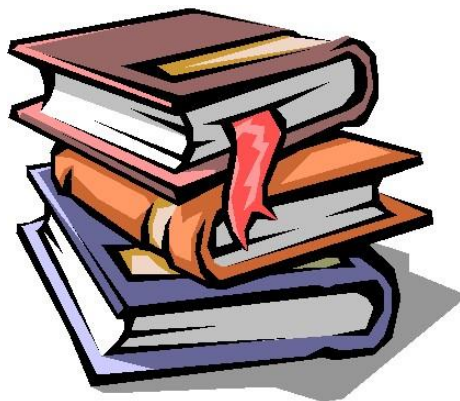


Publications as a tool to Strengthen Biosafety Capacities in India



Dr. Ranjini Warriar
Ministry of Environment, Forests and Climate Change,
Government of India

CEPA Fair, PyeongChang, Korea
30 September 2014

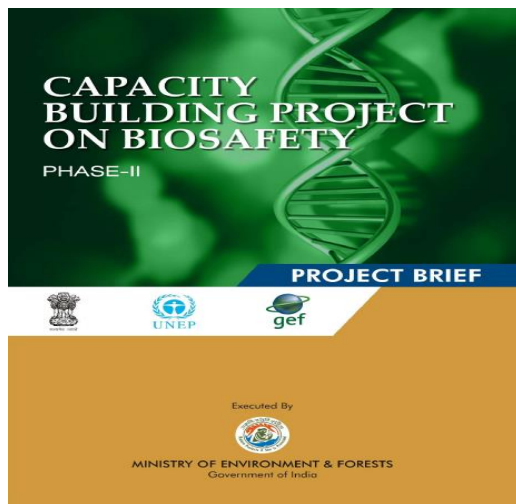


- ❑ Publications are vital tools to communicate the developments
- ❑ Concerted efforts are required to strengthen biosafety capacities especially for a vast country like India.
- ❑ The Ministry of Environment, Forests and Climate Change (MoEF&CC) is the Apex Ministry for national regulations and Nodal Ministry for implementation of Cartagena Protocol on Biosafety (CPB)
- ❑ UNEP-GEF supported Phase-II Capacity Building Project on Biosafety (2012-16) is an ongoing project with **Public Awareness** as one of the prioritized thrust areas



Phase-II Capacity Building Project on Biosafety

- ❑ The outcomes of GEF-World Bank Phase-I Capacity Building Project on Biosafety formed the basis for Phase-II Biosafety Project and this is in complementarity with the Strategic Plan for the CPB for the period 2011-2020 and updated action plan for capacity building
- ❑ Phase-II biosafety project initiated with an objective to strengthen the biosafety management systems in India to ensure adequate protection to human health and biodiversity from potential harm arising from all LMO related activities in agriculture



Thrust Areas: Phase-II Biosafety Project



Initiatives for Strengthening Biosafety Capacities

Stocktaking Assessment of Existing Capacities and accordingly

- ❑ Preparation of Guidance Documents and Materials
- ❑ Preparation of Brochures/ Primers /FAQ's
- ❑ Preparation of Series of Crop Specific Biology Documents
- ❑ Circulation of Biosafety Newsletters
- ❑ Institutional Strengthening through Trainings and Awareness Workshops

Implementation of Cartagena Protocol on Biosafety (CPB)



Few Examples

- ❑ Independent audit of existing LMO detections labs for strengthening institutional capacities and for establishing a state-of-the art national referral facility
- ❑ Feasibility study on Identity Preservation (IP) systems for LMOs in basmati rice and soybean
- ❑ Survey of various crops/ products in pipeline for next 10 years to enhance regulatory preparedness
- ❑ Sharing of experiences and expertise at regional level in areas such as public awareness, strengthening enforcement capacities etc.



