



Convention on Biological Diversity

Distr.
GENERAL

UNEP/CBD/BS/AHTEG-RA&RM/1/3
30 April 2009

ORIGINAL: ENGLISH

AD HOC TECHNICAL EXPERT GROUP ON RISK ASSESSMENT AND RISK MANAGEMENT UNDER THE CARTAGENA PROTOCOL ON BIOSAFETY

First meeting
Montreal, 20-24 April 2009

REPORT OF THE FIRST MEETING OF THE AD HOC TECHNICAL EXPERT GROUP ON RISK ASSESSMENT AND RISK MANAGEMENT UNDER THE CARTAGENA PROTOCOL ON BIOSAFETY

INTRODUCTION

1. The first meeting of the Ad Hoc Technical Expert Group (AHTEG) on Risk Assessment and Risk Management under the Cartagena Protocol on Biosafety was held in Montreal from 20 to 24 April 2009.
2. The Group was established by the Conference of the Parties serving as the meeting of the Parties to the Cartagena Protocol on Biosafety (COP-MOP) in its decision BS-IV/11.
3. The Group was mandated to meet twice prior to the fifth meeting of the Conference of the Parties serving as the meeting of the Parties to the Cartagena Protocol on Biosafety, in October 2010, within an interval of not less than ten months, and perform necessary tasks between the two meetings to achieve the proposed outcomes outlined in the terms of reference in the Annex to decision BS-IV/11.
4. At its first meeting, the Group was tasked with the following mandate:
 - (a) Develop a "roadmap", such as a flowchart, on the necessary steps to conduct a risk assessment in accordance with Annex III to the Protocol and, for each of these steps, provide examples of relevant guidance documents;
 - (b) Taking into consideration the identified need for further guidance on specific aspects of risk assessment, including particular types of (i) living modified organisms (for example, fish, invertebrates, trees, pharmaplants and algae); (ii) introduced traits; and (iii) receiving environments, as well as monitoring of the long-term effects of living modified organisms released in the environment, prioritize the need for further guidance on specific aspects of risk assessment and define which such aspects should be addressed first, taking also into account the need for and relevance of such guidance, and availability of scientific information;
 - (c) Define an action plan to produce, prior to the second meeting of the Group, modalities for development of the guidance documents on the specific aspects that were identified as priorities and for testing of the roadmap. This action plan should include the details of a process for monitoring and reviewing the progress in each of the specific aspects;
 - (d) Prepare a progress report containing a detailed summary of the terms and procedures for reviewing the modalities for the development of guidance documents to be followed prior to the second meeting of the Group.

/...

5. Participants in the AHTEG were selected in accordance with the consolidated *modus operandi* of the SBSTTA of the Convention on Biological Diversity (CBD) ^{1/}, as requested by decision BS-IV/11, and on the basis of their active participation in the earlier events of the Open-ended Online Expert Forum on Risk Assessment and Risk Management ^{2/} (hereinafter referred to as “Open-Ended Online Forum”), and with the approval of the Bureau of the Conference of the Parties serving as the meeting of the Parties to the Cartagena Protocol on Biosafety.

6. Eighteen participants from seventeen Parties (Austria, Belize, Brazil, China, Croatia, Cuba, Egypt, Germany, Japan, Malaysia, Mexico, Netherlands, Niger, Nigeria, Norway, Republic of Moldova and Slovenia), as well as eight observers from three non-Parties (Australia, Canada, United States of America) and five organizations (Bayer CropScience, Federation of German Scientists, Monsanto Company, Public Research and Regulation Initiative and University of Canterbury) attended the meeting. The list of participants is attached hereto as annex IV.

ITEM 1. OPENING OF THE MEETING

7. The meeting was opened on Monday, 20 April 2009 at 9.30 a.m. by Mr. Ahmed Djoghlafl, Executive Secretary of the Convention on Biological Diversity.

8. In his opening remarks, Mr. Djoghlafl welcomed the participants and noted the importance of the Group’s task in the process of risk assessment under the Protocol. He highlighted the innovative nature of decision BS-IV/11 which combines, in the same process, an open-ended online forum (including real-time conferences) and an AHTEG. He invited the experts, pursuant to their mandate, to provide their best technical input to the development of a roadmap and guidelines for risk assessment and risk management of living modified organisms (LMOs). He drew attention to the short time before the second meeting of the Group and thanked the experts for their commitment to the significant work involved over the year to come. Furthermore, he called on the experts to do their utmost best to make this meeting a success and provide the best expertise in order to achieve their mandate.

ITEM 2. ORGANIZATIONAL MATTERS

2.1. Election of officers

9. Participants elected Mr. Helmut Gaugitsch from Austria as Chair and Ms. Vilasini Pillai from Malaysia as Rapporteur of the Group.

