



## Convention on Biological Diversity

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### AFRICAN REGIONAL TRAINING OF TRAINERS WORKSHOP ON THE IDENTIFICATION AND DOCUMENTATION OF LIVING MODIFIED ORGANISMS

Bamako, 14-18 September 2009

## REPORT OF THE WORKSHOP

### INTRODUCTION

1. The African Regional Training of Trainers Workshop on the Identification and Documentation of Living Modified Organisms (LMOs) was held in Bamako, from 14 to 18 September 2009. The workshop was hosted by the Government of Mali at the University of Bamako and was funded by the European Commission and the West African Economic and Monetary Union (WEAMU).
2. The workshop was attended by 36 participants from 22 countries and 6 organizations that are involved in the identification and documentation of living modified organisms.
3. Participants from the following countries were represented: Benin, Cameroon, Central African Republic, Chad, Comoros, Cote d'Ivoire, Democratic Republic of the Congo, Djibouti, Ethiopia, Ghana, Guinea, Kenya, Liberia, Madagascar, Malawi, Mali, Nigeria, Senegal, Sudan, Togo, Uganda and Zambia.
4. The following organizations attended: African Union Commission and WEAMU.
5. Seven resource persons from the following organizations facilitated the workshop: *Centre Régional de la Convention de Bâle pour les Pays Francophones d'Afrique* (representing the Green Customs Initiative), the International Grain Trade Coalition, the University of Bamako, the University of the Free State (South Africa) and the Secretariat of the Convention on Biological Diversity.
6. The objectives of the workshop were to introduce customs officers to:
  - (a) The requirements of the Cartagena Protocol on Biosafety regarding the identification and documentation of LMOs and their role in enforcing those requirements;
  - (b) Techniques and methodologies that may be used for the implementation of these requirements, in particular the sampling of shipments and the detection of living modified organisms; and
  - (c) Activities and experiences of the Green Customs Initiative.

### ITEM I. OPENING OF THE WORKSHOP

7. The workshop was officially opened by M. Cheickné Sidibe, *Technical Advisor on Biosafety at the Ministry of Environment and Sanitation* of Mali. M. Sidibe thanked the Secretariat for holding the

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workshop in Mali and also the European Commission for its generous financial contribution towards the organization of the workshop. He noted that Mali had ratified both the Convention on Biological Diversity and the Cartagena Protocol on Biosafety in 1995 and 2003, respectively. He stated that the programme for the workshop attested to the relevance and usefulness of the training at a time when the adoption of modern biotechnology had become increasingly important in the face of growing food insecurity in Africa. He remarked that at the same time, however, it was imperative to take measures before the introduction of this new technology in order to prevent and manage the risks arising from its application and to build the capacity of researchers, regulators and customs officers in different countries. M. Sidibe noted that a number of measures were ongoing in Africa and West Africa in particular, for the rapid development of modern biotechnology. Those include efforts by WEAMU, the Economic Community of West African States (ECOWAS) and the Permanent Interstate Committee on Drought Control in the Sahel (CILSS) to put in place biosafety frameworks for the respective member countries, aligned with the provisions of the Biosafety Protocol.

8. M. Amadou Diallo, Rector of the University of Bamako, welcomed the participants to the University and assured them that the University's facilities were at their disposal. He noted that the University had a well-equipped Laboratory of Applied Molecular Biology within the Faculty of Science and Technology.

9. Mr. Charles Gbedemah, on behalf of Mr. Ahmed Djoghla, the Executive Secretary of the Convention on Biological Diversity (CBD), in his opening remarks, noted the decisions by the Conference of the Parties serving as the meeting of the Parties to the Cartagena Protocol on Biosafety (COP-MOP) which called for capacity-building to assist developing countries to implement the requirements for documentation and identification of living modified organisms under the Protocol. He outlined the main topics to be covered during the workshop and the expected outcomes. He expressed hope that the workshop would enhance the technical knowledge and skills of the participants and facilitate the exchange of national experiences on the implementation of the identification and documentation requirements of the Protocol. He further urged the participants, as personnel working in the field, to share their experiences so that their ideas could facilitate the work of the Parties in implementing the Protocol. Mr. Gbedemah thanked the European Commission for its generous financial contribution towards the workshop and the WEAMU Biosafety Programme for sponsoring some of the participants. He recognized the role of Ms. Zourata Lompo of WEAMU in organizing the travel of the participants from the WEAMU region. Furthermore, he expressed the appreciation of the Secretariat to the Government of Mali and the University of Bamako for hosting the workshop and providing the excellent meeting and laboratory facilities. In particular, he noted the contributions made by Mr. Mouhamadu Traoré, the national focal point for Mali, and M. Ousmane Koita, Head of the Laboratory of Applied Molecular Biology, in facilitating the organization of the workshop.