Stakeholder Involvement



Policy Makers

Scientists &
Researchers

Legal Experts &
Economists

Enforcement Officials
(Customs, Plant
Quarantine)

Media/ farmers/
Students

These people are involved as resource persons, reviewers, in consultative meetings,, participation in workshops/awareness meetings and training programmes etc.



Sharing of Project Outcomes with Stakeholders

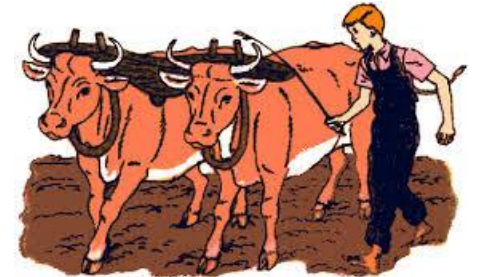
Publications

Resource Documents

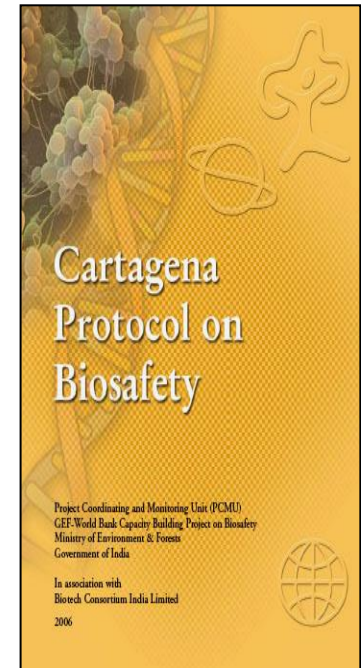
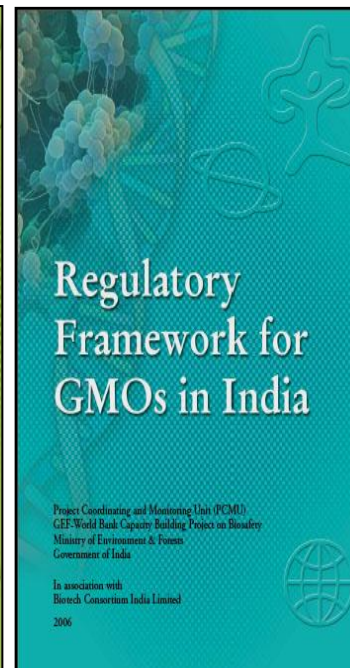
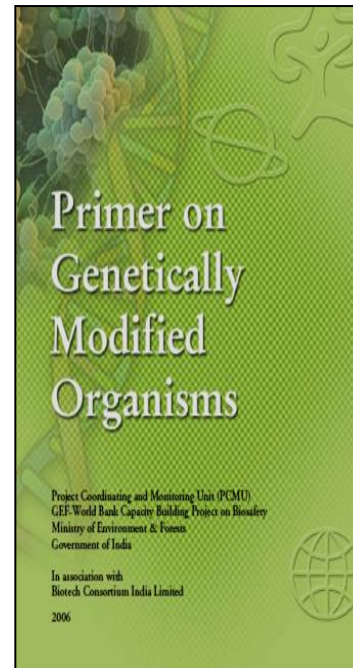
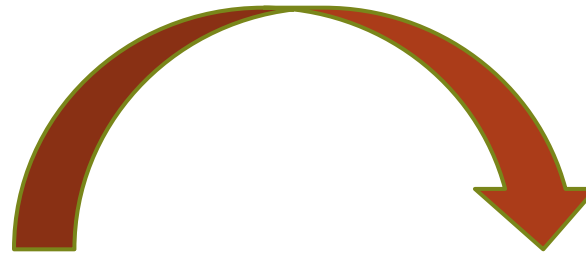
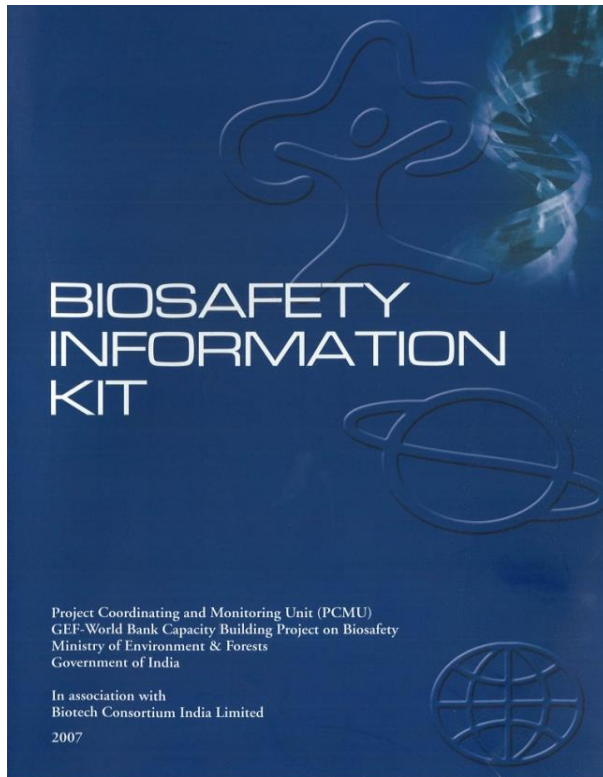
Local Languages