10. Following an introductory statement, highlighting the importance of the task at hand and the challenges ahead, the Chair invited the participants and observers to introduce themselves briefly.

2.2. Adoption of the agenda

11. The Group agreed to address the item “Other Issues” before the “Adoption of the Report” and adopted the provisional agenda ^{3/} with this amendment.

2.3. Organization of work

12. The Group decided to work for the most part in plenary and to break into smaller groups only if needed.

^{1/} Paragraph 18 of Annex III to decision VIII/10 of the Conference of the Parties.

^{2/} The Open-ended Online Expert Forum on Risk Assessment and Risk Management was also established in decision BS-IV/11 with the view to identifying major issues related to the terms of reference for the AHTEG. *Ad hoc* discussion groups and real-time online conferences took place prior to the first meeting of the AHTEG. The outcomes of these events were brought to the attention of the AHTEG in documents UNEP/CBD/BS/AHTEG-RA&RM/1/INF/3 and UNEP/CBD/BS/REGCONF-CB-RA&RM/1/2 – 5.

^{3/} Contained in document UNEP/CBD/BS/AHTEG-RA&RM/1/1.

ITEM 3. SUBSTANTIVE ISSUES

13. Ms. Manoela Miranda, of the Secretariat of the Convention on Biological Diversity, made a brief presentation on the historical background and mandate of the Group. Ms. Miranda provided an overview of the terms of reference of the Group and introduced the background documents prepared by the Secretariat. ^{4/}

14. The Group discussed and acknowledged that the guidance documents to be prepared may reflect different views, for instance, in the rationales and points to consider.

3.1. *Development of a “roadmap”, such as a flowchart, on the necessary steps to conduct a risk assessment in accordance with Annex III to the Protocol*

15. Under this agenda item, experts were invited by the Chair to consider what information should be incorporated in the various steps of a roadmap to be used to conduct risk assessments of LMOs.

16. The Group agreed that the roadmap must be in accord with paragraphs 8 and 9 of Annex III of the Protocol. It also agreed to use the example of a roadmap provided during the Open-ended Online Forum and contained in paragraph 24 of the Analysis of the open-ended online expert forum on risk assessment and risk management (UNEP/CBD/BS/AHTEG RA&RM/1/2) as a basis for further development of the roadmap. The Group provided extensive comments on the document.

17. The Group agreed that the roadmap will: (i) provide added utility to the risk assessment process, (ii) apply to all types of LMOs within the scope of the Protocol; (iii) contain rationales to explain each step and/or points to consider; and (iv) include a chapeau with general considerations on overarching issues.

18. The Group iterated that the risk assessment process should be carried out in a scientifically sound and transparent manner and that the experiences of countries and organizations may be used to assist in the steps of the process. The Group recognized that potential adverse effects on the conservation and sustainable use of biodiversity in the likely potential receiving environment, taking into account risks to human health, should be considered throughout the risk assessment process in accordance with the Protocol.

19. The Group was invited to consider the type of supporting materials to be included for each step in the roadmap and highlighted the importance of adding to the roadmap links to relevant information, including existing guidance.

20. Considerations were also made on the standards of the supporting materials to be added, such as transparency, accessibility and reproducibility.

21. After the first round of discussions a draft roadmap was prepared by the Chair, which incorporated the changes proposed, and circulated for further deliberation.

22. After a second round of comments and amendments, the Group agreed that the advance draft of the roadmap (contained in annex I to this report), would form the basis for further work on the roadmap during the inter-sessional period.

23. The Group also agreed to undertake work, during the inter-sessional period, to further develop the draft and test the roadmap. It was also agreed that some issues still require further drafting and include the addition of rationales for each step and/or point to consider.

24. The Group agreed to include in the draft roadmap a paragraph on related issues such as capacity-building, public awareness, socio-economic considerations and liability and redress.

^{4/} Background documents are available at: <http://www.cbd.int/doc/?meeting=BSRARM-01>.

3.2. *Development of further guidance materials on specific aspects of risk assessment and risk management*

25. Under agenda item 3.2., experts were invited to consider the need for further guidance on specific aspects of risk assessment. In this context, experts were invited to discuss the list of topics identified in previous workshops and the Open-ended Online Forum. 5/

26. The Group was invited to discuss the relevance of each topic and to identify new topics for subsequent discussion and prioritization.

27. Following a general discussion on the different topics identified, the Group was invited to participate in an exercise to rank each of the topics discussed with a view to prioritizing the topics contained in the list. The AHTEG did this exercise upon the understanding that the ranking is an instrument to organize the work on priority setting for further work. The results of the ranking exercise are contained in annex II to this report.