## **ITEM 2. OVERVIEW OF THE OBJECTIVES AND PROGRAMME FOR THE WORKSHOP**

10. Ms. Kathryn Garforth from the Secretariat of the Convention on Biological Diversity introduced the objectives for the workshop and provided an overview of the different sessions. She invited participants to make brief statements about their familiarity with the Cartagena Protocol on Biosafety as well as their expectations for the workshop.

## **ITEM 3. INTRODUCTION TO THE PROTOCOL AND ITS ELEMENTS RELATING TO THE IDENTIFICATION AND DOCUMENTATION REQUIREMENTS FOR SHIPMENTS OF LIVING MODIFIED ORGANISMS**

11. Two presentations were made under this item. The first, entitled "Introduction to the Cartagena Protocol on Biosafety", was made by Mr. Erie Tamale from the Secretariat of the Convention on Biological Diversity. Mr. Tamale provided brief background information on the Protocol and its relationship with the Convention on Biological Diversity and other international instruments that deal

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with living modified organisms. He described the objective of the Protocol and some of the concerns it was designed to address. He discussed the scope of the Protocol, the different categories of living modified organisms under the Protocol, the different procedures for the transboundary movement of different categories of LMOs and other provisions of the Protocol intended to foster the safe transfer, handling and use of LMOs.

12. The second presentation, entitled “Cartagena Protocol on Biosafety: Identification and Documentation of Shipments of Living Modified Organisms”, was delivered by Ms. Garforth. In her presentation, Ms. Garforth pointed out the requirements for the handling, transport, packaging and identification of LMOs as set out in Article 18 of the Protocol and provided some introduction and context to the Article. She outlined the main types of transboundary movements of LMOs under the Protocol: intentional, unintentional and illegal transboundary movements. In the context of intentional transboundary movements, she underlined that the Protocol has different requirements for the information to be contained in documentation that is to accompany shipments of LMOs intended for direct use as food or feed, or for processing, LMOs for contained use and LMOs for intentional introduction into the environment. She outlined the specific information requirements contained in the Protocol with their related decisions of the Parties to the protocol and discussed where to find information on LMOs in shipping documentation. She also provided an overview of unique identifiers for transgenic plants and described how those could be used to search the Biosafety Clearing-House (BCH) for further information. Finally, Ms. Garforth noted possible situations that could constitute unintentional transboundary movements of LMOs and highlighted how an illegal transboundary movement was a transboundary movement carried out in contravention of domestic measures to implement the Protocol.

#### **ITEM 4. ROLE OF CUSTOMS OFFICIALS IN IMPLEMENTING THE PROTOCOL**

13. Under this item, Mr. Tamale made a presentation on the role of customs officials in implementing the Protocol. He said that for the note of customs officers to be effective, the officers needed to know what information to look for and why such information was important, where to find the information and who to contact for specialized assistance. He described the following five key roles and responsibilities of customs officers: (i) ensuring that LMO imports and exports had proper approvals before they were cleared; (ii) ensuring that LMO shipments are accompanied with appropriate documentation; (iii) inspecting incoming shipments of LMOs to verify the actual content and cross-check them against the accompanying documentation; (iv) detecting illegal or unintentional transboundary movements; and (v) reporting to relevant authorities information concerning shipments of LMOs arriving at the ports of entry.

