

BIO SAFETY



A Quarterly
Newsletter

Newsletter

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From the Desk of Editor



As we come to close to completion of the UNEP/GEF project, it is time to share project outcomes and plan for future activities. Towards this, Ministry of Environment, Forest and Climate Change (MoEF&CC) organized a workshop on "Phase II Capacity Building Project on Biosafety: Outcomes and Way Forward", on March 15, 2017 at New Delhi. The workshop was attended by Shri Ajay Narayan Jha, Secretary, MoEF&CC, UNEP representative and national and international experts and the concerned stakeholders. The project outputs also exhibited through the poster exhibition were highly appreciated. The workshop provided an opportunity to discuss on suggestion/ideas for future activities. An E-Website was launched during the event.

I congratulate all those who have been associated with the project and all our readers who have been taking keen interest in following the several project activities.

We will keep you updated on further developments at national and international level in the area of biosafety.

Amita Prasad
Additional Secretary
Ministry of Environment, Forests
and Climate Change

E-Application System for Taking Approvals from Genetic Engineering Appraisal Committee

As a step towards bringing digital India into biosafety regulations, MoEF&CC has launched an E-application system for taking approvals from the Genetic Engineering Appraisal Committee (GEAC), the apex regulatory committee. Shri Ajay Narayan Jha, Secretary, MoEF&CC launched the website at the workshop on "Phase II Capacity Building Project on Biosafety: Outcomes and Way Forward" held on March 15, 2017 at New Delhi.

The website has been launched to serve as a resource to strengthen regulatory compliance with the biosafety regulatory framework and facilitate a transparent system for approvals. Besides providing information about GEAC, its functions, composition, meetings and products approved, the website also serves as a repository for the relevant acts, rules, guidelines, protocols, policies etc., in relation to regulation of GMOs and products thereof in India,

To know more visit <http://geacindia.gov.in>



Workshop on Phase II Capacity Building Project on Biosafety: Outcomes and Way Forward



The Ministry of Environment, Forest and Climate Change (MoEF&CC), organized a workshop on "Phase II Capacity Building Project on Biosafety: Outcomes and Way Forward" on March 15, 2017 at New Delhi. Shri Gyanesh Bharti, Joint Secretary, MoEF&CC and National Project Coordinator (NPC), Phase II Capacity Building Project on Biosafety welcomed the participants and briefed them about the workshop program.

The "Key Achievements of the Phase II Capacity Building Project on Biosafety", were presented by Dr. Amita Prasad, Additional Secretary, MoEF&CC and National Project Director (NPD), Phase II Capacity Building Project on Biosafety. She shared with the participants major project outcomes of the project including reports, trainings organized, guidance documents developed specifically for environmental risk assessment and monitoring of confined field trials of GE crops, outreach material for public awareness and translation in regional languages etc.

Shri Ajay Narayan Jha, Secretary, MoEF&CC, was the guest of honor for the opening session of the workshop. He congratulated the efforts towards successful completion of the four year UNEP/GEF supported Phase II Capacity Building Project on Biosafety by officials from MoEF&CC, project partners and Project Coordination Unit at Biotech Consortium India Limited (BCIL). He appreciated that several knowledge products in the area of biosafety have been developed that would be useful not only in India but also for the region. He hoped that the capacity building activities will continue to strengthen the institutional mechanisms for biosafety regulations in India. He emphasized that continued capacity building at the state level for creating awareness about the key issues associated with biosafety would help provide an enabling environment in the country to take forward research and help India be the leader within the region.

Dr Alex Owusu Biney, Portfolio Manager, UNEP appreciated the effective implementation of the project by MoEF&CC towards strengthening biosafety capacities in India. He indicated that the knowledge products and activities under the project have the potential to be replicated across other countries for strengthening biosafety regulations. He quoted that a delegate from South Africa had specifically indicated after a side event on this project at COP 13 in Cancun Mexico "these are fantastic results - why don't you translate same to South Africa". He appreciated the institutional arrangement/support that was adopted by MoEF&CC for implementing the project activities both through combined efforts through involvement of international and national agencies. Dr. Alex also congratulated MoEF&CC for the strong Project Coordination Unit that was established in the BCIL, as it greatly helped timely implementation of the project activities along with ensuring project reporting is in compliance with the GEF/UNEP requirements. Regarding suggestions for future activities, he suggested for strengthening institutional capacity and leadership through a dedicated coordination body. He suggested that state level interventions are required towards utilization of the outcomes/achievements of the project with respect to the regulatory tools, monitoring, study tours and training for the phase III.

