

South Asia Biosafety Program

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PAKISTAN

Spotlight on the Biosafety Research in Pakistan Grants Program



The Biosafety Research in Pakistan Grants Program (BRPGP) supports laboratory, field, and literature research that will significantly advance knowledge relevant to the environmental risk assessment of genetically engineered plants in Pakistan.

The BRPGP is managed by the Center for Environmental Risk Assessment (CERA), ILSI Research Foundation, as part of the biosafety component of the Pakistan Strategy Support Program (PSSP). The PSSP is financially supported by the US Agency for International Development (USAID) through the International Food Policy Research Institute (IFPRI), which manages PSSP.

The BRPGP recognizes the need for biosafety research as part of a broader effort to support science-based decision-making and policy development and will fund research aimed at addressing the effects of agricultural biotechnology, particularly transgenic crops, on the environment and biodiversity in Pakistan. Grantees come from agricultural or environmental research institutions and universities in Pakistan.

All grantees work to:

- Address the effects of genetically engineered (transgenic) crops on the environment.
- Be relevant to Pakistan and take place in Pakistan.
- Demonstrate applicability to environmental risk assessment of transgenic plants and regulatory decision-making in Pakistan.

This month, we are introducing Dr. Muhammad Saleem Arif and the work he is doing on *Bt* cotton in Punjab.

2013 GRANTEE: Dr. Muhammad Saleem Arif

JOB TITLE: Assistant Professor, Department of Environmental Sciences

ORGANIZATION: Government College University Faisalabad

PROJECT TITLE: "Linking Cry protein persistence with microbial diversity, enzymatic activity, nutrient cycling and gaseous emissions in soils under *Bt* cotton in Punjab"

PROJECT DESCRIPTION: Persistence of *Bt* protein in soil over a certain period of time is very crucial to impart any significant impact of *Bt* crop plants on soil ecological functioning. Through this project, we will be assessing the impact of repeated *Bt* cotton cultivation on soil properties. We are targeting the chronosequence of *Bt* cotton introduction in the cotton belt area of Punjab and their subsequent impact on soil properties. Five *Bt* cotton cultivation areas of known chronosequence will be selected along with one pristine non-*Bt* cotton area. Soil will be analyzed for different soil properties and correlated with the prevailing agro ecology of the area.

TO VIEW ALL GRANT PROJECTS,

VISIT THE CERA WEBSITE AT:

<http://bit.ly/1hVizAM>

Guidelines for the Environmental Risk Assessment of Genetically Engineered Plants

MOHAMMED SOLAIMAN HAIDER, DEPUTY DIRECTOR, DEPARTMENT OF ENVIRONMENT & PROJECT DIRECTOR, INBF PROJECT, AGARGAON, DHAKA

Modern biotechnology, involving the use of recombinant DNA (rDNA) technologies, also known as genetic engineering, has emerged as a powerful tool with many potential applications in healthcare and agriculture. New plant varieties developed using rDNA techniques, commonly referred to as genetically engineered (GE), genetically modified (GM) or transgenic plants, have been and are being developed with the aim of enhancing productivity, decreasing dependence on the use of agricultural chemicals, modifying the inherent properties of crops, improving the nutritional value of foods and feeds, and mitigating the adverse biotic and abiotic impacts of climate variability.

In Bangladesh, the regulation of GE plants is determined in the Biosafety Rules, promulgated under the Environment Conservation Act (ECA) and elaborated in the Bangladesh Biosafety Guidelines. Together, these rules and guidelines establish a National Committee on Biosafety (NCB) which is responsible for making decisions regarding the use of GE plants, as well as a Biosafety Core Committee (BCC) which is responsible for providing the NCB with technical advice and analysis, including environmental risk assessment.

The Biosafety Guidelines of Bangladesh have been enshrined into regulation under the Biosafety Rules. These provide the framework and principles for conducting environmental risk assessments (Section 3.1), as well as a detailed description of the decision making process for conducting and managing field trials for GE plants (Annex 5). However, there is no elaboration of the elements necessary to conduct an environmental risk assessment for an open release (e.g. for commercial cultivation) of a GE plant. In order to fill this gap, the Department of Environment (DoE) under the Ministry of Environment and Forests (MOEF) has decided to develop the ERA guidelines for conducting ERA for open or large scale releases of GE plants in Bangladesh. The MOEF has already formed a nine member drafting committee headed by the Director General of DoE. The South Asia Biosafety Program (SABP) has been offering technical support to finalize these guidelines. The ERA preparation drafting committee has been working on the "0" draft prepared through the technical support of SABP. A number of consultation meetings have been held to update the draft guidelines which will be further placed in the broader stakeholder meetings before its finalization and approved by the National Committee on Biosafety (NCB).

These guidelines are intended to apply to both imported and domestically developed GE plants that are:

- Intended for cultivation; or
- Propagable forms of GE plant material that may be imported for direct use in food, feed, or processing, which could become established and persist without human intervention due to unintentional release into the environment.