#### **ITEM 5. DOCUMENTATION ACCOMPANYING SHIPMENTS OF LIVING MODIFIED ORGANISMS**

##### ***5.1. Case-studies on existing documentation systems***

14. Under this item, Ms. Teresa Babuscio from the International Grain Trade Coalition (IGTC) gave a presentation entitled “Documentation Accompanying Food/Feed/Processing Shipments of Living Modified Organisms”. Ms. Babuscio provided a brief background to the IGTC and discussed its current goal to minimize disruptions in the international trade of grain, oilseeds and pulses and derived products. She noted that IGTC has more than 8,000 members in 80 countries. She described the size and scope of the international grain industry and the bulk grain handling systems, from farmer to processor. She noted that most transboundary movements of grain used for food or feed, or for processing were shipped in bulk rather than in bags or other packaging. She further noted that it was impossible to keep varieties totally separate in a bulk handling system. Ms. Babuscio described the role of identity preservation systems in providing tighter tolerance levels than could be provided in normal bulk grain shipments but noted that they would not provide zero tolerance. She stated that identity preservation must start at the farm level and should be maintained as the commodity moved through the handling and transportation system to the market.

15. Ms. Babuscio also described international commercial grain transactions. She stated that negotiations between the exporter and importer, which normally began three to six months before the shipment, involve agreement on the commodity to be shipped, its quality and quantity, the price, payment terms and the shipping terms. She noted that the commercial invoice is the only document that currently accompanies all transboundary shipments. In this regard, she said the IGTC supports the position that any identification information that is to accompany shipments of LMO, as required in Article 18.2 of the Protocol, should be incorporated into the invoice. She noted that there were also a number of other rules, at both the national and international level, that shippers must comply with for the transboundary movements of goods.

16. Ms. Babuscio reviewed the handling, transport, packaging and identification requirements of Article 18 of the Biosafety Protocol and the associated decisions from the Parties to the Protocol and highlighted the IGTC Notice to Trade #7 that had been issued after the decision on paragraph 2(a) of Article 18 of the Protocol was taken at the third meeting of the Parties to the Protocol, in 2006. She provided examples of how the information requirements of the Protocol had been integrated into commercial invoices. Ms. Babuscio concluded that additional documentation requirements would result in significantly higher costs in the bulk commodity handling system, which would endanger food security primarily in food-importing developing countries.

17. Participants welcomed the presentation. During the discussions, it was clarified that the companies that are members of the IGTC are only shippers and not the developers of transgenic organisms. The participants also took note of the fact that the shippers rely on the decisions of national authorities concerning LMOs intended for direct use as food or feed, or for processing that can be imported into a specific country and that the shippers are not involved in the preparation of risk assessment dossiers.

## **5.2. *National experiences in implementing documentation requirements***

18. Prior to attending the workshop, participants had been invited to prepare short presentations on “The current status and experiences gained with the identification and documentation of living modified organisms” in their respective countries. The presentations were to highlight:

- The current status of implementation of the identification and documentation requirements in their respective countries, including existing provisions in national regulatory and/or administrative frameworks on the documentation that must accompany imports of LMOs, examples of the existing documentation systems, existing initiatives and facilities for identification of LMOs, etc;
- Experience gained, if any, with the identification of LMOs and the use of existing documentation systems to fulfil requirements for the identification of shipments of LMOs for import;
- The difficulties/challenges encountered;
- The specific capacity-building needs and priorities; and
- Recommendations for improving the national implementation of the requirements for the identification and documentation of LMOs.

19. Under this item, the participants from the following countries made presentations on their national situations and experiences: Benin, Cameroon, Central African Republic, Chad, Comoros, Côte d’Ivoire, Democratic Republic of the Congo, Djibouti, Ethiopia, Ghana, Guinea, Kenya, Liberia, Madagascar, Malawi, Mali, Nigeria, Senegal, Sudan, Togo, Uganda and Zambia.

**ITEM 6. SAMPLING AND DETECTION OF LIVING MODIFIED ORGANISMS****6.1. Introduction and overview**

20. Under this agenda item, Ms. Gerda Marx from the University of the Free State, South Africa, made a presentation on “Sampling and Detection of LMOs”. She introduced the participants to cell biology and genetics and also described the process of making a living modified organism, including DNA extraction, gene cloning, gene design, gene transformation and backcross breeding. She also discussed the circumstances under which one might need to conduct testing to detect LMOs.

21. In the second part of her presentation, Ms. Marx described the basic sampling techniques with specific reference to the International Organization for Standardization’s draft international standard ISO/DIS 21568 on “Foodstuffs – Methods of analysis for the detection of genetically modified organisms and derived products – Sampling”. She described the steps involved in sampling for the detection of LMOs, the necessary sample size, and the different techniques for sampling with regards to the different types of packaging (i.e., sampling from bags versus sampling bulk lots in rail or road wagons, trucks, barges or ships). She noted the importance of sampling methods in obtaining representative samples from shipments as the basis for effective testing and detection.

