raj Institutions (PRI) functionaries and People's representatives on Biodiversity Governance to increase their capacity on Biodiversity Governance, in collaboration with National Institute of Rural Development and Panchayati Raj (NIRDPR). Two Training or Trainers programme have been conducted to enable the participants to accomplish the broad objectives viz., to familiarizes the participant with biodiversity governance; to build the capacities of participant in sustainable use and management of biological diversity through Flagship Programmes; to create awareness on the various policies and governing system which are related to biological resources; to expose the participants to some of the successful cases which are related to biological diversity. The first of its kind Training Module and Manual has been jointly prepared by CEBPOL/NBA officials and faculties from NIRDPR. The first ToT was addressed by Dr B. Meenakumari, Chairperson, NBA and Dr. W. G. Reddy, Director General, NIRDPR along with Dr. Achaledar Reddy, Former Secretary, NBA. Two Regional level ToTs were conducted as below;

Sl. No	Date	Venue	No of Participants	Participant States
1	13th to 15th November 2018	NIRDPR, Hyderabad	39	Andhrapredeah, Telengana, Tamilnadu, Kartnataka, Kerala, Orissa and West Bengal
2	18th to 20th December 2018	NIRDPR-NERC, Guwahati	47	Assam, Arunachal Pradesh, Sikkim, Manipur, Meghalaya, Mizoram, Nagaland and Tripura



Training of Trainers Programme on “Biodiversity Governance” (November 13-15, 2018)



National Institute of Rural Development & Panchayati Raj
Ministry of Rural Development, Government of India

The participants are from State Biodiversity Boards, Agriculture, Horticulture, Forestry, SIRD and State Agricultural Universities. The programme was organized with three modules, which includes Genesis of Biological Diversity Act and Governance, Field exposure and hands on experience and Conservation & Convergence. The Programme Team consisted of Dr. Ravindra S. Gavali (Professor & Head, CNRM), Dr. V. Suresh Babu (Assoc. Professor, CCCDM), Dr. K. Krishna Reddy (Assoc. professor, CNRM), Dr. Rupam Mandal (Programem Manager, CEBPOL) and Dr. K.P.Raghuram (Technical Officer, NBA).

6.6. Capacity building workshop on Nagoya Protocol for SBBs on 25-26 February, 2019 at NBA, Chennai

The CEBPOL, National Biodiversity Authority organised a two day Capacity Workshop on Nagoya Protocol for State Biodiversity Boards to address the challenges in implementing Nagoya Protocol in India during 25-26 February 2019 in NBA, Chennai. The program was organised in-campus in the National Biodiversity Authority. The objective of the workshop was to address the issues related to biodiversity governance faced by the State Biodiversity Boards in their respective jurisdictions. 20 representatives from 16 States participated in the workshop in addition to the delegates from CEBPOL, NBA and the host organization.



7. EXCHANGE VISITS AND SHARING EXPERIENCES WITH NORWEGIAN PARTNERS IN NORWAY AND INDIA

7.1. Study tour to Norway from 15-19 June, 2015 at Trondheim and Oslo

A study visit to Norway was organized June 15-19, 2015 with nine Indian participants from NBA and MoEF&CC. During the visit the participants met with experts from NEA and the Ministry of Climate and Environment and visited The Norwegian Biodiversity Information Centre, Norwegian Institute for Nature Research and Fritjof Nansen Institute. The study visit provided opportunities for mutual learning and experience sharing and discussions on the themes identified in the work plan for 2015. The topics especially discussed were ABS, Mainstreaming, Invasive Alien Species and Nature Index.

During the bilateral discussion on ABS the following issues were discussed: a) Sector wise approach to improve benefit-sharing components, b) Ways and means of monitoring/utilization of India's BRs in other countries, c) Disclosure of source and origins of BRs in Patent Applications, d) To identify activities for ensuring India's compliance with obligations under the provisions of NP on ABS and Traditional Knowledge associated with genetic resources/biological resources, e) Compilation and review of national ABS legislation in ASEAN countries.

The study visit gave the CEBPOL teaman opportunity to explore Norwegians experiences, capacities and strengths and helped to get more in-depth insight into Norwegian experience and institutional capacities pertaining to the identified topics in the CEBPOL work programme. It also created greater understanding among the Norwegian team and others of the status and trends on the issues under discussion in India.

The bilateral discussions on invasive alien species led to understanding of the complexities of estimation of IAS in India. Due to the great diversity with respect to climatic zones, species and ecosystems, an alien species might be