Biosafety Newsletter

Dissemination using Electronic Media

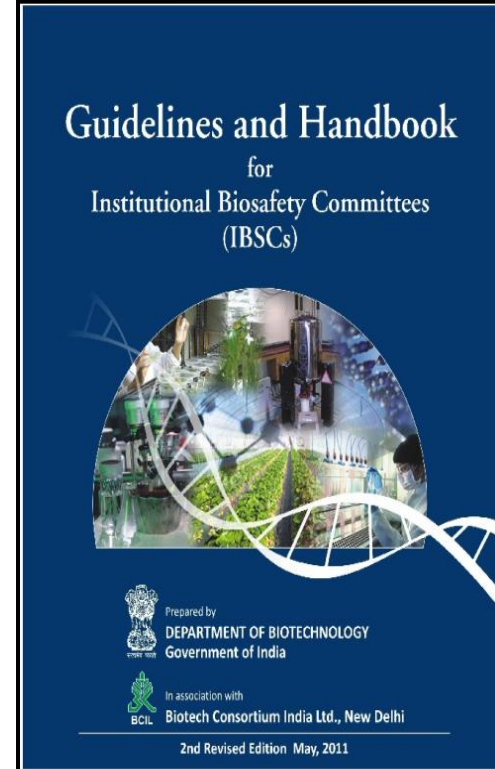
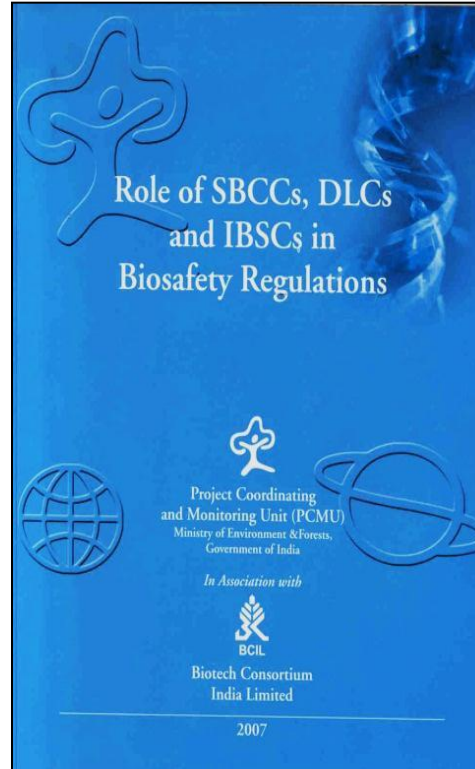
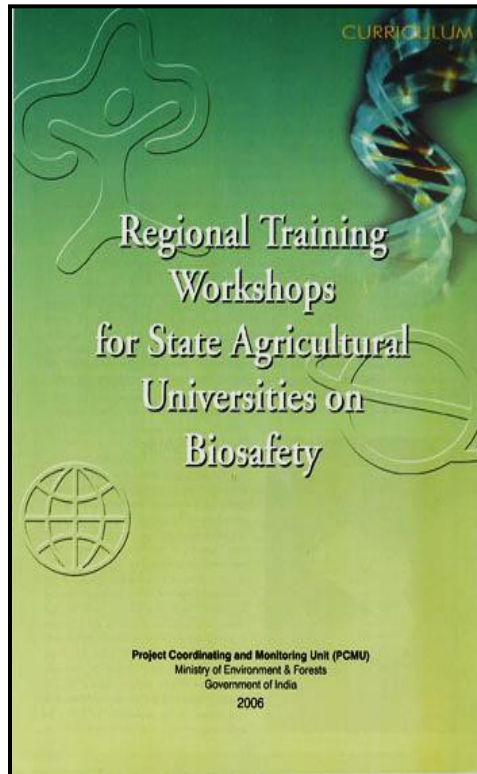