22. In the third part of the presentation, Ms. Marx described the following three methods for the detection of LMOs: (i) the detection of proteins through strip tests; (ii) the enzyme-linked immunosorbent assay (ELISA) method of protein detection and (iii) the detection of specific sequences of DNA through the use of polymerase chain reaction (PCR). She pointed out that the more an organism or product was processed, the greater the degradation of its proteins, but noted that proteins degrade more easily with processing than DNA.

23. Ms. Marx noted that lateral flow strip tests were normally used to determine the qualitative presence of a protein in a sample. She pointed out, however, that different strip tests had different limits of detection for different proteins. Ms. Marx further noted that the ELISA method for protein testing could provide both qualitative and quantitative information. She described the advantages of LMO detection through testing for proteins and noted that the tests, especially in the case of lateral flow strip tests, could be quick and easy and involve simple technological requirements. The disadvantages included the following: (i) the technique could not be used to detect all GMOs; (ii) the investigator must rely on the commercial availability of tests for detecting the proteins; and (iii) the technique could not be used for processed products.

24. Ms. Marx also described the DNA-based detection methods, which can take the form of gene-specific detection or event-specific detection. She described PCR methods, i.e. qualitative PCR and real-time quantitative PCR and how the technique was used. She noted that one of the advantages of DNA-based testing was that it could be used for detection of both unprocessed and processed foods. Its disadvantages included the fact that it is technology intensive and requires specialized training and methods.

25. Ms. Marx concluded her presentation by discussing different types of LMOs and the different resources for accessing information on specific LMOs, including the Biosafety Clearing-House and the Agbios GM Database. She noted the difficulties caused by asynchronous approvals of LMOs, i.e. LMOs that had been approved for use in one country but not in another. She also described the incidents of Liberty Link Rice 601 and StarLink Maize where LMOs unapproved for human consumption had entered the food chain. She also noted the different thresholds set by countries in their requirements for the labelling of genetically modified organisms and products thereof.

26. The participants expressed their appreciation to Ms. Marx for her presentation and posed a number of questions concerning sampling, the different detection techniques and asynchronous approvals for further clarification. They also inquired about the possibility of countries standardizing their threshold levels and were informed that that seemed unlikely to occur in the near future.

## 6.2. Laboratory exercises

27. During this session, the participants visited the Applied Molecular Biology Laboratory at the University of Bamako. They were taken on a tour of the facilities by Mr. Ousmane Koita, the resident researcher. Ms. Marx led the participants through a practical exercise to detect LMOs using lateral flow strip tests. The participants worked in teams of two to test samples of ground maize to determine whether or not they contained Roundup Ready maize and/or Cry1Ab Bt endotoxins.

28. The participants were also shown how to interpret the information on the strip: if just one line appeared on the strip, then the target protein had not been detected in the sample; if both the control line and the test line appeared then the target protein had been detected. If no lines appeared on the strip, then the test had failed and did not indicate one way or the other whether the target protein was present in the sample.

## 6.3. Results from sampling and detection

29. Under this item, Ms. Marx discussed the results that the participants had obtained from their lateral flow strip tests. She also described the testing and detection work done by the GMO Testing Facility at the University of the Free State and the information it provides in its reports to clients.

## ITEM 7. FIELD STUDY VISIT

30. Due to logistical difficulties, the field trip was cancelled.

## ITEM 8. EXPERIENCES OF THE GREEN CUSTOMS INITIATIVE

31. Under this item, Mr. Michel Seck from the *Centre Régional de la Convention de Bâle pour les Pays Francophones d'Afrique* made three presentations related to the Green Customs Initiative. The first presentation provided an overview of the Basel Convention on the Transboundary Movements of Hazardous Wastes and Their Disposal, the Stockholm Convention on Persistent Organic Pollutants and the Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade, all of which are partners in the Green Customs Initiative. The goals of this presentation were to present the three conventions, emphasize their common aspects and underline the possibilities for their integrated implementation. Mr. Seck discussed the objectives of the three conventions, their respective scopes, their key provisions and existing tools to support their implementation. He described the areas where the implementation of the three conventions might be integrated, namely a framework for lifecycle management for dangerous chemicals, the chemical products covered by the three conventions, the regulatory framework, the control of imports and exports, waste management and hazard communication. Finally, he mentioned the efforts at synergies among the three conventions that have been taken by their respective governing bodies.