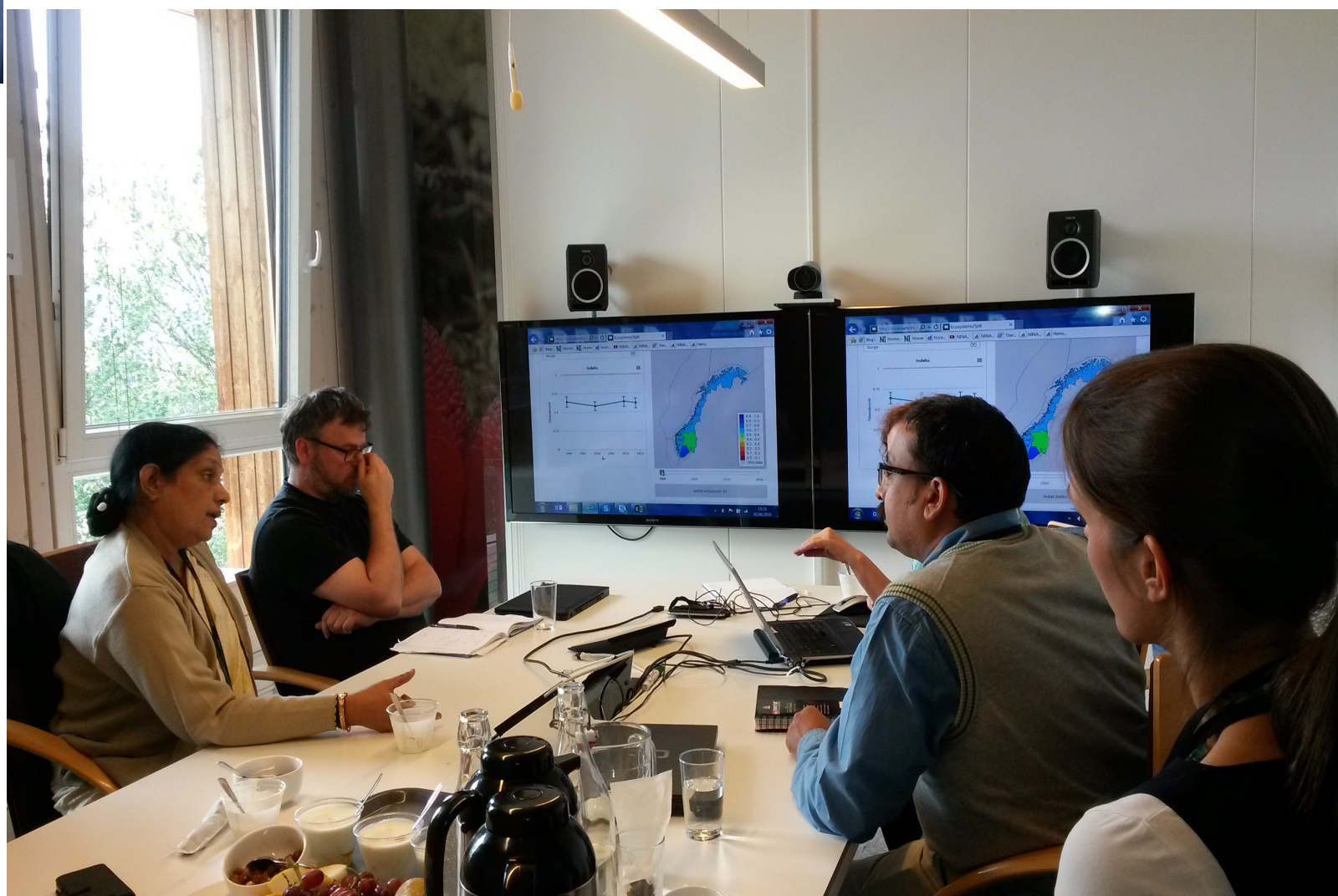


invasive in one part of the country and non-invasive in other parts. The lack of surveys on the domestic species in India makes it challenging to distinguish whether a species are domestic or alien to India.

The team also learned new aspects on how to generate capacity building materials, presentations etc. to help CEBPOL to get wide visibility. Possible collaboration with the FNI in the near future was explored and FNI displayed their willingness to contribute on the identified thematic activities.

7.2. Eight Trondheim Conference on Biodiversity held from May 31 to June 3, 2016 at Trondheim, Norway

The Chairperson of NBA, Programme Manager CEBPOL and Consultant Biodiversity Law CEBPOL visited Trondheim, Norway, from May 31 to June 3. The visit took place during the eight Trondheim Conference on Biodiversity. The theme of the conference was "Food systems for a sustainable future –interlinkages between biodiversity and agriculture". Many of the sessions of the conference were highly relevant for the work under CEBPOL and the visitors had the opportunity to interact with 300 participants from 95 countries. The visit was also used to organize meetings between the programme partners. On the agenda for the programme partner meetings was progress made on the implementation of the work plan for 2016 and plans for the remaining of 2016, the internal assessment of the programme document, meeting with NINA on Nature Index, and a planning meeting on common activities to undertake under Access and Benefit-sharing.



7.3. Seminar at Fridtjof Nansen Institute (FNI), Oslo to disseminate outcomes from the project activities under Indo-Norwegian cooperation and to attend the other meetings and field trips in Norway from 28-30 August, 2018.