28. Following a discussion on the results of the ranking exercise, and taking into account its terms of reference, the Group agreed to produce modalities for development of guidance documents on risk assessment and risk management and that the following topics should be addressed first: (i) living modified crops tolerant or resistant to abiotic stress; (ii) living modified mosquitoes; and (iii) LMOs with stacked genes or traits.

29. In the context of the steps contained in paragraph 8 of Annex III of the Protocol, the Group also agreed that the general structure of these guidance documents should be organized by providing: (i) points to consider; (ii) rationales for the points to consider; and (iii) relevant bibliographies and supporting documents.

30. The terms and procedures for reviewing the modalities for the development of these guidance documents, prior to the second meeting of the Group, were also discussed and are reported in the action plan contained in annex III to this report.

3.3. *Defining an action plan for the development of guidance materials on specific prioritized aspects as well as the “roadmap”*

31. Under agenda item 3.3, the Group was invited to discuss and define an action plan to produce, prior to its second meeting, modalities for development of the guidance documents on the specific aspects that were identified as priorities and for testing of the roadmap.

32. The Group identified strategies to accomplish the expected outcomes as set out by the Parties, including activities carried out through electronic means between its two meetings.

33. The Group agreed to establish four sub-working groups to focus on each of the issues identified (i.e. the roadmap, living modified mosquitoes, living modified crops resistant or tolerant to abiotic stress and LMOs with stacked genes).

34. The Group also agreed to involve the participants to the Open-ended Online Forum in the work of the Sub-working Groups through ad hoc online discussion groups and real-time online conferences. It also agreed to deliver the outcomes of the Sub-working Groups in time to allow for an informed discussion during the regional real-time online conferences (tentatively scheduled to take place in February 2010).

35. The action plan, which contains a detailed summary of the terms and procedures for reviewing the modalities for the development of guidance documents to be followed prior to the second meeting of the Group, is attached hereto as annex III.

^{5/} Contained in paragraphs 6 and 61 of the background document UNEP/CBD/BS/AHTEG-RA&RM/1/2.

ITEM 4. OTHER MATTERS

36. The Group noted that one participant and one observer to the AHTEG were not able to attend the meeting due to unforeseen circumstances.

37. Mr. Charles Gbedemah, Chief of the Biosafety Division of the Secretariat of the Convention on Biological Diversity, announced that, with regard to the second meeting of the AHTEG, pledges for financial support and hosting had been made by the Governments of the Netherlands and Slovenia, respectively. The Group expressed their appreciation to both Governments for their support.

38. The second meeting of the AHTEG is tentatively scheduled to take place in Ljubljana, Slovenia in April 2010.

ITEM 5. ADOPTION OF THE REPORT

39. The present report was adopted by the AHTEG on 24 April 2009.

ITEM 6. CLOSURE OF THE MEETING

40. The meeting was closed at 3:15 p.m. on Friday, 24 April 2009.

*Annex I***INITIAL DRAFT OF THE ROADMAP FOR RISK ASSESSMENT****Introduction elements**

- The task of developing this roadmap is at the request of the Parties to the Protocol, in its decision BS-IV/11. The general principles and methodology set out in Annex III of the Protocol constitute the basis of this roadmap.
- The purpose of this roadmap is to complement and improve the utility of Annex III of the Protocol and assist risk assessors in conducting risk assessment of living modified organisms (LMOs) in accordance with Annex III of the Protocol. This roadmap may be useful in developing capacity in countries where a risk assessment framework is not yet available.
- This roadmap on risk assessment applies to all types of LMOs and applications within the scope of the Protocol.

General considerations/Chapeau

- Risk assessment is a structured process which enables an evaluation of risks of an LMO as one of the prerequisites for decision making on a case-by-case basis. While the steps are distinct, they are also interlinked. Therefore, the process as such is based on the interdependence of various steps and will require an iterative and recursive rather than linear approach. In case new information arises, steps in the process may need to be re-visited.
- Some overarching issues are relevant to the process as a whole, such as relevance and quality of information and data, as well as use of data generated by field trials in specific ecological situations and taking into account that risk assessment is done in a comparative manner. Data should meet standards of transparency, accessibility and reproducibility.
- The type and source of uncertainty (e.g. knowledge, information, interpretation, linguistic, technological, etc) should be identified at the various steps of the risk assessment process.
- Where there is uncertainty, it may be addressed by requesting further information on the specific issues of concern or by implementing appropriate risk management strategies and/or monitoring the living modified organism in the receiving environment.
- Mechanisms should be identified for dialogue involving stakeholders, in particular for communication between risk assessors and risk managers and to promote public awareness.