32. The second presentation was an "Introduction to the Green Customs Initiative". In the presentation, M. Seck examined the approach of the Green Customs Initiative, its objective, the different partners and its activities. He stated that the objective of the Green Customs Initiative is to prevent illegal trade in environmentally-sensitive commodities covered by the different international agreements while facilitating the legal trade in these goods. The partners in the Green Customs Initiative are the secretariats of the Convention on International Trade in Endangered Species of Wild Fauna and Flora, the Montreal Protocol on Substances that Deplete the Ozone Layer, the Basel Convention, the Stockholm Convention, the Rotterdam Convention, the Cartagena Protocol on Biosafety as well as the Organization for the Prohibition of Chemical Weapons, the United Nations Environment Programme's Division of Environmental Law and Conventions and Division of Technology, Industry and Economics, the World Customs Organization, Interpol and the United Nations Office on Drugs and Crime. He noted that the activities of the Green Customs Initiative to date have included Green Customs training workshops at the national and regional levels and the production of the "Green Customs Guide to Multilateral Environmental Agreements".

33. M. Seck's third presentation examined the role of customs in the enforcement of multilateral environmental agreements (MEAs). He discussed the compliance with and enforcement of multilateral

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environmental agreements, the role, and the tools available to customs officers, for the implementation of MEAs. He noted that the Green Customs Initiative allowed for a coordinated approach to the training of customs officers. He stated that the role of customs officers was to regulate legal trade and to detect and intercept illegal trade. He summarized the tasks of customs officers in relation to MEAs, including verifying the validity of shipping documents, ensuring that the documents corresponded to the goods being shipped and assessing and collecting customs duties and taxes. To carry out those tasks, customs officers should familiarize themselves with current rules and legislation, identify the goods to be monitored and communicate continuously with the relevant national authorities. He also remarked that customs officers were one link in the chain of the implementation of MEAs, a chain that also included prosecutors, judges, focal points of the MEAs, parliamentarians and environmental inspectors. He noted a number of potential impacts that customs officers could have including, ultimately, the protection of human health and the environment. Finally, he presented a number of tools available to customs officers, including the Green Customs Guide, the website of the Green Customs Initiative and a UNEP “Manual on Compliance with and Enforcement of Multilateral Environmental Agreements”.

34. In the ensuing discussion, a number of participants noted the important role of customs in the protection of the environment and human health. Some participants were of the view that Governments had traditionally seen customs authorities as an avenue for revenue collection so undertaking other activities beyond that mandate could be challenging; nonetheless, a majority of participants felt that the protection of the environment and human health was a role that should be taken up by customs authorities and officers.

#### **ITEM 9. THE WAY FORWARD: NEXT STEPS FOR CONTINUED COLLABORATION AND EXCHANGE OF INFORMATION**

35. Under this item, participants were invited to prepare national action plans for activities they intended to undertake with the lessons learned during the workshop when back in their countries. Each national representative presented his or her national action plan, which was discussed by the group.

36. The participants also worked in two groups (Francophone and Anglophone) to develop recommendations on the way forward after the training. They discussed specific actions to be undertaken at subregional and regional levels, including collaboration and sharing of experiences, information and expertise. These recommendations were then presented to the entire group.

#### **ITEM 10. CONSIDERATION OF THE CONCLUSIONS OF THE WORKSHOP**

37. During the last plenary session of the workshop, the participants discussed the reports from the small discussion groups and agreed on a set of recommendations on the way forward. The recommendations were divided into four broad categories:

- (a) Promotion of the proper legal and institutional framework for the cooperation of customs administrations in the region;
- (b) Implementation at the national and subregional levels of awareness campaigns and policies for capacity-building for actors involved in the implementation of the Protocol;
- (c) Addressing knowledge gaps among customs officers on biosafety in general and the Cartagena Protocol on Biosafety in particular; and
- (d) Promoting information-sharing within each country and among states on biosafety management.