These guidelines are not intended to apply to:

- The importation of non-propagable products of GE plants for direct use in food, feed or processing (e.g., flour, starch, crushed meal, oil derived from a GE plant);
- The environmental introduction of non-plant genetically engineered organisms (e.g., recombinant micro-organisms)
- Experimental GE plants in confined field trials.



NEW PAPER ON DATA TRANSPORTABILITY

TRANSPORTABILITY OF CONFINED FIELD TRIAL DATA FOR ENVIRONMENTAL RISK ASSESSMENT OF GENETICALLY ENGINEERED PLANTS: A CONCEPTUAL FRAMEWORK

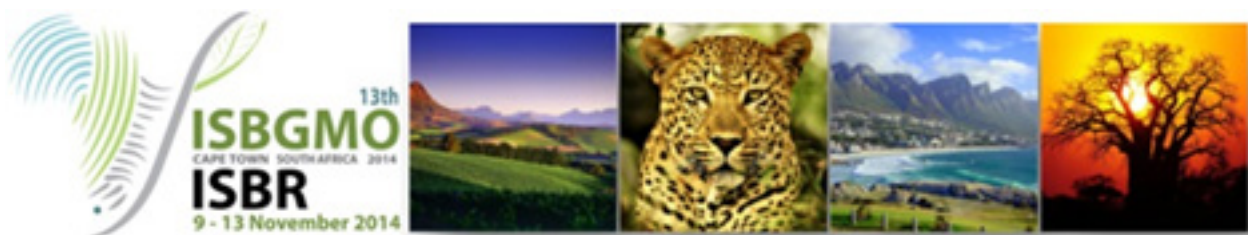
GARCIA-ALONSO, M., HENDLEY, P., BIGLER, F., MAYEREGGER, E., PARKER, R., RUBINSTEIN, C., SATORRE, E., SOLARI, F. AND M.A. MCLEAN.

TRANSGENIC RESEARCH DOI 10.1007/S11248-014-9785-0.

[HTTP://LINK.SPRINGER.COM/ARTICLE/10.1007/S11248-014-9785-0](http://link.springer.com/article/10.1007/S11248-014-9785-0)

ABSTRACT: It is commonly held that confined field trials (CFTs) used to evaluate the potential adverse environmental impacts of a genetically engineered (GE) plant should be conducted in each country where cultivation is intended, even when relevant and potentially sufficient data are already available from studies conducted elsewhere. The acceptance of data generated in CFTs "out of country" can only be realized in practice if the agro-climatic zone where a CFT is conducted is demonstrably representative of the agro-climatic zones in those geographies to which the data will be transported. In an attempt to elaborate this idea, a multi-disciplinary Working Group of scientists collaborated to develop a conceptual framework and associated process that can be used by the regulated and regulatory communities to support transportability of CFT data for environmental risk assessment (ERA). As proposed here, application of the conceptual framework provides a scientifically defensible process for evaluating if existing CFT data from remote sites are relevant and/or sufficient for local ERAs. Additionally, it promotes a strategic approach to identifying CFT site locations so that field data will be transportable from one regulatory jurisdiction to another. Application of the framework and process should be particularly beneficial to public sector product developers and small enterprises that develop innovative GE events but cannot afford to replicate redundant CFTs, and to regulatory authorities seeking to improve the deployment of limited institutional resources.

Programme and Speaker Lineup Announced for the 13th International Symposium on Biosafety of Genetically Modified Organisms



The Programme for ISBGM013 is taking shape under the theme **Advancing ERA of GMOs to Address Biosafety in a Global Society**, with a welcome address by the Minister of Science and Technology for South Africa and a keynote address by Professor Ratemo W. Michieka, Fellow, Kenya National Academy of Sciences. Highlights from this Programme include:

Three **PLENARY SESSIONS** with invited presentations on three mornings will develop the theme by specifically focusing on:

- Advancing ERA - Fit for Purpose
- Advancing ERA - For Africa
- Advancing ERA - A Global Perspective

Nine different **SYMPOSIA** with invited presentations are planned during parallel sessions on three afternoons:

- The basic elements of ERA.
- RNAi and ERA of genetically engineered plants.
- The long and winding road for regulatory approval of GM forest trees.
- GMO risk assessment experiences and capacity building in Africa.
- Quality of scientific studies supporting the non-target risk assessment of transgenic plants.
- Science Communication: A global perspective on best practice.
- Value of evidence synthesis approaches like systematic reviews and evidence maps.
- The design and implementation of IRM programs for GM crops.
- Capturing and addressing public input to biosafety decisions: realities and useful experiences.

A printable Programme-at-a-Glance and brief descriptions of each plenary session and symposium can be found on the ISBGM013 website <http://isbr.info/ISBGM013>. Registration is now open.

Abstract submission is open until June 6 for delegates wanting to present either an oral or a poster presentation at the conference. Please go to http://isbr.info/ISBGM013/Submit_Abstract for details.