Context of the risk assessment process*Points to consider:**General:*

- (a) Scope/context (e.g. environment, ecology and human health), existing policies, strategies and regulations;
- (b) International obligations and mandates of the competent authorities;
- (c) Identification of protection goals, end-points and management strategies (e.g. provisions under Article 8(g) of the Convention);
- (d) Relevant questions to be asked in order to frame the subsequent risk assessment process;

Specific:

- (e) Type of request (e.g. field trial, commercial release) and intended use of the LMO;
- (f) Earlier risk assessments conducted for the same LMO;

(g) Experience and history of use, including the ecological function of the recipient organism;

(h) Methodological and analytical needs to achieve the goal of the risk assessment; including means of reviewing if the risk assessment achieved its goals.

Step 1: An identification of any novel genotypic and phenotypic characteristics associated with the living modified organism that may have adverse effects on biological diversity in the likely potential receiving environment, taking also into account risks to human health

Rationale: This step involves a comparison of the LMO with the recipient organism. It establishes a link between the genotypic and phenotypic changes in the LMO and the potential resulting adverse effects.

Points to consider regarding the characterization of the LMO:

(a) Characteristics of the recipient organism (e.g. biological characteristics, its taxonomic status, its origin, centres of origin and centres of genetic diversity) (paragraph 9 (a));

(b) Relevant characteristics of the donor organism (e.g. biological characteristics) (paragraph 9 (b));

(c) Characteristics of the LMO (e.g. transformation method; characteristics of the vector, including its identity, source/origin and host range; characteristics of the insert(s), including gene products, expression level and function) (paragraph 9 (c-e));

Point to consider regarding the receiving environment:

(d) Characteristics of the receiving environment (paragraph 9 (h));

Points to consider regarding the potential adverse effects resulting from the interaction between the LMO and the receiving environment:

(e) Phenotypic characterization of the LMO in the receiving environment (e.g. information relevant for its interaction with the likely receiving environment);

(f) Differences between LMO and recipient organisms (e.g. identification of relevant differences in biological, genotypic and phenotypic characteristics);

(g) Ecological and agricultural considerations; including the potential for dispersion of the LMO in the context of likely receiving environment (e.g. description of the habitat where the organisms may persist or proliferate).

Examples of supporting material: [document titles to be added]

http://www.oecd.org/document/51/0,3343,en_2649_34387_1889395_1_1_1_1,00.html

[http://www.olis.oecd.org/olis/2003doc.nsf/LinkTo/env-jm-mono\(2003\)11](http://www.olis.oecd.org/olis/2003doc.nsf/LinkTo/env-jm-mono(2003)11)

[http://www.olis.oecd.org/olis/2006doc.nsf/LinkTo/NT00000B8E/\\$FILE/JT03206674.pdf](http://www.olis.oecd.org/olis/2006doc.nsf/LinkTo/NT00000B8E/$FILE/JT03206674.pdf)

<http://www.olis.oecd.org/olis/2007doc.nsf/LinkTo/NT00002DF6/>

<http://bch.cbd.int/database/attachedfile.aspx?id=1904>

<http://www.aphis.usda.gov/brs/canadian/usda03e.pdf>

http://www.efsa.europa.eu/cs/BlobServer/Scientific_Document/gmo_guidance_gm_plants_en.0.pdf

Step 2: An evaluation of the likelihood of adverse effects being realized, taking into account the level and kind of exposure of the likely potential receiving environment to the living modified organism

[Rationale to be added, including, for instance, the notion that this step focuses on relevant species that are likely to be exposed]

Points to consider:

- (a) Information relating to the intended use of the LMO (e.g. confined field trial, or unconfined large scale cultivation) (Annex III, 9 (g));
- (b) Information on the relevant characteristics of the likely potential receiving environment (e.g. geographical, climatic and ecological characteristics) (Annex III, 9 (h));
- (c) Regional information (e.g. maps of release site in case of field trials, biogeographical information, latitude and longitude);
- (d) Exposure and pathway analyses;
- (e) Level of likelihood (e.g. highly likely, likely, unlikely, highly unlikely).

Step 3: An evaluation of the consequences should these adverse effects be realized

[Rationale to be added, including, for instance, the concepts of comparison and baseline]

Points to consider:

- (a) Consequences in the likely potential receiving environment (Annex III, 9 (h));
- (b) Experience with consequences of comparable existing practices (e.g. agricultural practices, pest management);
- (c) Level of consequence (e.g. major, intermediate, minor, marginal).