38. Under the first category, the participants recommended the following action points from the legal point of view:

- (a) Put in place a multilateral or bilateral framework for customs cooperation for the implementation of multilateral environmental agreements in general and the Cartagena Protocol on Biosafety in particular;

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(b) Promote the exchange of information between customs administrations of neighbouring countries through, in particular, the signature of bilateral cooperation agreements to permit border officials to control the flow of targeted goods and shipments that could contain LMOs;

(c) Encourage African States to ratify the Biosafety Protocol and develop the legal instruments necessary for its implementation; and

(d) Encourage countries to work towards adopting the African Union Model Law on Biosafety as a standard framework to ensure harmony throughout Africa in policy on and implementation of biosafety. Prior to this being achieved, regional groupings such as the Southern African Development Community (SADC) and ECOWAS may serve as important channels for states to streamline biosafety issues.

39. Also under the first category, the following recommendations were made from the institutional point of view:

(a) Involve representatives of customs administrations in national biosafety committees and processes in order to bring an integrated approach to the issue of LMOs at the national and subregional levels;

(b) Network the Biosafety Protocol national focal points through a regional office to facilitate the integrated management of questions related to the transboundary movements of LMOs, their documentation and identification;

(c) Create, at the subregional level, a monitoring structure for the recommendations generated by this workshop;

(d) Help in the creation of regional or subregional laboratories for research focused on LMOs; and

(e) Take into account the issue of LMOs, their detection and traceability in national systems of customs risk management.

40. Under the second category - on the implementation at the national and subregional levels of awareness campaigns and policies for capacity-building for actors involved in the implementation of the Protocol - the following action points were recommended:

(a) Organize training workshops on the identification and documentation of LMOs for customs authorities in the different subregions of Africa;

(b) Organize training seminars on the use of the BCH Central Portal for researching relevant information on LMOs and on the requirements of the Green Customs Guide; and

(c) Strengthen customs administrations in their means of detecting and controlling the transboundary movements of LMOs.

41. With regard to knowledge gaps among customs officers on biosafety in general and the Cartagena Protocol on Biosafety in particular, the following actions were recommended:

(a) Undertake training and other capacity-building activities for customs at the regional level; and

(b) Work towards the establishment of regional laboratories on biosafety (to help those who have not developed theirs).

42. Under the fourth category, regarding the need for information sharing within each country and among States on biosafety management, the participants recommended the following action points for the region:

(a) Each country within the region should place customs at the centre of the national biosafety committees and processes;



(b) Establish contact persons within national customs authorities who will gather and communicate information on biosafety issues at the national and regional levels;

(c) Take advantage of the Customs Enforcement Network within the World Customs Organization to enhance information sharing among members in the regions and across Africa; and

(d) Promote the exchange of information between customs administrations of neighbouring countries through establishment of a customs network on biosafety.

43. Participants undertook an evaluation exercise on the workshop at the end of this session. The results of the evaluation are reported in annex I.

#### **ITEM 11. CLOSURE OF THE WORKSHOP**

44. Mr. Gbedemah from the Secretariat of the Convention on Biological Diversity thanked the Government of Mali and the University of Bamako for hosting the workshop and providing the excellent facilities that had been used by the participants over the course of the week. He also thanked the participants for their contributions to the workshop and he looked forward to future workshops on this issue in the region.

45. Mr. Sidibe from the Mali Ministry of Environment and Sanitation noted the interest of the participants in the discussions throughout the workshop, which demonstrated their commitment in the issue of biosafety. He stated his conviction that the workshop had permitted the participants to understand the urgent need for regulations on the prevention and management of risks arising from the use of modern biotechnology prior to the introduction of LMOs. He invited participants to share the knowledge gained during the workshop with their colleagues once they returned to their countries.

46. The workshop was closed at 3.30 p.m. on Friday, 18 September 2009.

*Annex I*

**WORKSHOP EVALUATION**

1. At the end of the workshop, participants were asked to complete a workshop evaluation form. They were asked to rate, on a scale of 1 to 6, the extent to which the workshop had improved their understanding of: (a) the Cartagena Protocol on Biosafety, (b) the role of customs officers in implementing the Protocol; (c) documentation and identification requirements under the Protocol; (d) existing practices in shipments of bulk grains; (e) the process of sampling and detection (identification) of genetically modified organisms and how to report the results of identification. The participants were also invited to provide an overall assessment of the workshop in terms of how well it was organized and conducted and the extent to which it had met their expectations. The results of the evaluation are summarized in the table below.