CEBPOL was invited by the Norwegian Environment Agency for one meeting and two seminars held in Oslo, Norway from 27-31 August, 2018. Dr. Rupam Mandal, Programme Manager, Dr. Prakash Nelliya, Fellow (ABS) and Ms. Anjali Sugadev, Consultant (Biodiversity Law) along with Dr. Subrata Bose, Director, Eco-Sensitive Zone (ESZ) and Mountain Division of the Ministry of Environment, Forest and Climate Change, Government of India participated in these meeting and seminars. The delegation attended a meeting at the Norwegian Ministry of Climate and Environment on 28th August where Dr Rupam Mandal briefed the Norwegian Ministerial Officials on the outcome of CEBPOL and the progress was highly appreciated by them. This was followed by an informal lunch seminar on "Access and Benefit-sharing in India" at the Natural History Museum, Oslo where deliberation was on the Biological Diversity Act and its ABS provisions by the delegates. At the "Law and Governance on Marine and Plant Genetic Resources" seminar hosted by the Fridtjof Nansen Institute, Oslo, three presentations were



made on "Regulation of access of biological resources and Benefit Sharing in India", "Compilation of National Legislations pertaining to ABS" and "Protected Areas and ABS – scopes and challenges" by Dr. Rupam Mandal, Ms. Anjali Sugadev and Dr. Prakash Nellyat respectively. The seminar participants including a good congregate of very senior level officials and scientists of different Norwegian Ministries / Agencies / Institutes appreciated the study reports and India's initiative in institutionalising ABS. At the last day of the trip, the team was accompanied by an experienced Nature Inspectorate during the field visit to Semsvannet, Oslofjorden and a protected area in the fjord.

Dr. Andreas India Visit



Field Visit by Norwegian Partners 09 March 2017





8. REPORT ON THE RESULTS FRAMEWORK

Altogether the effectiveness of CEBPOL programme is very good. Though some activities took some more time than expected, but ultimately it has produced quality products which have built the expertise on biodiversity related policies and laws of a large number of stakeholders as it was envisaged in the Vision & Mission of the Centre. It has also produced a collaborative platform for sharing the experiences of one party to the other. As a result, both the countries has got benefited mutually.

The target groups i.e. mainly policy makers, academia, scientists, industry personnel (users of bioresources), legal professionals, officials of different related line departments, State Biodiversity Boards, Biodiversity Management Committees, Local Self Governance Functionaries from almost all corners of the country have been impacted positively. There is no negative impact found in any case.

As per the Project document, the MoEFCC will do the needful to take it forward after the cease of the external support from Norwegian counterpart. The National Biodiversity Authority has taken the decision that they will take up the issue with MoEFCC and find out the practical solution for it.

8.1. Lessons learned

- (a) The bi-lateral cooperation is very useful in building capacity of a large number of stakeholders of both the parties in a very effective and impactful manner.
- (b) The bi-lateral experience sharing and hand-holding support from one party to the other is really very effective to build expertise of the policy makers, academia, scientists, officials from different related line department. With CEBPOL, more than thousands of these kinds of stakeholders have been benefited.
- (c) The institutional collaboration with the best institutions of the parties reciprocated the outcome of the collaborative research.

- (d) Created a useful platform for taking any relevant issue to be discussed further and coming out with a practical solution.
- (e) Bilateral experience sharing and handholding have been vital and value-adding to the fledgling process of building capacity in biodiversity-policy.
- (f) The bilateral cooperation has been to be very effective in demonstrating how this process serves to further the goals of the Convention on Biological Diversity (CBD).
- (g) India as a forerunner in ABS and a mega-biodiverse country, there is a high need to build on the momentum gained through this partnership with Norway.

8.2. Report on the results framework

Preface	The purpose of the project is to assist NBA in dialogue and interaction on Multilateral Environmental Agreements, including the CBD and its implications on India's domestic policy and law. The two countries will initiate a joint project on technical and institutional cooperation in connection with the establishment of CEBPOL.
Indicator 1	India and Norway capitalize on their respective expertise and experience on issues of biodiversity policy and law to provide respective national guidance in policy and decision making, including on issues of ABS, biosafety, NBSAPs, invasive alien species, mainstreaming biodiversity across sectors and importantly implement the respective national legislations on biodiversity and ABS;
Assessment of result	This bilateral cooperation literally helped both the countries to capitalize their respective expertise and got benefited in a complementary way. The study on ABS has been carried out jointly by FNI and NBA where the expertise of the scientists from both the institutes have been utilised. For carrying out pilot study on Nature Index, the capacity of Indian scientists have been directly built up by scientists from Norwegian Institute namely Norwegian Institute of Nature Research. The exchange visits by the delegation (containing policy makers and scientists) from both the countries to the other countries have provided the opportunity for sharing experiences and building capacity thereby.

Indicator 2	A world class research and analytical capacity established to provide guidance and support on issues of biodiversity policy and law;
Assessment of result	The collaborative platform between the reputed institutions have been established which may be utilised further to cater the need of national and international level.
Indicator 3	The centre focuses on both current and emerging issues related to biodiversity policy, law and governance to help catalyze national, regional and global action;
Assessment of result	The identified six thematic areas i.e. Access and Benefit Sharing, Mainstreaming Biodiversity, Invasive Alien Species, Multilateral Environmental Agreements, Nature Index and Awareness Generation, Training & Capacity Building are some of the current and emerging issues related biodiversity nationally and internationally. The CEBPOL has contributed a lot through bringing out timely publication on these issues and building capacity of some thousands of stakeholders.
Indicator 4	The centre serves as a think-tank on biodiversity policy and law attracting regional and international expertise to help deal with respective national issues besides providing support to MEA negotiations, global policy setting on biodiversity, sustainable development and others.
Assessment of result	The centre served as a think-tank to National Biodiversity Authority and Ministry of Environment, Forest and Climate Change. It has contributed a lot in preparing country positions papers for a number of international meetings and conventions namely CBD, SBSTTA, SBI and IPBES. It has also brought out a couple of policy documents on mainstreaming biodiversity into productions sectors. It has also provided recommendation how to bring in more synergy among the BLG MEAs.