Example of supporting material:

http://www.efsa.europa.eu/cs/BlobServer/Scientific_Document/gmo_guidance_gm_plants_en,0.pdf

Step 4: An estimation of the overall risk posed by the living modified organism based on the evaluation of the likelihood and consequences of the identified adverse effects being realized

Rationale: This step estimates the level of risks based on the likelihood (step 2) and consequences (step 3) of all identified adverse effects (step 1) and taking into consideration the remaining uncertainty.

Points to consider:

- (a) Matrix for qualifying the risk estimation (e.g. likelihood vs. consequences);
- (b) Level of the overall risk (e.g. negligible, low, medium, high);
- (c) Cumulative (e.g. multiple LMOs) and synergistic/combinatorial (e.g. multiple DNA sequences, traits) effects;
- (d) Risks to biodiversity, ecosystem and human health;
- (e) Uncertainty analysis.

Example of supporting material:

http://www.efsa.europa.eu/cs/BlobServer/Scientific_Document/gmo_guidance_gm_plants_en,0.pdf

Step 5: A recommendation as to whether or not the risks are acceptable or manageable, including, where necessary, identification of strategies to manage these risks

[Rationale to be added, including, for instance, the notion of (i) interdependence between steps, particularly 4 and 5; (ii) monitoring and its purposes; (iii) a method to identify the LMO once it has been released into the environment; and (iv) that the terms acceptability and manageability are conceptually different issues]

Points to consider:

- (a) Relevant management practices that are in use for the non-modified recipients, or for other organisms that require comparable risk management;
- (b) Relevant methods for detection and identification of the LMO and their specificity, sensitivity and reliability (Annex III, 9 (f));
- (c) Relevant methods for environmental monitoring strategies (e.g. short- and long-term, specific monitoring on the basis of scientific hypothesis and cause/effect relationship as well as general monitoring);
- (d) Relevant emergency contingency measures;
- (e) Co-existence in the context of management strategies;
- (f) Intended use in the context of management strategies.

Examples of supporting material:

[http://www.oilis.oecd.org/oilis/2004doc.nsf/LinkTo/NT0000A48A/\\$FILE/JT00166030.PDF](http://www.oilis.oecd.org/oilis/2004doc.nsf/LinkTo/NT0000A48A/$FILE/JT00166030.PDF),

<http://www.unep.org/biosafety/Documents/Techguidelines.pdf>

Related issues

These issues include, *inter alia*, decision procedure (Article 10, paragraphs 3 and 4), unintentional transboundary movement (Article 17), capacity building (Article 22), public awareness and participation (Article 22), socio-economic considerations (Article 26) and liability and redress (Article 27) in the context of the Protocol.

Annex II

RESULTS OF THE PRIORITY SETTING EXERCISE OF THE TOPICS FOR THE DEVELOPMENT OF GUIDANCE MATERIALS

Prioritized topics for the development of guidance	
1-2.	Risk assessment and risk management of transgenic crops with resistance or tolerance to abiotic stress Risk assessment and risk management of transgenic mosquitoes
3-5.	Risk assessment and risk management of LMOs with stacked genes or traits Post-release monitoring and long-term effects of LMOs released into the environment Risk assessment and risk management in specific receiving environments
6.	Risk assessment and risk management of transgenic microorganisms and viruses
7.	Risk assessment and risk management of transgenic pharmaplants
8.	Risk assessment and risk management of transgenic crops
9.	Risk assessment and risk management of transgenic trees
10-11.	Risk assessment and risk management of transgenic fish Risk assessment and risk management of transgenic organisms for production of pharmaceutical and industrial products
12.	“Co-existence” between LMOs and non-LMOs in the context of small-scale farming
13.	Risk assessment and risk management of transgenic plants for biofuels
14.	Risk assessment and risk management of transgenic organisms produced through synthetic biology

Annex III

ACTION PLAN

The AHTEG agreed on the following action plan to produce, prior to the second meeting of the Group, modalities for development of the guidance documents on the specific aspects that were identified as priorities and for testing of the roadmap.

A. Composition of the sub-working groups and Bureau

Sub-working Group on the Roadmap for Risk Assessment

Chair: Hans Bergmans.

Core-group (Parties): Ossama Abdel-kawy, Michael DeShield, Rufus Ebegba, Mahaman Gado Zaki, Angela Lozan, Leticia Pastor Chirino, David Quist, Beatrix Tappeser and Wei Wei.

Non-Parties and Observers: David Heron, Paul Keese, Phil McDonald, Piet van der Meer and Thomas Nickson.

Sub-working Group on Risk Assessment and Risk Management of Living Modified Crops with Resistance or Tolerance to Abiotic Stress

Chair: Kazuo Watanabe.

Core-group (Parties): Branka Javornik and Sol Ortiz García.