*Table 1: Summary of the Workshop Evaluation*

<b>Item</b>	<b>Average Rating (1-6)</b>	<b>Rating</b>	<b>Level of Satisfaction</b>
<b>A. Introduction to identification and documentation on living modified organisms under the Cartagena Protocol on Biosafety</b>			
<i>How useful has the workshop been in:</i>			
(i) Improving your understanding of the Protocol?	5	Very Useful	85%
(ii) Improving your understanding of the role of customs officers under the Protocol?	5	Very Useful	89%
(iii) Improving your understanding of what documentation requirements are under the Protocol?	5	Very Useful	76%
(iv) Improving your understanding of the identification requirements under the Protocol Biosafety?	5	Very Useful	79%
(v) Improving your understanding of the existing practices in shipments of bulk grains?	4	Very Useful	71%
(vi) Improving your understanding of the process of sampling genetically modified organisms (GMOs)?	4	Very Useful	73%
(vii) Improving your understanding of detection of GMOs?	5	Very Useful	82%
(viii) Improving your understanding of how to report the results of identification of GMOs?	4	Very Useful	70%
(ix) Improving your understanding of the Green Customs Initiative?	5	Very Useful	81%
(x) Improving your knowledge of existing practices in other countries?	5	Very Useful	77%
<b>B. Overall workshop assessment:</b>			
(i) Has the workshop met your expectations?	3	Partially	44%
(ii) Has the workshop improved your understanding of how to enforce the identification and documentation requirements of LMOs under the Protocol?	5	To a large extent	83%
(iii) How useful has the workshop been in improving your understanding of how your country could handle a shipment of LMOs?	4	Very Useful	73%

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(iv) How useful was the workshop for you as an individual?	5	Very Useful	86%
(v) How well organised was the workshop?	4	Well organized	67%
(vi) How did you find the balance between presentations and the discussions?	4	Very well balanced	72%
(vii) Overall, how would you rate the workshop?	4	Very Useful	73%
Overall appreciation	5	Very Useful	76%

2. In the written comments, a number of participants considered the following to have been the most helpful parts of the workshop:

(a) The presentation on sampling and detection of LMOs, including the laboratory exercises. Many indicated that the hands-on laboratory exercise to detect LMOs using lateral flow strip tests gave them an opportunity to acquire practical skills they could readily apply in their countries;

(b) The discussions/exchange of national experiences and the presentations by each country of their action plans;

(c) The presentations on the role of customs officers in the implementation of the Protocol and the Green Customs Initiative which encompasses other multilateral environmental agreements; and

(d) The presentation on the Cartagena Protocol on Biosafety and the LMO documentation and identification requirements under the Protocol.

3. A few participants considered the following to be least helpful about the workshop:

(a) Some of the aspects of International Grain Trade Coalition presentation which were not closely related to LMO identification and labelling;

(b) The presentation of the countries' action plans during the workshop, since these would have to be finalized upon return, together with the national focal points; and

(c) The lengthy interventions by some participants often repeating points already made by others.

4. The participants made the following suggestions for improving future workshops:

(a) Copies of all the presentations and other documentation should be available to participants prior to the workshop and in the official languages of the participants;

(b) Didactical support materials (including notepads, pens, books or CD-ROMS) should be made available to participants at the beginning of the training workshop;

(c) The invitations should be sent to participants early enough and should include precise and detailed information on what is expected of participants. As well, documentation should be sent to participants in a timely manner;

(d) Refrain from holding seminars during Ramadan in country where the majority is Muslim;

(e) Lunch breaks should be made longer;

(f) Proper transportation should be made available to move participants to and from workshop venue instead of asking them to use public transport everyday;

(g) The CBD Secretariat should provide support for the local participants as well;

(h) Recreation visits to appropriate sites of the host country should be organized to allow participants to interact;

- (i) These types of workshops should be held on regular basis and should last at least 10 days instead of 5 days;
- (j) The workshop in the future should be organized in such a way that the participants have more time for practical work and sharing of field experiences than the theoretical presentations;
- (k) Personnel from customs, plant quarantine service, immigration department and any other relevant stakeholders should be invited to give talks on their modus operandi and probably in a rotation (on a zonal basis) from Francophone to Anglophone;
- (l) The Government of the host country should actively take part in the workshop;
- (m) Participants should be provided with the LMO testing kits to make demonstrations once they get back to their home countries.