Dr. Morven McLean, Executive Director, ILSI-Research Foundation, one of the key project partners engaged for activities under the risk assessment and risk management component mentioned about the Sustainable Development Goals (SDGs). In particular she talked about the Goal 2 that aims to end hunger and all forms of malnutrition by 2030, indicating that use of genetically modified organisms (GMOs) is one of the tools for achieving sustainable agricultural practices to boost agricultural productivity for meeting globally food





requirements. The activities implemented in the area of Socio-economic considerations as part of the project were highlighted by Dr. Sachin Chaturvedi, Director-General, Research and Information System for Developing Countries (RIS). He opined that scientific risk assessment and socio-economic issues need to be considered for granting regulatory approval of products developed through use of modern biotechnology.

The "E-application system for taking approvals from GEAC" was launched by Shri Ajay Narayan Jha as a step towards bringing digital India into biosafety regulations. In addition Project Publications viz. Understanding Cartagena Protocol on Biosafety: A Guide, Handbook on Biosafety Clearing House: An Information Sharing Platform and Strengthening Regional Cooperation: Sharing Biosafety Project Outcomes at Regional and International Platforms.

Inputs from project partners from technical session focused on taking forward capacity building in biosafety under the four thrust areas of the project viz., Risk Assessment and Risk Management (RARM), Handling, Transport, Packaging and Identification (HTPI) of LMOs, Socio-Economic Considerations (SECs) and Public Awareness (PA). Dr. Alex OwusuBiney, Portfolio Manager (Biosafety), UNEP also proposed activities for the next phase of capacity building in biosafety through a short presentation.



A Poster Exhibition was organized on the side lines of the workshop wherein the project partners showcased the project outcomes. A total of 24 posters were showcased. Detection of LMOs using the commercially available lateral flowstrip test method for on the spot testing of LMOs was demonstrated by the scientists from National Bureau of Plant Genetic Resources (NBPGR). The workshop was attended by more than 130 participants and was coordinated by Biotech Consortium India Limited.



Poster Exhibition on Project Outcomes

Risk Assessment and Risk Management

- Genetically engineered (GE) plants in the product development pipeline in India
- Strengthening Environmental Risk Assessment and Risk Management in India
- Crop specific biology documents
- Monitoring Manual and Tools for Trainer: A resource for strengthening Monitoring of Confined Field Trials of Regulated GE plants
- Biology document of Potato
- Biology documents of Chickpea and Pigeon pea
- Biology document on Rubber

Handling, transport, packaging and identification

- Strengthening of capacities for LMO Detection activities at NBPGR
- Up gradation of GMO Detection facility at EIA-Kochi through infrastructure development
- Strengthening of GMO Detection facility at EIA-Kochi through trainings
- Strengthening of the Punjab Biotechnology Incubator (PBTI)
- Outcomes and Way Forward in the area of detection of LMOs
- Capacity Building of PBTI staff in the area of detection of LMOs
- Strengthening of capacities of Enforcement Agencies (Plant Quarantine and Customs) on Transboundary movement of LMOs

- Feasibility of Identity Preservation of LMOs in India

Socio-economic considerations

- Methodologies for Socio-Economic Assessment of LMOs
- Resource document on Socio-Economic Assessment of LMOs

Public Awareness

- Biosafety Resource Kit for GE Plants
- Translation of the Biosafety Resource Kit in eight regional languages
- Capacity Building Project: Public Awareness Initiatives
- Capacity Building in are of Public Awareness by Indian Institute of Mass Communication



Consultative Meeting on Sharing the Outcomes from COP-MOP8 and Planning follow up Activities



meeting was to follow up to the COP-MOP8 for a continued dialogue among the stakeholders for several activities to be taken up during the inter-sessional period in order to strengthen compliance with obligations under the CPB.

Shri Gyanesh Bharti, Joint Secretary, MoEF&CC presented in detail the key issues that were considered at COP-MOP8, India's submission and suggestive activities to be undertaken during the inter-sessional period i.e. prior to the next COP-MOP in 2018.

A Consultative meeting on sharing the outcomes of the eighth meeting of the Conference of Parties serving as Meeting of Parties (COP-MOP 8) to the Cartagena Protocol on Biosafety (CPB) was organised by the Ministry of Environment, Forest and Climate Change (MoEF&CC) under the chairperson Dr. Amita Prasad, Additional Secretary, MoEF&CC on January 19, 2017 at New Delhi. The Consultative meeting aimed towards planning activities to be undertaken during the inter-sessional period with the concerned stakeholders, prior to the next COP-MOP in 2018.