Non-Parties and Observers: David Heron, Paul Keese, Jack Heinemann, Piet van der Meer, Esmeralda Prat and Ricarda Steinbrecher.

Sub-working Group on Risk Assessment and Risk Management of Living Modified Mosquitoes

Chair: Eliana Fontes.

Core-group (Parties): Michael DeShield, Leticia Pastor Chirino and Vilasini Pillai.

Observer: Esmeralda Prat.

Sub-working Group on Risk Assessment and Risk Management of Living Modified Organisms with Stacked Genes or Traits

Chair: Beatrix Tappeser.

Core-group (Parties): Ossama Abdel-kawy, Kok Gan Chan, Branka Javornik, Sol Ortiz García, Vilasini Pillai, David Quist, Kazuo Watanabe and Jelena Žafran Novak.

Non-Parties and Observers: David Heron, Phil McDonald, Jack Heinemann, Thomas Nickson and Ricarda Steinbrecher.

Bureau

A Bureau consisting of the Chair and Rapporteur of the AHTEG and the Chairs of the four sub-working groups (SWGs) was formed.

B. Timeline for the tasks of the Sub-working groups on the roadmap and specific topics

Dates	Sub-working Group on Roadmap	Sub-working Groups on Specific Topics (abiotic stress, mosquitoes and stacked genes)
April – 8 May 2009	SWG Chair to assign tasks, in consultation with the core-group, with regard to further drafting of the roadmap and call for comments from the sub-working group participants.	
April – end-May 2009		<p>SWGs to gather information and supporting documents on the specific topic identified and submit of background materials to the Secretariat in preparation for the discussion groups under the Open-ended Online Expert Forum on Risk Assessment and Risk Management, including:</p> <ul style="list-style-type: none"> a. Initial outline of the guidance documents; b. Initial bibliography on the topics; and c. Questions to be put forward to the discussion groups in the Open-ended Online Expert Forum on Risk Assessment and Risk Management.
27 May 2009	Deadline for submission of comments to the SWG chair.	
8 June 2009	<p>Deadline for submission of background materials to the Secretariat in preparation for the discussion groups under the Open-ended Online Expert Forum on Risk Assessment and Risk Management. The background materials may include:</p> <ul style="list-style-type: none"> a. Introduction to the work of the SWG; b. Advance draft of the roadmap; and c. Questions to be put forward to the discussion group. 	
22 June – 6 July 2009	SWG to participate along with other experts of the Online Forum in the discussion groups organized by the Secretariat for the preparation of the roadmap testing and on the specific topics	
7 – 31 July 2009	SWG to develop the operational details of the testing phase by the SWG.	
7 July – end-August 2009		SWGs to incorporate the suggestions made in the discussion groups and prepare a preliminary draft of the guidance documents.
31 July 2009	SWG Chair to submit the operational details of the testing phase to the AHTEG Chair.	

Dates	Sub-working Group on Roadmap	Sub-working Groups on Specific Topics (abiotic stress, mosquitoes and stacked genes)
31 August	SWG Chairs to submit a progress report to the AHTEG Chair and agree on a date to schedule a teleconference or face-to-face meeting, pending availability of funds, with the view to scheduling an event (e.g. real-time conference) with the whole AHTEG to (i) discuss the progress of the SWGs; (ii) adjust the action plan as needed; and (iii) where not yet in place, review a process for the inclusion of additional experts and follow-up of the work.	
October – November 2009		Second round of discussion groups on the specific topics followed by further drafting based on the contributions made in the discussion groups (tentative).
October 2009	Launching of the testing phase and, pending availability of funds, face-to-face meeting of the SWG.	
Mid January 2010	A final report on the work of the SWGs, including the guidance materials developed, will be submitted by the Chairs of the SWGs to the AHTEG Chair by mid-January 2010 in order to make it available to the regional real-time online conferences organized by the Secretariat.	
February 2010	Participation to the regional real-time online conferences organized by the Secretariat, prior to the second AHTEG meeting.	
April 2010	Second meeting of the AHTEG (tentative date).	

Note: Real-time online conferences and online discussion groups may be freely used by the AHTEG or by the Sub-working Groups through the BCH. Opportunities for teleconference or limited face to face meetings may be discussed with the Secretariat.

C. Monitoring and review plan

Based on the progress reports of the SWGs, the Bureau will review the action plan, and may adjust the activities and timelines, as appropriate. This is to ensure that the expected outcomes set out in the terms of reference of the AHTEG are met.