Biosafety Information Kit



A CD containing these booklets have been widely disseminated through out the country for creating public awareness

Information Handbook for Members of Regulatory Committees



E-Learning Module on Conduct of Confined Field Trials

An e-learning module on "Guidelines & Standard Operating Procedures (SOPs) for Confined Field Trials of Regulated, Genetically Engineered (GE) Plants" has been prepared with an objective to strengthen the management and monitoring of confined field trials of GE crops.

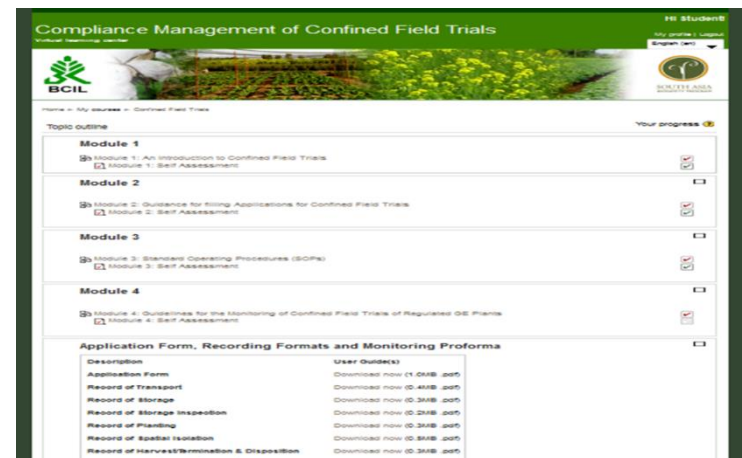
This module is useful to trial-in-charges, regulatory monitoring and all researchers engaged in development of transgenic crops

The course can be accessed at the link: <http://cft.biotech.co.in>

Home Page



The Home Page features a green header with the title "Compliance Management of Confined Field Trial" and the BCIL logo. A navigation bar includes "Home", "My courses", and "Confined Field Trials". The main content area contains a welcome message, a "Getting Started" guide, and a "Play Audio" button. A sidebar on the right displays a "Getting Started" guide icon.