I. List of Publications by CEBPOL

Sl. No	Publication
1	Users' guide on ABS
2	Review of selected national legislations relating to access and benefit sharing
3	Regulation of Access to Biological Resources and Benefit Sharing in India: An Analytical Study
4	Protected Areas and ABS: A Review
5	Compliance of Access and Benefit Sharing (ABS): A Sector Specific Review
6	Implementation of the Multilateral System of the Plant Treaty in India: Exploring Linkages with Biological Diversity Act, 2002
7	Training Manual on Biodiversity Governance
8	Mainstreaming Biodiversity: Inland Fisheries and Aquaculture - a key for Food and Nutritional Security
9	Policy Brief on "Mainstreaming Biodiversity into Agriculture Sector for increasing India's food, nutrition and livelihood security"
10	Mainstreaming Biodiversity Concerns into Forestry and Forest Management
11	Mainstreaming Biodiversity in Coastal and Marine Fisheries Sector
12	A Review on Impacts of Invasive Alien Species on Indian Coastal Ecosystems
13	Invasive Alien Species of India
14	A Review on Impacts of Invasive Alien Species on Indian Inland Aquatic Ecosystems
15	Guidelines for prioritization of Invasive Alien Plants of India for Management
16	Strategies for control and management of some selective Invasive Alien Plant Species Endangering Indian Biodiversity
17	Impacts of Invasive Alien Species on Island Ecosystems of India with special reference to Andaman Group of Islands

18	Using the IPBES conceptual framework to examine the CBD theme of 'CITIES and Biodiversity' in India with a special focus on governance, institutional arrangements and drivers of biodiversity loss in two cities
19	Policy Brief: The case for multi-stakeholder governance for the City Biodiversity Index in India
20	Inter-Linkages between the UNCCD and CBD/ BD Act in India-An Analysis
21	Achieving Better Synergies among the Biodiversity cluster Multilateral Environmental Agreements at the National Level in India – Review and Policy Options
22	Nature Index-India Report - A Pilot Study in Chilika Lake and Great Himalayan National Park
23	India at Cancun & beyond
Publications in collaboration with FNI	
24	"Beyond the Thumb Rule Approach: Regulatory Innovations for Bioprospecting in India", authored by Kabir Sanjay Bavikatte and Mortein Walløe Tvedt (2014).
25	"Technology Transfer in India: CBD, institutions, actors, typologies and perceptions" authored by Shivcharn S. Dhillon (2014).
26	"REDD+ in India: managing carbon storage and biodiversity safeguarding in national forest politics?" authored by Christian Prip and Linda Wallbott (2014).
27	"The Nagoya Protocol on access to genetic resources and benefit sharing: User – Country measures and implementation in India" authored by Christian Prip (FNI, Norway) & Charlotte Van't Klooster (NBA, CEBPOL, India) (2016)
28	The state of technology transfer obligations in global environmental governance and law: biodiversity conservation and sustainable use" authored by Christian prip (FNI, Norway) & G. Kristin Rosendal & Morten Walloe Tvedt (FNI, Norway) (2016)

II. Meetings/workshops organised by CEBPOL

1. Consolidating CEBPOL-Sharing of experiences on ABS held on 3-4 February, 2015 at Chennai
2. Study tour to Norway from 15-19 June, 2015 at Trondheim and Oslo
3. Nature Index workshop held on 28- 29 January 2016 at hotel The New Marrion in Bhubaneswar, Odisha
4. Eight Trondheim Conference on Biodiversity held from May 31 to June 3, 2016 at Trondheim, Norway
5. Awareness Workshop on Guidelines for Access to Biological Diversity Act, 2002 on June 13, 2016 Juniper Hall, India Habitat Centre, Lodhi Road, New Delhi
6. Awareness Workshop on Guidelines for Access to Biological Diversity Act, 2002 on June 22, 2016 NEDFi Convention Centre, Guwahati
7. Awareness Workshop on Guidelines for Access to Biological Diversity Act, 2002 on June 24, 2016 Centre for Research in Nanoscience and Nanotechnology (CRNN),University of Calcutta, Kolkata
8. Awareness Workshop on Guidelines for Access to Biological Diversity Act, 2002 on June 29, 2016 Microbial Culture Collection, Pashan, Pune
9. Awareness Workshop on Guidelines for Access to Biological Diversity Act, 2002 on July 15, 2016 National Academy of Agricultural Research Management (NAARM), Hyderabad
10. Awareness Workshop on Guidelines for Access to Biological Diversity Act, 2002 on 28 July, 2016 Department of Plant Biotechnology, University of Agricultural Sciences (UAS), GKVK, Bangalore
11. Workshop on "Synergies among biodiversity related MEAs" held on 3-4 October 2016 at Heritage Village Resort, Manesar, Gurgaon, Haryana
12. Consultative Conference on Biodiversity Governance for SBBs- Challenges and Prospects on 25-26 October, 2016 at International Training Centre, NLSIU, Bangalore