Annex IV
LIST OF PARTICIPANTS

A. Parties

Austria

1. Dr. Helmut Gaugitsch
Head of Unit
Landuse & Biosafety
Federal Environment Agency
Spittelauer Lände 5
Vienna A-1090
Austria
Tel.: +43 1 31 304 3133
Fax: +43 1 31 304 3700
E-Mail: helmut.gaugitsch@umweltbundesamt.at
Web: <http://www.umweltbundesamt.at>

Belize

2. Dr. Michael DeShield
Director
Food Safety Services
Belize Agricultural Health Authority
Central Investigation Laboratory
P.O. Box 181
Belize City
Belize
Tel.: +501 224 4794
Fax: +501 224 5230
E-Mail: foodsafety@btl.net, deshield@btl.net

Brazil

3. Dr. Eliana Maria Gouveia Fontes
Senior Scientist
Biological Control Unit /Ecology,
Semiocemicals & Biosafety
Laboratory
EMBRAPA-Cenargen
C.P. 02372
Brasilia, DF 71.510-230
Brazil
Tel.: +55 61 448 4793
Fax: +55 61 3448 4672
E-Mail: eliana@cnpq.br,
efontex551@gmail.com

China

4. Mr. Wei Wei
Institute of Botany
Chinese Academy of Sciences
20 Nanxincun, Xiangshan
Beijing 100093
China
Tel.: +86 10 6283 6275
Fax: +86 10 8259 6146
E-Mail: weiwei@ibcas.ac.cn

Croatia

5. Ms. Jelena Zafran Novak
Expert
Laboratory for GMO Detection
Croatian National Institute of Public Health
Rockefellerova 7
Zagreb 10000
Croatia
Tel.: +385 1 4863207
Fax: +385 91 8996420
E-Mail: j.zafran-novak@hzjz.hr

Cuba

6. Prof. Leticia Pastor Chirino
Head
Department of Authorizations
National Centre for Biological Safety
Edif. 70c, apto 3. Zona 6 Alamar
Habana del este Ciudad Habana
Cuba
Tel.: +537 765 1202
Fax: +537 202 3255
E-Mail: leticiach@orasan.co.cu,
lpch06@yahoo.es

Egypt

7. Mr. Ossama Abdel-Kawy
Science Advisor
Egyptian Environmental Affairs Agency
11 Latif Street, El-Haram, El-Giza
Giza 12551
Egypt
Tel.: +20117771516
E-Mail: elkawyo@gmail.com,
abdkawyo@yahoo.com

Germany

8. Dr. Beatrix Tappeser
Head of Division
Biosafety, GMO Regulation
Federal Agency for Nature Conservation
Konstantinstr. 110
Bonn D-53179
Germany
Tel.: +49 228 8491 1860
Fax: +49 227 8491 1869
E-Mail: TappeserB@bfm.de

Japan

9. Prof. Kazuo Watanabe
Professor, Plant Genetic Diversity, Biosafety and
Bioethics
Gene Research Center, University of Tsukuba
Ministry of Education, Culture, Sports, Science
and Technology
1-1-1 Tennoudai
Tsukuba
Ibaraki 305-8572
Japan
Tel.: +81 29 853 4663
Fax: +81 29 853 7723
E-Mail: nabechan@gene.tsukuba.ac.jp

Malaysia

10. Dr. Chan Kok Gan
Senior Lecturer, Genetics & Molecular Biology
Faculty of Science
University of Malaya
Kuala Lumpur 50603
Malaysia
Tel.: +603 7967 5162
Fax: +603 7967 4509
E-Mail: kokgan@um.edu.my
11. Dr. Vilasini Pillai
National Project Coordinator
Conservation and Environmental Management
Division
Ministry of Natural Resources and Environment
Level 2, Podium 2, No. 25, Persiaran Perdana,
Precinct 4
Wisma Sumber Asli
Putrajaya 62574
Malaysia
Tel.: +6 03 88861740
Fax: +6 03 8888 4473
E-Mail: vila@nre.gov.my

Mexico

12. Dra. Sol Ortiz Garcia
Technical Director Public Policies and
Regulation
Comisión Intersecretarial de Bioseguridad de los
Organismos
Genéticamente Modificados
San Borja
938, esquina Heriberto Frías, Colonia del Valle,
Delegación Benito Juárez
México D.F. Distrito Federal - 03100
Mexico
Tel.: +52 55 5575 7618 ext 22
Fax: +52 55 5575 7618 ext 30
E-Mail: sortiz@conacyt.mx,
solortiz@conacyt.mx

Netherlands

13. Dr. Hans Bergmans
Senior Scientist
SEC/GMO Office
National Institute of Public Health and
Environment
Antonie van Leeuwenhoeklaan 9, PO Box 1
Bilthoven 3720 BA
Netherlands
Tel.: +31 30 274 4195, +6 20 737792
Fax: +31 30 2744401
E-Mail: hans.bergmans@rivm.nl