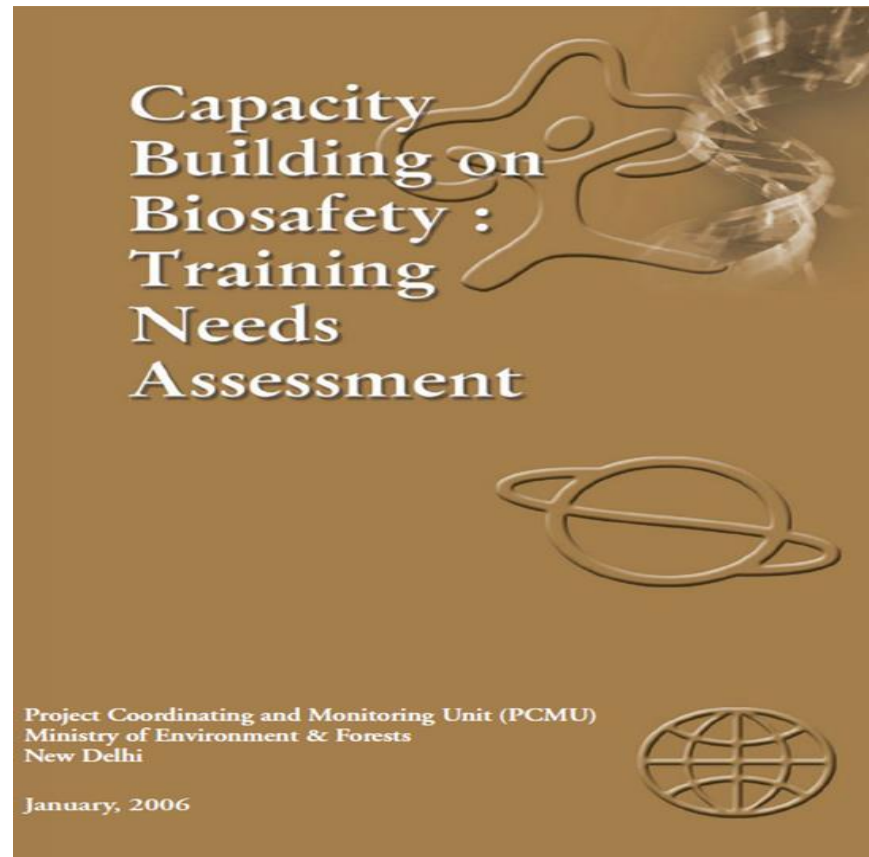


The Topic Outline page shows a list of modules and their associated documents. The BCIL logo is visible in the top left corner. The page is titled "Compliance Management of Confined Field Trials" and includes a "My progress" indicator.

Module	Module Description	Self Assessment
Module 1	Module 1: An Introduction to Confined Field Trials	Module 1: Self Assessment
Module 2	Module 2: Guidelines for Filing Applications for Confined Field Trials	Module 2: Self Assessment
Module 3	Module 3: Standard Operating Procedures (SOPs)	Module 3: Self Assessment
Module 4	Module 4: Guidelines for the Monitoring of Confined Field Trials of Regulated GE Plants	Module 4: Self Assessment

Application Form, Recording Formats and Monitoring Proforma	User Outlets
Application Form	Download now (1.0 MB) .pdf
Records of Transport	Download now (0.3 MB) .pdf
Records of Storage	Download now (0.2 MB) .pdf
Records of Storage Inspection	Download now (0.2 MB) .pdf
Records of Planting	Download now (0.2 MB) .pdf
Records of Spill Isolation	Download now (0.3 MB) .pdf
Records of Harvest/Termination & Disposition	Download now (0.3 MB) .pdf

Training Need Assessment Survey



Training Need Assessment Survey was conducted in the context of strengthening the implementation of Cartagena Protocol on Biosafety

TRAINING NEEDS	MAJOR TARGET GROUPS												
(KEY COMPETENCES – KNOWLEDGE AND SKILLS REQUIRED)	Decision/ policy-makers	Government regulators	Scientists/technical, advisors & experts	Enforcement officials	Customs officials	Lawyers	Economists	Data/information managers	Researchers & technicians	Graduate & undergraduate students	Interest groups (Consumer groups, farmers, NGOs) Associations	Mass media/ extension workers	General public, politicians
General biosafety/ biotech knowledge	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓
Molecular biology skills													
Biosafety research/ field trial techniques (e.g. buffer zone, isolation distance, etc.)		✓	✓						✓	✓			
Risk assessment & management	✓	✓	✓	✓			✓	✓	✓	✓			
Audit of risk assessment reports and risk management plans			✓	✓					✓				
Safety requirements and procedures for intentional and unintentional LMO releases	✓	✓	✓	✓					✓				
Tools for monitoring the handling, transport, packaging and use of LMOs	✓	✓	✓	✓	✓				✓				
<small> * Core competences ** require some staff involvement *** </small>	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓

Biosafety Newsletter

- Biosafety Newsletter covers relevant information about ongoing initiatives under CPB, project activities, new publications and events.
- The "Biosafety Newsletter" is circulated electronically to more than 10,000 stakeholders comprising of concerned central and state government ministries/departments, scientific research institutions, universities, students etc.
- The newsletter can be subscribed by writing to biosafety-mef@nic.in

April - June 2014, Vol. VI, Issue 4

BIOSAFETY Newsletter

A Quarterly Newsletter

From the Desk of Editor

I am pleased to inform that the activities related to the ongoing UNEP-GEF supported phase-II capacity building project on biosafety were presented during the 16th National Project Coordinators (NPCO) meeting held in Bhubaneswar and the progress of the project was greatly appreciated. This meeting was attended by several countries like Bhutan, Bangladesh, Malaysia, Indonesia, Cambodia, Laos, etc.

A project brief that provides an overview of all the project related activities has been prepared for wider circulation and dissemination among stakeholders. As per the UNEP-GEF project monitoring and supervisory requirements, the second meeting of the National Steering Committee (NSC) was held on June 26, 2014. Activities related to Socio-economic Considerations and Public Awareness have been initiated and I request all the readers to follow the progress of the project and share their inputs for strengthening the mentioned thrust areas.

I also like to remind all the readers regarding the upcoming COP-MOP-7 meeting which would be held in Korea from September 29 to October 3, 2014. I request all the readers to follow the proceedings and documents which would be made available for public use by the Secretariat of Convention on Biodiversity (CBD).

Hem Pande
Additional Secretary
Ministry of Environment, Forests and Climate Change

In this Issue

- The Nagoya Protocol on Access and Benefit-sharing
- Project Brief: Phase II Capacity Building Project on Biosafety
- 16th National Project Coordinators Meeting at Thimphu, Bhutan
- Fair on National Experiences with the Implementation of the Cartagena Protocol on Biosafety
- Integration of Biosafety into the National Biodiversity Strategies and Action Plans (NBSAPs)
- Testing of the Guidance on Risk Assessment of LMOs
- Report of the Compliance Committee under the Cartagena Protocol on Biosafety on the work of its Eleventh Meeting
- Transportability of confined field trial data for
- Economic Impact of GM Crops: The global income and production effects 1998-2012
- Upcoming Events

COP MOP 7 and COP 12

The seventh meeting of the Conference of the Parties serving as the meeting of the parties to the Cartagena Protocol on Biosafety (COP-MOP-7) will be held in Pyeongyang, Gangwon Province, Republic of Korea, from 29 September to 3 October 2014. This meeting will be held in conjunction with the twelfth meeting of the Conference of the Parties to the Convention on Biological Diversity (COP-12), which will be held at the same venue from 8 to 17 October 2014.

Similarly COP-MOP-7 will deliberate on implementation of the "Strategic Plan for CPB for the period 2011-2020". In this context a special session has been included to allow Parties to share experience and exchange views on better ways of integrating biosafety into relevant national development plans, other relevant national policies and programmes, including the national biodiversity strategies and national plans (NBSAPs).

The theme of COP-12 is "Biodiversity for Sustainable Development". The COP-12 will undertake a mid-term review of the implementation of the Strategic Plan for Biodiversity 2011-2020 and Action Biodiversity Targets and prepares Pyeongyang Roadmap to facilitate their implementation.