13. Policy dialogue on Mainstreaming biodiversity into the fisheries sector held on 25th November 2016 at NBA, Chennai.
14. Policy Dialogue on Mainstreaming biodiversity into the agricultural sector and inland, cold water fisheries and aquaculture held on 18-20 January, 2017 at New Delhi
15. Experience Sharing Workshop on Access and Benefit Sharing & Invasive Alien Species held from 8-11 March, 2017 at NBA, Chennai.
16. Awareness workshop on Guidelines for Access to Biological Resources under the Biological Diversity Act, 2002 on 24th March, 2017 at Gujarat University, Ahmedabad.
17. Consultative meeting on "Implementation of the Multilateral System of the Plant Treaty in India: Exploring Linkages with Biological Diversity Act 2002 for Better Synergies" to deliberate upon the identified points, on 8th May, 2017 in National Biodiversity Authority, Chennai.
18. Expert Consultation on "Interim National Report on the Implementation of the Nagoya Protocol" on 26th May, 2017
19. Expert Consultation on "Interim National Report on the Implementation of the Nagoya Protocol" on 5th October, 2017 at Indus Hall, Jal Wing, MoEFCC, New Delhi
20. National Focal Point interaction meeting on "Synergies among Biodiversity related Multilateral Environment Agreements" on 5th October, 2017 at Indus Hall, Jal Wing, MoEFCC, New Delhi
21. Workshop on Nature Index Pilot Study held on 12-13 October, 2017 at Ambassador Resorts Pvt. Ltd, Manali, Himachal Pradesh
22. Consultative meeting on "Mainstreaming Biodiversity into the open and cold water Fisheries" held on 28-29 November, 2017 at The National Academy for Agricultural Research Management (NAARM), Hyderabad
23. Webcast on 23rd February, 2018 at Anna University, Chennai for B.Tech Students on the occasion of World Wetlands Day.
24. Policy dialogue on Mainstreaming biodiversity concerns in forestry and forest management held on 28th April, 2018 in the forest academy at Dulapally, Hyderabad

25. Policy dialogue on “Mainstreaming Biodiversity Concerns in Forestry and Forest Management” held on 28th May, 2018 at Hotel Fortune Park, Ahmedabad, Gujarat
26. Third Policy dialogue on “Mainstreaming Biodiversity Concerns in Forestry and Forest Management” held on 28 June, 2018 at Guwahati, Assam
27. Seminar at Fridtjof Nansen Institute (FNI), Oslo to disseminate outcomes from the project activities under Indo-Norwegian cooperation and to attend the other meetings and field trips in Norway from 28-30 August, 2018.
28. Discussion meeting on “Mainstreaming Biodiversity Concerns in Forestry and Forest Management” scheduled held on 5th September, 2018 at National Biodiversity Authority, Chennai
29. Workshop on “Capacity-building on Access & Benefit Sharing (ABS) provisions of the Biological Diversity Act and e-filing process of ABS applications” for the patent attorneys held on 14 September, 2018 at NBA, Chennai.
30. National Media Workshop on Biodiversity held on 31st Oct. – 1st Nov. 2018 at Indian Institute of Mass Communication (IIMC), New Delhi
31. Training of Trainers (ToT) on “Biodiversity Governance” held on 13-15 November 2018 at NIRDPR, Hyderabad
32. Dissemination Workshop on 5th December, 2018 at Indian Habitat Centre, New Delhi
33. Training of Trainers (ToT) programme on Biodiversity Governance held on 18-20 December, 2018 at NIRD & PR-NERC, Guwahati
34. Capacity building workshop on Nagoya Protocol for SBBs on 25-26 February, 2019 at NBA, Chennai

III. Participation in Seminar / Workshop / Meetings by CEBPOL Staff

Participation in Seminar / Workshop / Meetings for the Year 2015

1. National Arogya Expo 2015 on 21-24 May, 2015 at Trivandrum
2. CII-IBBI workshop on managing Natural Capital (a training programme for industries with green initiatives, patterned along the German 'Business in Good Company' initiative) hosted by WIPRO, Bangalore in August 2015
3. Community to Community Exchange and Capacity Development Workshop for Traditional Knowledge Holders on 2-4 October, 2015 at Bangalore
4. Forum discussion on "The Role of IP and innovation in India's Biotechnology Industry" organized by Association of Biotechnology Led Enterprises (ABLE) at Chennai in October 2015
5. First IPBES Capacity Building forum meeting on 19-25 October, 2015 at WII, Dehradun

Participation in Seminar / Workshop / Meetings for the Year 2016

1. Indian Science Congress on 2-7 January 2016 at Mysore, Karnataka
2. International conference "Education as Driver for sustainable developments goals" on 11-13 January, 2016 at Ahmedabad
3. Training programme on Mainstreaming biodiversity in road and rail transportation projects for promoting smart green infrastructure on 17-19 February, 2016 at WII, Dehradun, Uttarakhand
4. International Conference on Aquatic Exotics: Trends, Challenges and Policies' on 28-30 March, 2016 at University of Kerala
5. Capacity-building workshop for selected sub regions of Asia on the restoration of forests and other ecosystems to support the achievement of the Aichi Biodiversity Targets, on 27 June to 1 July, 2016 at Bangkok, Thailand
6. 1st International Agrobiodiversity Congress (IAC) 2016 held on 6-9 November, 2016