Niger

14. Mr. Gado Zaki Mahaman
Direction Générale de l'Environnement et des
Eaux et Forêts
P.O. Box 721
Niamey
Niger
Tel.: + 22796110415, +22720723755
Fax: +227 20723763
E-Mail: mahamane_gado@yahoo.fr

Nigeria

15. Mr. Rufus Ebegba
Chief Environmental Scientist
Federal Ministry of Environment
Independence Way (South)
Central Area, P.M.B. 468
Garki-Abuja
Nigeria
Tel.: +234 803 314 7778
Fax: +234 9 523 4119
E-Mail: rebegba@hotmail.com

Norway

16. Dr. David Quist
Senior Scientist
Genome Ecology Section
GenØk – Centre for Biosafety
Science Park, PO 6418
Tromsø N-9294
Norway
Tel.: +47 77 646294
Fax: +47 77 646100
E-Mail: david.quist@uit.no

Republic of Moldova

17. Dr. Angela Lozan
Head of the Biosafety Office
Ministry of Ecology and Natural Resources
Str. Cosmonautilor 9, Bir 526
Chisinau
Republic of Moldova
Tel.: +373 22 22 68 74
Fax: +373 22 22 68 74
E-Mail: angelalozan@yahoo.com

Slovenia

18. Dr. Branka Javornik
National Expert - Professor of Genetics &
Biotechnology
Department of Agronomy, Biotechnical Faculty
University of Ljubljana
Jamnibarjeva 101
Ljubljana 1000
Slovenia
Tel.: +3861 423 1161
Fax: +3861 423 1088
E-Mail: branka.javornik@bf.uni-lj.si

B. Non-Parties

Australia

19. Dr. Paul Keese
Science Advisor
Office of the Gene Technology Regulator
Department of Health and Ageing
MDP 54, GPO Box 9848
Canberra ACT 2601
Australia
Tel.: +61 2 6271 4254
Fax: +61 2 6271 4202
E-Mail: paul.keese@health.gov.au

Canada

20. Mr. Philip Macdonald
National Manager
Plant and Biotechnology Risk Assessment Unit
Canadian Food Inspection Agency
1400 Merivale Rd
Ottawa, ON K1A 0Y9
Canada
Tel.: +613 773 5288
Fax: +613 773 5391
E-Mail: philip.macdonald@inspection.gc.ca

United States of America

21. Mr. David Heron
Assistant Director Policy Coordination,
Biotechnology Regulatory
Services
Animal and Plant Health Inspection Service (APHIS)
United States Department of Agriculture
4700 River Road
Riverdale MD 20737
United States of America
Tel.: +1 301 734 5295
Fax: +1 301 734 3135
E-Mail: david.s.heron@aphis.usda.gov

C. Non-Governmental Organizations

Federation of German Scientists

22. Dr. Ricarda Steinbrecher
Working group member
Working Group on Agriculture & Biodiversity - incl.
Biotechnology and Biosafety
Federation of German Scientists
P.O. Box 1455
Oxford Oxfordshire OX4 9BS
United Kingdom of Great Britain and Northern
Ireland
Tel.: +44 1 865 725 194
E-Mail: r.steinbrecher@vdw-ev.de,
r.steinbrecher@gn.apc.org

Public Research and Regulation Initiative

23. Dr. Piet van der Meer
Executive Secretary
Public Research and Regulation Initiative
c/o Horizons sprl
Rue d'Alaumont 16
Lasne B-1380
Belgium
Tel.: +32 2 652 1240
Fax: +32 2 652 3570
E-Mail: pietvandermeer@cs.com

D. Business

Bayer Cropscience

24. Ms. Esmeralda Prat
Global Biosafety Manager
Regulatory Affairs
Bayer Cropscience
c/o Bayer Cropscience
Technologiepark 38
Gent B-9052
Belgium
Tel.: +32 9 243 0419
Fax: +32 9 224 0694
E-Mail: esmeralda.prat@bayercropscience.com

Monsanto Co.

25. Dr. Thomas Nickson
Regulatory Environmental Policy
Monsanto Co.
800 North Lindbergh Boulevard
Saint Louis Mo 63167
United States of America
Tel.: +314 694 2179
Fax: +314 694 2074
E-Mail: thomas.nickson@monsanto.com
Web: <http://www.monsanto.com>

E. Education/University

University of Canterbury

26. Prof. Jack Heinemann
Director, Centre for Integrated Research on Biosafety
School of Biological Sciences
University of Canterbury
Private Bag 4800
Christchurch 8020
New Zealand
Tel.: +643 364 2500
Fax: +643 364 2590
E-Mail: jack.heinemann@canterbury.ac.nz