Sharing her experience from the COP-MOP8 that was held concurrently with the thirteenth meeting of the COP to the Convention on Biological Diversity (CBD) and the second meeting of the COP-MOP to the Nagoya Protocol on Access and Benefit Sharing, Dr. Amita Prasad informed that emphasis is being laid on main - streaming biosafety issues into biodiversity by the CBD Secretariat and accordingly the meetings of the CBD and its two Protocols were organised concurrently. An overview of India's participation and the decisions adopted at COP-MOP 8 were presented by Dr Prasad. She highlighted the key decisions related to risk assessment and risk management, transit and contained use, unintentional and illegal transboundary movement etc. Dr Prasad informed the participants that the present consultative



A background note providing an overview of the discussions in the COP-MOP8 and copies of the decisions adopted at Cancun, Mexico was circulated to the participants. The meeting was attended by 51 participants including representatives of concerned ministries/ departments and research scientists.

Participants greatly appreciated this initiative by MoEF&CC in sharing outcomes of COP-MOP8 and gave suggestions on proposed activities during the inter-sessional period particularly in the area of capacity building, Biosafety Clearing House, risk assessment and risk management, Network of laboratories for detection of LMOs and Public Awareness, Education and Participation. Some of the important suggestions included training programmes for stakeholders at state level, accreditation of labs, participation of scientists in online discussions, workshops on using BCH etc.

Highlights of 9th Meeting of Project Management and Monitoring Committee

The ninth meeting of the Project Management and Monitoring Committee (PMMC) of the Phase II Capacity Building Project on Biosafety was held on January 19, 2017 at New Delhi, under the Chairpersonship of Dr. Amita Prasad, Additional Secretary, MoEF&CC and NPD, Phase II Capacity Building Project on Biosafety. Shri. Gyanesh Bharti, Joint Secretary, MoEF&CC and NPC, Phase II Capacity Building Project on Biosafety presented a project update. Members were requested to facilitate finalization of various outputs.

Some of the activities approved by PMMC included organizing of capacity building workshops at state level, training workshops for customs and plant quarantine officials, development of a e-learning course on environmental risk assessment of GE plants, establish network of LMO detection labs in India and preparation of booklets for easy understanding on CPB and BCH.

Technical Training on Regulation and Conduct of Confined Field Trials in Australia



Indian delegation at OGTR accompanied with senior officials from OGTR staff



Indian delegation with Dr. Jeffrey Chapman, Victorian Department of Health and Human Services and Representative of State Standing Committee



Confined Field Trials of Sugarcane being carried out at Bundaberg, Queensland

A team of regulators and scientists from state agricultural universities undertook a study tour to Australia from February 6-10, 2017 with an objective to understand the regulation and conduct of confined field trials of GE plants. The team visited Office of the Gene Technology Regulator (OGTR), Food Standards Australia New Zealand and Australian Department of Agriculture. In addition, states where the research and developmental efforts and field trials of GE crops are underway i.e., Queensland and Victoria were also visited.

The team consisted of Dr. K. Veluthambi, Co-chair, Genetic Engineering Appraisal Committee (GEAC) and Professor (Retired), School of Biotechnology, Madurai Kamaraj University, Madurai, Shri. Gyanesh Bharti, Joint Secretary, MoEF&CC and Vice Chair, GEAC, Dr. Jagdeep Singh Sandhu, Punjab Agricultural University, Ludhiana, Dr. Ramesh Bhat, University of Agricultural Sciences, Dharwad and Shri. Vivek VijayraoThakre, Maharashtra State Seeds Corporation Ltd., Akola.

A visit to ongoing CFTs of sugarcane at Bundaberg, Queensland was undertaken as part of the tour.

Asia-Pacific Workshop on Detection and Identification of Living Modified Organisms



An Asia Pacific workshop on detection and identification of living modified organisms (LMOs) was organized by the CBD Secretariat with support under the Japan Biodiversity Fund, Korea Biosafety Capacity Building Initiative and in collaboration with the Department of Chemistry, Ministry of Science, Technology and Innovation (MOSTI), Malaysia from March 20-24, 2017 at ASEAN Food Reference Laboratory for GMOs, Kula Lumpur, Malaysia.