Participation in Seminar / Workshop / Meetings for the Year 2017

1. Indian Science Congress 2017 on 3-7 January, 2017 in Tirupati, Andhra Pradesh
2. 2nd International Symposium on Societal Applications in Fisheries and Aquaculture using Remote Sensing Imagery held on 15-17 January, 2017 at CMFRI Kochi
3. Millennium Lecture on "International Rice Research Institute (IRRI) Rice Research Agenda: for People and the Planet" presented by Dr. Mathew Morell, Director General, IRRI at MSSRF Foundation, Chennai on 10th February, 2017
4. Consultative meeting on "Climate Change and food security" on 13th February, 2017 at MSSRF, Chennai
5. Wayanad Seed festival from 17-19 February, 2017 and delivered a speech on "Role of BMCs and community seed conservation mechanism"
6. 3rd National Biodiversity Congress 2017 on 22-26 February, 2017 at Thiruvananthapuram, Kerala
7. Awareness raising program - Bhopal Vigyan Mela from 3-6 March, 2017 at Bhopal
8. National Green Tribunal for the world conference on Environment, 2017 from 25-26 March, 2017 at Ahmedabad
9. National Dialogue on TK & ABS and National conclave of BMCs for experience sharing of ABS from 2-4 April, 2017 at Hotel Holiday Home, Shimla, Himachal Pradesh
10. Biodiversity Connect Media Workshop on 7th April, 2017 at Kolkata
11. National Consultation Meeting on "Bio-resources Valuation for Access and Benefit Sharing" organised by the UNEP-GEF-ABS-MoEF&CC on 11-12 April, 2017 at Chennai
12. ABS Expert Committee Meeting on 18th April, 2017 at NBA

13. National workshop on "Biodiversity Law: A cross over between conservation and commerce" on 24th April, 2017 at BMS Law College, Bangalore
14. Awareness creation talk show on Invasive Alien Species and social issues on *Prosopis juliflora* and Water Hyacinth in Thanthi TV
15. Second National Dialogue on "Traditional Knowledge and Access and Benefit Sharing" and the BMC Conclave organised by the UNEP-GEF-ABS-MoEF&CC project at Shimla, Himachal Pradesh from 2-4 May, 2017
16. Consultative meeting " Constituting an expert group on Synthetic Biology" on 3rd May, 2017 at MoEF&CC, New Delhi
17. National Seminar on "Bio-resources conservation and utilisation" on 13-14 May, 2017 at college of forestry, Sirsi, Karnataka
18. National level celebration of International Day for Biological Diversity (IDB), on 22-23 May, 2017 at Panaji, Goa.
19. Consultation workshop on " Integrating alternate livelihood in conservation strategies for riverine wildlife and wetlands" on 31st May, 2017 at UP forest department, Lucknow
20. A lecture by Indian Ornithologist Ms Tara Gandhi titled 'Agriculture and Wildlife - Dimensions of Conflict and Co-existence with Wild Animals and Birds in India's Agricultural Landscapes' on 3 June 2017 in MSSRF, Chennai
21. "International Symposium on culture based fisheries in Inland open waters" on 9-11, June 2017 at CIFRI, Barrackpore, Kolkata
22. BMC capacity building and the Ecosystem Valuation Meetings on 30th June and 1st July at Kozhikode
23. "Discussion Meet on Biodiversity / Ecosystem Valuation and ABS in Kadalundi-Vallikunnu Community Reserves " at Kozhikode. Also participated in the field visits (Kadalundi-Vallikunnu Community Reserves) , Kerala Biodiversity Board, 1st July, 2017

24. Workshop on "Effective and Inclusive Management of Marine and Coastal Ecosystems to Promote Human Well-being and Sustainable Development" from 4-5, July 2017 in CMFRI, Kochi
25. Island invasive Alien Conference held on 10-14 July, Dundee, Scotland, organised by University of Dundee
26. Series of Seminars on Synthetic biology organised by Transdisciplinary University, Bangalore at Bangalore, Karnataka ("Recent Technological developments in synthetic biology and their implications on environment and development" on 21 July 2017, "Synthetic Biology – Policy and Implementation Issues" and Synthetic Biology organisms same as LMOs - Are there any exceptions? on 4th August 2017 and "Making recommendations for CBD scientific body on synthetic biology and conservation, sustainable management of environment " on 8th September 2017)
27. "Module on Biodiversity Governance in India" on 27th July, 2017 at Indira Gandhi National Forest Academy (IGNFA), Dehradun
28. National Conference on Biodiversity Conservation and Coastal Management (NCBCCM) at Department of Zoology Vivekananda College, Agasteeswaram, Kanyakumari district from 10-12 August, 2017
29. Brainstorming Session on Strategies for implementation of Delhi Declaration on Agro-biodiversity Management" organized by NBPGR at ICAR, Pusa, New Delhi, on 28.08.2017
30. "12th sustainability summit" on 6-7 September, 2017 at New Delhi organised by CII-ITC Centre for Sustainable Development
31. Seminar on "Synthetic biology" at Transdisciplinary university, Bangalore, 08.09.17
32. Consultation workshops on Mainstreaming of Biodiversity: National Biodiversity Action Plan, National Biodiversity Targets and India's Sixth National Report to Convention on Biological Diversity held on 14-15 September, 2017 at Chandigarh