Students can apply for two different scholarships. The deadline for scholarship applications is June 6. For more information please go to http://isbr.info/ISBGM013/Student_Scholarships for details.

If you are interested in sponsoring the ISBGM013, view the available packages and application procedures in the Sponsorship Prospectus. See the list of current sponsors on the ISBGM013 website.

Important Dates:

June 6	Abstract submission and student scholarship application deadline
August 19	Early bird registration deadline
November 9-13	Symposium in Capetown, South Africa



Follow ISBGM0 on Twitter
to view live tweets during the event
@ISBGM013

SUBSCRIBE TO THE FAO EMAIL CONFERENCE ON THE IMPACT ASSESSMENT OF AGRICULTURAL RESEARCH

The Food and Agriculture Organization of the United Nations (FAO) is one of nine partners participating in a project on the Impact of Research on EU Agriculture (IMPRESA), funded by the European Union (EU) Seventh Framework Programme (FP7). In this recently-launched project, FAO is leading work package 1 (on Concept Development and Learning), which has as one of its main aims the establishment of a common framework to update concepts and methodologies for impact assessment of agricultural research. As part of the work package's activities, we are happy to announce that FAO will host a moderated e-mail conference about impact assessment of agricultural research from May 5 to June 1, 2014.

Evidence suggests that investments in agricultural research play a key role in raising agricultural productivity and enhancing sustainability. In recent years, ever-increasing importance has been given to assessing the impact of agricultural research. This is for reasons of accountability and transparency as well

as to ensure that limited financial resources are used in the most effective manner possible. Impact assessment can, in addition, provide empirical evidence of the effectiveness of past investments and thereby ensure the continued support of governments and donors to agricultural research in the future.

This e-mail conference will allow participants from around the world to share and discuss their experiences, lessons learned and perspectives regarding impact assessment of agricultural research (note, the term 'agricultural research' encompasses research in the crop, livestock, forestry, fishery and aquaculture sectors). The kinds of topics to be discussed will include use of different approaches, models and tools to assess the impacts of agricultural research and best practices for disseminating impact assessment results to policy-makers and other relevant stakeholders.

The conference is open to everyone, is free and will be moderated. For more information, please contact AIS@fao.org

EVENT	ORGANIZED BY	DATE	WEBSITE
INDIA			
Global Conference on Technological Challenges & Human Resources for Climate Smart Horticulture: Issues and Strategies	ASM Foundation, New Delhi and Navsari Agricultural University	May 28-31, 2014 Navsari, Gujarat	http://nau.in/announce.php?id=12364
INTERNATIONAL & ONLINE			
Ex Post Impact Assessment of Agricultural Research: Experiences, Lessons Learned and Perspectives	The Food and Agricultural Organization of the United Nations (FAO)	May 5-June 1, 2014 Online	For more information, please contact AIS@fao.org
South Asian Regional Workshop on Biosafety	Bhutan Agriculture and Food Regulatory Authority (BAFRA), United Nations Environment Programme (UNEP) and Global Environment Facility (GEF)	May 27-29, 2014 Thimpu, Bhutan	
Risk Assessment Considerations for RNAi-Based GM plants	European Food Safety Authority (EFSA)	June 4-6, 2014 Brussels, Belgium	http://www.efsa.europa.eu/en/events/event/140604.htm
Risk Assessment: The Role of Science in GMO Decision-Making	ICGEB Biosafety Unit, Trieste, Italy	June 30 – July 4, 2014 Trieste, Italy	http://www.icgeb.org/meetings-2014.html
Theoretical and Practical Course "Plant Tissue Culture: Tool for Genetic Engineering of Plants"	ICGEB and National Biotechnology Development Agency, Abuja, Nigeria	August 10-23, 2014 Abuja, Nigeria	http://www.icgeb.org/meetings-2014.html
13th IUPAC International Congress of Pesticide Chemistry	IUPAC and ACS-AGRO	August 10-14, 2014 San Francisco, California United States	http://www.iupac2014.org/
12th Asian Conference and Expert Consultation on Maize for Food, Feed, Nutrition and Environmental Security	Asia-Pacific Association of Agricultural Research Institutions (APAARI), International Maize and Wheat Improvement Center (CIMMYT) and Vietnam Academy of Agricultural Sciences (VAAS)	October 27-29, 2014 Hanoi, Vietnam	http://www.apaari.org/events/12th-conference-on-maize.html
13th International Symposium on the Biosafety of Genetically Modified Organisms (ISBGM013)	International Society for Biosafety Research (ISBR)	November 9-13, 2014 Cape Town, South Africa	http://isbr.info/ISBGM013



SOUTH ASIA
BIOSAFETY PROGRAM

The South Asia Biosafety Program (SABP) is an international developmental program implemented in India, Bangladesh and Pakistan with support from the United States Agency for International Development. SABP aims to work with national governmental agencies and other public sector partners to facilitate the implementation of transparent, efficient and responsive regulatory frameworks for products of modern biotechnology that meet national goals as regards the safety of novel foods and feeds, and environmental protection.


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