The workshop was aimed to provide theoretical and practical training in the area of sampling, detection and identification of LMOs. In addition, the workshop also provided a platform for sharing of experiences among the participating 13 countries from the Asia Pacific region. Dr Lijo John, Assistant Director (Tech), Export Inspection Agency, Kochi, one of the labs

strengthened under the Phase II Capacity Building Project on Biosafety was nominated by MoEF&CC to participate in the workshop.

The workshop program included the introduction to the detection and identification of LMOs in the context of the CPB with specific focus on: laboratory sampling, DNA testing methods, analysis of results, quality assurance and quality control, SOPs and reporting of testing results.

As an initiative towards promoting regional networking, the CBD Secretariat proposes to convene email groups on the two topics concluded from the discussions at the workshop i.e., DNA extraction from difficult matrices and methods for sample processing in various kinds of samples for the preparation of test portions.

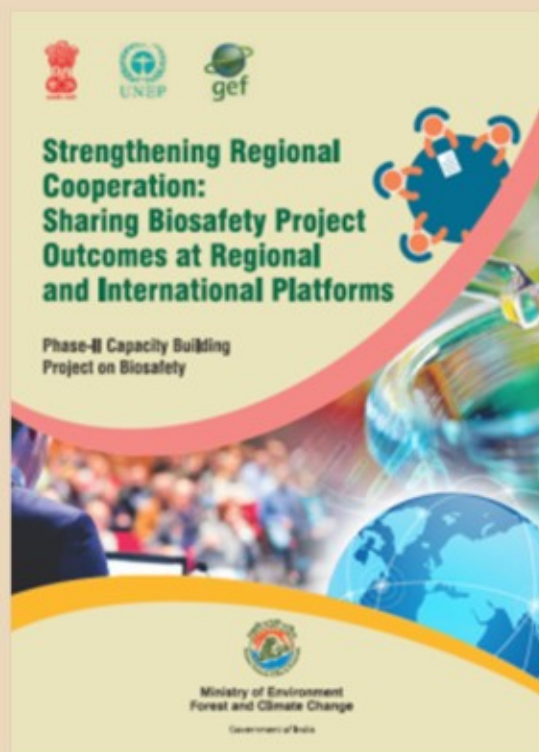
New Publications Under UNEP/GEF Suported Phase II Capacity Building Porject on Biosafety

Enhancing public awareness is one of the key objectives of the Strategic Plan on CPB (2011-2020) and accordingly, it is one of the key components of the ongoing UNEP/GEF Phase II Capacity Building Project on Biosafety, being implemented by MoEF&CC. As part of the project, two booklets namely "Understanding Cartagena Protocol on Biosafety: A Guide" and "Handbook on Biosafety Clearing House", have been prepared to inform the stakeholders about these important topics. The booklets have been prepared in a simplified and easy to understand language for sensitizing range of stakeholders including regulators, scientists, researchers, enforcement officials (customs and plant quarantine) and general public.

For copies of booklets, please write to biosafety-moef@nic.in



Strengthening Regional Cooperation: Sharing Biosafety Project Outcomes at Regional and International Platforms



Regional Networking and Cooperation is an integral part of all UNEP/GEF funded projects towards promoting regional harmonization on biosafety regulations and standards. A brochure on "Strengthening Regional Cooperation: Sharing Biosafety Project Outcomes at Regional and International Platforms", has been prepared to present efforts towards regional and international cooperation under the Phase II Capacity Building Project on Biosafety. It also includes brief overview of the events where the project outcomes and knowledge products were showcased at the following regional and international platform:

- National Project Coordinators meetings organized by UNEP for the Asian Region held at Mongolia, Bhutan, Bangladesh and India during the project period
- 3rd and 4th Annual South Asia Biosafety Conference held at Dhaka and Hyderabad
- Meetings of the Conference of Parties serving as Meeting of Parties to the CPB held in 2014 at Korea (COPMOP 7) and in 2016 at Mexico (COPMOP 8).

New Biosafety E-Learning Courses of Cartagena Protocol On Biosafety

The website of Convention on Biological Resources hosts a Biodiversity e-learning platform that provides a one-stop access to e-modules and courses relating to the Convention on Biological Diversity, the Cartagena Protocol on Biosafety (CPB) and the Nagoya Protocol on Access and Benefit-sharing.

Two new biosafety E-learning courses are available on the above platform. The first course is for customs/border officials and has been developed jointly with World Customs Organization. The second course is on public awareness, education and participation. The courses include presentations, case studies, exercises and evaluation through quiz's. On successful completion, participants can download a certificate of completion. Each course has modules on relevant topics.