The Secretariat of the CBD has notified the provisional agenda for both the meetings at <http://www.cbd.int>

Prepared by Ministry of Environment, Forests and Climate Change (Mef & CC) in association with Biotech Consortium India Limited (BCIL)

Upcoming Events

Title	Organized/Hosted by	Date & Venue	Website
National Events			
Bangalore India Bio 2014	Vision Group on Biotechnology	February 10-12 2014, Bangalore	http://www.bangaloreindia.bio/india_bio2014
International Congress on Sugar Crops & Super Feed: 2014 (Coventry and Asia Green Technology)	Society for Sugar Research and Promotion	February 17-19 2014, Ludhiana	http://www.ssrp.org/2014congress.htm
National Conference of Indian Council of Wheat Science - Emerging Challenges in Wheat Management	Indian Council of Wheat Science and Directorate of Wheat Science Research	February 18-17 2014, Jaipur	http://www.icwsc2014india.com
Indian Seed Congress 2014	National Seed Association of India	February 18-19 2014, Gandhinagar	http://www.nsaonline.org/indianseedcongress2014
International Conference on "Mining Science for Food Security & Environmental Safety"	Applied Ecological Research Association (AERA) and Central Rice Research Institute	February 18-19 2014, Cuttack, Odisha	http://www.aeraonline.org/indianseedcongress2014
Seminars on "Agri-Biotechnology"	Confederation of Indian Industry	February 26-27 2014, Chennai	http://www.cii.org/india/agri-bio
SIPOCOP-2014 International/Symposium Research Conference	Society for Sugar Research and Development (SSRD) in collaboration with the Council of Indian Research and Indian Council of Agricultural Research	February 23-24 2014, Bhubane	http://www.ssrp2014.com
Workshop on Key Issues in Commercialization of Biotechnology	Department of Biotechnology, Govt. of India and Science Commission India	March 3, 2014 New Delhi	http://www.biotec.gov.in/Workshop%20on%20Key%20Issues
National Seminar on GM Crops: Prospects and Issues	Kerala Agricultural University	March 13-14, 2014 Thiruvananthapuram	http://www.kau.ac.in/2014/03/13/2014-national-seminar-on-gm-crops-prospects-and-issues
International			
Risk Assessment: The Role of Science in GM Development	National Biotechnology Development Agency, New Delhi, (ICRISAT)	June 30 - July 4 2014, Thiruvananthapuram	http://www.risg.org/meetings
Theoretical and Practical Courses "Plant Tissue Culture: Tool for Genetic Engineering of Plants"	ICRISAT and National Biotechnology Development Agency, New Delhi	August 10-23, 2014 Andhra Pradesh	http://www.risg.org/meetings
The International Symposium on the "BIOBACS-15" (Biosafety) Modified Organisms	International Society for Biosafety Biotechnology (ISBB)	November 8-13 2014, Seoul, South Korea	http://www.isbb2014.org
10th meeting of the national working committee on the Biosafety Challenge- Issues and Solutions	Department of Convention on Biological Diversity	April 7-2014, Gandhinagar, Hyderabad	http://www.cbd.int/biosafety/2014

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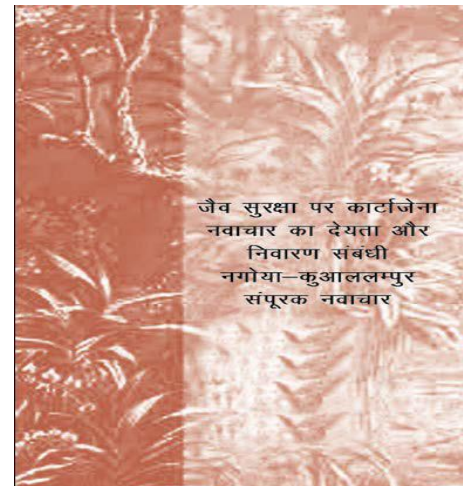
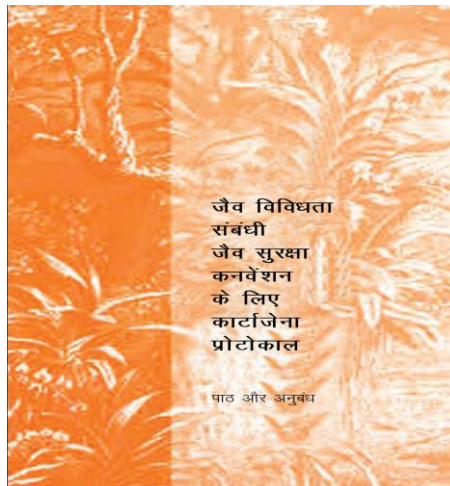
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Disclaimer: The information in this newsletter has been compiled from various sources and does not necessarily depict views of the Ministry of Environment & Forests, Government of India.