33. Consultation workshop on Mainstreaming of Biodiversity: National Biodiversity Action Plan, National Biodiversity Targets and India's Sixth National Report to Convention on Biological Diversity held on 21-22 September, 2017 at Hyderabad
34. National Seminar on Strategies, Innovation & Sustainable Management for Enhancing Cold Water Fisheries & Aquaculture on 22-24 September 2017 at ICAR-DCFR, Bhimtal
35. Consultation Workshop on "Convergence of Traditional and Scientific Knowledge using GIS for better management of Marine Resources of Andhra Pradesh" on 4th October, 2017
36. India International Science Festival on October 13-16, 2017 organised by Anna University, Chennai in collaboration with Ministry of Earth Sciences at Anna University & IIT Madras, Chennai
37. 12th SBB Meet at Hotel Turyaa at Chennai on 7-8 Nov, 17"
38. 3rd Asian Wetlands Symposium on 7-11 November, 2017 at Saga, Japan, organised by Wetland International Japan
39. National Level Consultative meeting on "Inland Fisheries and Aquaculture Policy" on 9-10 November, 2017, Mumbai
40. Work Plan meeting of GIZ funded ABS Partnership project at NBA office on 9th Nov, 17
41. Meeting on "Convergence between PVPFRA and BD Act at NBA" on 11th Sep, 2017
42. International Workshop on 'Sustainable Production and Consumption and Novel Economic Instruments for Biodiversity Conservation', on 17-18, November, 2017 at Indian Institute of Management, Bangalore
43. International Conference "Fostering innovations in Fisheries & Aquaculture" at Kochi on 21-24 Nov, 17 organised by Asian Fisheries Society
44. Media workshop on Biodiversity in Waynad, Kerala for 29th November, 2017 to 1st December, 2017

45. Ecosystem Valuation of the Kadalundi-Vallikunnu Community Reserve', Kerala State Biodiversity Board, 7th December, 2017 at Trivandrum
46. NIRD meeting on "Water resources management for sustainable development" on 8th December, 2017 at ANS-SIRD Mysuru
47. National Conference on the Status of Invasive Alien Species in India, jointly organised by Zoological Survey of India and Botanical Survey of India on 14-15 Dec,17 at Kolkata
48. Consultative meeting involving Quarantine experts and research workers organised by ICAR-NRC for Banana, Trichy on 21st December, 2017
49. National Workshop on "Convergence of Pradhan Mantri Krishi Sinchayee Yojana-Watershed Development Component (PMKSY-WDC)" on 22nd December, 2017 at NIRD, Hyderabad

Participation in Seminar / Workshop / Meetings for the Year 2018

1. 47th Expert Committee on ABS held on 8-9 January, 2018 at NBA, Chennai
2. "Patent Data Search" STN (Scientific and Technological information Network) held on 09.01.18 at NBA, Chennai
3. Second International Symposium on Societal Applications in Fisheries and Aquaculture using Remote Sensing Imagery held on 15-17 January, 2018 at CMFRI Kochi
4. First meeting on implementation of the BD Act held on 24.01.2018 at NBA, Chennai
5. GIZ-Scoping workshop on IT monitoring of Indian Biological resources 13-14 February, 2018 at NBA, Chennai
6. Workshop on Economic and Ecological Impacts of Invasive Species held on 21-23 February, 2018 at Indian Statistical Institute, Kolkata

7. Workshop on "Mainstreaming Biodiversity & Implementation of National Biodiversity Action Plan and National Biodiversity Targets" held on 27th February, 2018 at UAS, GKCK Campus, Bangalore
8. Workshop on Bioentrepreneurship Development held on 27 February, 2018 at Indian National Science Academy (INSA), New Delhi
9. Invited panelist at the National Conference on the theme A Multidimensional Approach to Women Empowerment Voice and Visibility organised by St.Claret College, Bangalore and supported by NABARD held on 7th March, 2018
10. Third Global Biofin Conference held on 7-8 March, 2018 at NBA, Chennai
11. Watershed Management under Pradhan Mantri KrishiSinchayee Yojana (WC-PMKSY) held on 09.03.18 at BRAIPRD, Kalyani, West Bengal.
12. Delivered an awareness lecturer on the impacts of Invasive Alien Species on Indian Biodiversity held on 16th March, 2018 at Jamal Mohamed College, Trichy
13. Workshop on 105th Indian Science Congress 2018 held on 16-18 March, 2018 at Imphal University, Manipur.
14. Workshop on Biodiversity and its significance in Entrepreneurship Development held on 19th March, 2018 at Bio Incubator and Lab, Vel Tech Technology, Chennai
15. National Conference on Water Security in TamilNadu held on 23rd March, 2018 at IIT Madras
16. Discussion meeting in Uttarakhand Biodiversity Board held on 10-11 April, 2018 with Dr.Dhanajay Prasad on "ABS potential Biological Resources Estimation in India"
17. GIZ-Training on concept and protocol in constituting and functioning of Biodiversity Management Committees (BMCs) under the Biological Diversity Act, 2002 held on 20-21 April, 2018