1. Course on the CPB for Customs/ Border Officials (HTPI) has five modules to provide necessary foundation for customs officials to understand and enforce the requirements of the CPB regarding the safe transfer, handling and use of LMOs:

Module 1: Introduction to the CPB

Module 2: The Protocols requirements for the handling, transport, packaging and identification of LMOs

Module 3: The Role of Customs authorities under the CPB

Module 4: Methods for Detection, Identifying and Quantifying LMOs

Module 5: Access to and exchange of information on LMOs through the Biosafety Clearing House (BCH)

The five modules facilitate learning about the concerns associated with LMOs, categories of LMOs that need to be regulated during transboundary movements under CPB and the role of customs in assisting countries (Parties) under the CPB for compliance. The custom officials are expected to gain familiarity with the documentation requirements for the categories of LMOs and be able to understand as to how identification requirements can be included in existing types of shipping documentation. Familiarity with BCH and its features is expected to be very helpful.

2. Course on Public Awareness, Education and Participation

currently includes the two modules on public access to biosafety information and public participation in decision making processes concerning LMOs. The third module regarding the public education is at the development phase and would be made available shortly by the CBD Secretariat.

Module 1: Public Access to Biosafety Information

Module 2: Public Participation in Decision Making Processes Concerning LMOs

The two modules have been prepared to promote public access to accurate biosafety information in an easy and timely manner, including the use of BCH, national websites and other mechanisms.



Preparing for future products of biotechnology

The US National Academy of Sciences, Engineering and Medicine has recently released a report titled "Preparing for Future Products of Biotechnology" analyzing the future landscape of biotechnology products by a Committee on Future Biotechnology Products and Opportunities to Enhance Capabilities of the Biotechnology Regulatory System. It identifies the kinds of products that may be produced through biotechnology in the next five to ten years and provides suggestions that may be necessary for the regulatory agencies viz., Environmental Protection Agency (EPA), Food and Drug Administration (FDA) and Department of Agriculture (USDA) to regulate the forthcoming products.

The report categorizes future products of biotechnology into three major classes i.e., (a) Open-release products, which are for deliberate release in an open environment and include plants, animals, microbes and synthetic organisms, (b) Contained products which would include microbial based or synthetically based products produced in contained environments and (c) Platforms that are used in the creation of other biotechnology products.

<https://www.nap.edu/catalog/24605/preparing-for-future-products-of-biotechnology>

Upcoming Events

Title	Organized/hosted by	Date & Venue	Website
National Events			
Series of Training Workshop for Customs officials and Plant Quarantine officials on Transboundary movement of Living Modified Organisms	Ministry of Environment, Forest and Climate Change (MoEFCC), ICAR-National Bureau of Plant Genetic Resources (NBPGR) Directorate of Plant Protection, Quarantine & Storage (DPPQS) and National Academy of Customs, Excise and Narcotics (NACEN)	1. May 4-5, 2017, Kandla, Gujarat: 2. May 25-26, 2017 Shillong 3. June 6-7, 2017, Amritsar	-
International Symposium on Horticulture: Priorities & Emerging Trends	Indian Council of Agricultural Research (ICAR), New Delhi, Indian Institute of Horticultural Research, Bengaluru, India Society for Promotion of Horticulture, IIHR, Bengaluru, India International Society for Horticultural Science (ISHS), Belgium	September 5-8, 2017, Bangalore	http://www.iihr.res.in/content/international-symposium-horticulture-priorities-emerging-trends
International			
International Training Workshop on "Risk Analysis for the release of GMOs into the environment"	International Centre for Genetic Engineering and Biotechnology (ICGEB)	May 22-26, 2017, Trieste, Italy	http://www.icgeb.org/biosafety-2017.html
BIO International Convention	Biotechnology Innovation Organization	June 19-22, 2017, San Diego, CA, USA	http://convention.bio.org/
14th International Symposium on the Biosafety of Genetically Modified Organisms (ISBGMO14)	The International Society for Biosafety Research (ISBR)	June 4-8, 2017, Guadalajara, México	http://isbr.info/ISBGMO14/HOME
Plant Transformation & Biotechnology IV	Vienna International Science Conferences & Events Association (VISCEA)	June 29-30, 2017, Vienna, Austria	http://viscea.org/index.php/plant-trans-biotech
5th Annual South Asia Biosafety Conference	South Asia Biosafety Programme (SABP), Center for Environmental Risk Assessment (CERA), ILSI Research Foundation and Biotech Consortium India Limited (BCIL)	September 11-13, 2017, Bangalore, India	http://sabc.biotech.co.in/

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