Translation in National Languages

- ❑ Use of local languages is extremely important in India for information dissemination and outreach.
- ❑ There are 22 official languages listed in eighth schedule of Indian constitution and many more are locally used.
- ❑ Under Phase-II Biosafety Project, MoEF & CC has translated the Cartagena Protocol on Biosafety and the Nagoya Kaula Lumpur Supplementary Protocol on Liability and Redress in Hindi



Translation in National Languages

- ❑ Biosafety awareness booklets are also printed in local languages.
- ❑ A series of three booklets were prepared Viz:
 - ❑ Facts about GM crops,
 - ❑ Facts about Bt cotton
 - ❑ Regulatory Framework of GM crops

These were published in seven languages other than English i.e. Hindi, Gujarati, Marathi, Punjabi, Tamil, Telugu and Kannada after the release of Bt cotton, the first GM crop in India.



Series of Crop Specific Biology Documents

- ❑ A series of crop specific biology documents being prepared to make available the information about biology of the crops directly relevant to safety assessment of genetically modified crops.
- ❑ Five documents are already available viz. cotton, brinjal, maize, okra, and rice.
- ❑ Eight documents viz. mustard, sorghum, tomato, potato, chickpea, pigeon pea, papaya and rubber are under preparation.
- ❑ The documents are being prepared by leading institutions under the Indian Council of Agricultural Research (ICAR).



Information Brochure for Public Awareness (Under Preparation)

Frequently Asked Questions (FAQs) on GE Crops

Includes responses to most frequent asked questions on science, safety and regulation of GE crops.



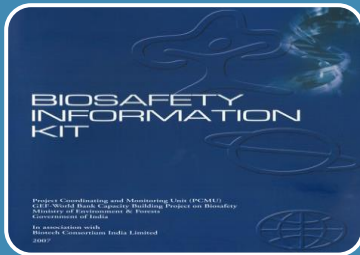
Confined Field Trials of GE Crops

Explains the need for conduct of confined field trials during the development of a GE crop and guiding principles for ensuring confinement.

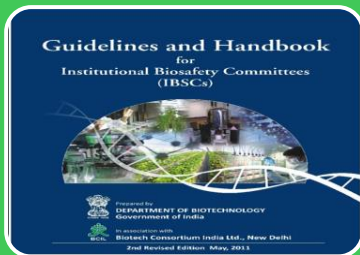
Accessing Information/ Databases: Useful Resource for Safety Assessment of GM Crops

Provides details of internationally accepted and useful resources and databases including Biosafety Clearing House (BCH), OECD BioTrack Product Database, FAO GM Foods Platform etc.

Publications in the Area of Biosafety by Regulatory Authorities: Examples



- **Biosafety Information Kit**



- **Specific Information Handbooks for various Regulatory Committees**



- **E-Learning Module on Conduct of Confined Field Trials**

Lessons Learnt and Way Forward

- ❑ Publications have been found to be an extremely useful tool for outreach in India
- ❑ Serve as a source of baseline and factual information for stakeholders.
- ❑ India being a vast country, a combination of publications and use of electronic tools required for wider outreach upto grass root level.
- ❑ Use of regional languages needs to be enhanced.
- ❑ Mechanisms to be in place for continuous updation