18. National Consultation on national inland fisheries policy” held on 27th April 2018 at CIFE, Mumbai
19. GIZ-National Workshop for Developing Communication Strategy for Access and Benefit Sharing held on 2-3 May, 2018
20. Paritcipated in the Agro-biodiversity Expert Committee Meetings held on 4th May, 2018 at NBA, Chennai
21. Participated in the ABS Expert Committee Meetings held on 14-15 May, 2018 at NBA, Chennai
22. International Day for Biological Diversity celebration held on 21-22nd May, 2018 at Professor Jayashankar Telangana State Agricultural University (PJ TSAU), Rajendranagar, Hyderabad-500 030, Telangana
23. TNBB-IDB event on 22nd May, 2018 at TNBB, Chennai
24. “Economics of Biodiversity & ABS” in the training Programme on “Indian Legal and Policy Framework on Biodiversity, Human Environment and Sustainable Development” held on 24th May 2018 at the School of Legal Studies, Cochin University of Science & Technology (CUSAT), Cochin.
25. Celebration of World Environment Day 2018 held on 5th June, 2018 at the TamilNadu Dr.Ambedkar Law University (TNDALU), Chennai
26. “National Dialogue on Evaluation of Coastal and Marine Ecosystems Services in India” held on 11th June, 2018 at NCSCM, Chennai
27. Second Meeting on the Expert Group on Examining the proposed issues relating implementation of the BD Act held on 20th June, 2018 at NBA, Chennai
28. Wetlands Policy Workshop held on 22.06.18 at Ashoka Trust for Research in Ecology and the Environment (ATREE), Bangalore
29. We4Climate Seminar on Climate Change and Sustainable Development held on 26.06.2018 at Centre for Environment Education, Chennai

30. 46th EC on ABS meeting held on 11-12 July, 2018 at NBA, Chennai
31. Consultative workshop on standardization of the process of preparation of State Biodiversity Strategy and Action Plan (SBSAP) and Development of Resource Mobilization Strategy for implementation of SBSAP held on 20 July, 18 at WII, Dehradun
32. Workshop on "Biodiversity Conservation & its Legal Perspective" held on 20th July, 2018 at Saveetha School of Law, Chennai
33. Meeting organised on 30-31 July, 2018 at NIRD, Hyderabad with regard to finalise the training module on capacity building on BD governance.
34. Discussion meeting on "ABS and Biodiversity Financing" held on 31st July, 2018 at NBA, Chennai
35. National Workshop on "Rapid Response Plan for Managing Coral Reef Ecosystems of India" at Tuticorin on 23-24 August, 2018
36. Fourteenth Annual University of Eastern Finland (UEF) - United Nations Environment Programme (UN Environment) Course on Multilateral Environment Agreements, held at University of Eastern Finland, Joensuu campus, Finland from 20-30 August, 2018
37. India International Science Festival 2018 on 5-8 October, 2018 at Railway Grounds, Gomti Nagar, Lucknow
38. 17th World Lake Conference (WLC17) held on 14-19 October 2018, Tsukuba, Japan
39. Fourteenth meeting of the Conference of the Parties (COP 14) to the Convention on the Biological Diversity (CBD) and its side event at Sharm El-Sheikh, Egypt on 17-28 November, 2018
40. National meeting on "Agro biodiversity and climate change" held on 26th November 2018 at NASC Complex, Pusa, New Delhi
41. 14th National Silviculture Conference held on 3rd December 2018 at Bangalore

42. Consultation on Invasive Alien Fish Species held on 19.12.18 at WWF-India, New Delhi
43. Meeting in connection with New Website of MoEFCC held on 27.12.18 at MoEFCC, New Delhi.
44. 13th National Meet of State Biodiversity Boards held on 29th December 2018 at MoEFCC, New Delhi.



IV. CEBPOL Team Members

Name	Joining date	Relieved date
Program Management Unit (PMU)		
Programme Manager		
Dr.Suhas B. Nimbalkar	17-07-2015	31-07-2016
Dr.Rupam Mandal	08-02-2017	28-02-2019
Office Executive Administration		
Shri G.Karthi Srinivasan	01-08-2014	28-02-2019
Finance Executive		
Shri K.R.Shankar	01-08-2014	31-07-2015
Tmt. Vijaya priya	05-02-2018	31-12-2018
IT Executive		
Shri N.Singaram	01-08-2014	28-02-2019
Consultants		
Consultant (Biodiversity Policy)		
Dr.C.Thomson Jacob	01-08-2014	28-02-2019
Consultant (Biodiversity Law)		
Dr. Prabha S. Nair	16-03-2015	08-09-2017
Ms Anjali Sugadev	23-10-2017	31-12-2018
Consultant (Capacity Building, Awareness Raising and Communications)		
Dr.Shanbhag Gayathri.N	01-08-2014	15-02-2018
Rejini.S	02-04-2018	28-02-2019
Fellows		
Fellow (Access and Benefit Sharing)		
Ms. Charlotte vant Klooster	02-02-2015	31-01-2016
Dr.Prakash Nelliya	03-08-2016	31-12-2018
Fellow (Invasive Alien Species)		
Dr. S. Sandilyan	01-01-2015	31-12-2018
Fellow (Multilateral Environmental Agreements)		
Ms.Sandhya Chandrasekharan	01-01-2015	31-12-2018