*Annex II*

**WORKSHOP PROGRAMME**

	<b>Plenary</b>
<b>Monday</b> <b>14 September 2009</b> 9.30 a.m. – 10 a.m.	<i>Agenda item:</i> 1. Opening of the workshop.
10 a.m. – 10.30 a.m.	<i>Agenda item:</i> 2. Overview of the objectives and programme for the workshop.
10.30 a.m. – 10.45 a.m.	<b>Coffee/Tea Break</b>
10.45 a.m. – 1 p.m.	<i>Agenda item:</i> 3. Introduction to the Protocol and its elements relating to the identification and documentation requirements for shipments of living modified organisms.
1 p.m. – 2 p.m.	<b>Lunch Break</b>
2 p.m. – 3.30 p.m.	<i>Agenda item:</i> 4. Role of customs officials in implementing the Protocol.
3.30 p.m. – 4 p.m.	<b>Coffee/Tea Break</b>
4 p.m. – 5.30 p.m.	<i>Agenda item:</i> 5. Documentation accompanying shipments of living modified organisms: 5.1 Case-studies on existing documentation systems; 5.2 National experiences in implementing documentation requirements.
<b>Tuesday</b> <b>15 September 2009</b> 9 a.m. – 10.30 a.m.	Agenda item 5 ( <i>continued</i> )
10.30 a.m. – 11 a.m.	<b>Coffee/Tea Break</b>
11 a.m. – 1 p.m.	Agenda item 5 ( <i>continued</i> )
1 p.m. – 2 p.m.	<b>Lunch</b>
2 p.m. – 3.30 p.m.	<i>Agenda item:</i> 6. Sampling and detection of living modified organisms: 6.1 Introduction and overview; 6.2 Laboratory exercises.
3.30 p.m. – 4 p.m.	<b>Coffee/Tea Break</b>
4 p.m. – 5.30 p.m.	Agenda item 6 ( <i>continued</i> )

	Plenary
<b>Wednesday</b> <i>16 September 2009</i> 9 a.m. – 10.30 a.m.	Agenda item 6 ( <i>continued</i> )
<b>10.30 a.m. – 11.00 a.m.</b>	<b>Coffee Break/Tea</b>
11 a.m. – 1 p.m.	Agenda item 6 ( <i>continued</i> )
1 p.m. – 2 p.m.	<b>Lunch</b>
2 p.m. – 3.30 p.m.	Agenda item 6 ( <i>continued</i> ) 6.3 Dealing with results from sampling and detection: national experiences;
3.30 p.m. – 4 p.m.	<b>Coffee/Tea Break</b>
4 p.m. – 5.30 p.m.	Agenda item 6 ( <i>continued</i> )
<b>Thursday</b> <i>17 September 2009</i> <i>9 a.m. – 10.30 a.m.</i>	Agenda item: 8. Experiences of the Green Customs Initiative (GCI) partners
<b>10.30 a.m. – 11.00 a.m.</b>	<b>Coffee Break/Tea</b>
11 a.m. – 1 p.m.	Agenda item 8 ( <i>continued</i> )
1 p.m. – 2 p.m.	<b>Lunch</b>
2 p.m. – 3.30 p.m.	Agenda item: 9. The way forward: next steps for continued collaboration and exchange of information
3.30 p.m. – 4 p.m.	<b>Coffee/Tea Break</b>
4 p.m. – 5.30 p.m.	Agenda item 9 ( <i>continued</i> )
<b>Friday</b> <i>18 September 2009</i> 9 a.m. – 10.30 a.m.	Agenda item: 10. Consideration of the conclusions of the workshop.
<b>10.30 a.m. – 11.00 a.m.</b>	<b>Coffee Break/Tea</b>
11 a.m. – 1 p.m.	Agenda item 10 ( <i>continued</i> )
1 p.m. – 2 p.m.	<b>Lunch</b>
2 p.m. – 3.30 p.m.	Agenda item: 11. Closure of the workshop.

*Annex III*

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