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Объединенных

Organización  
de las  
Naciones Unidas  
para la  
Agricultura y la  
Alimentación

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### Item 3 of the Provisional Agenda

## COMMISSION ON GENETIC RESOURCES FOR FOOD AND AGRICULTURE

### INTERGOVERNMENTAL TECHNICAL WORKING GROUP ON PLANT GENETIC RESOURCES FOR FOOD AND AGRICULTURE

#### Fifth Session

Rome, 27-29 April 2011

### SUMMARY REPORT OF THE REGIONAL CONSULTATIONS FOR UPDATING THE GLOBAL PLAN OF ACTION FOR THE CONSERVATION AND SUSTAINABLE USE OF PLANT GENETIC RESOURCES FOR FOOD AND AGRICULTURE

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## **I. REPORT OF THE REGIONAL CONSULTATION IN EUROPE**

### **A. INTRODUCTION**

1. The Commission on Genetic Resources for Food and Agriculture (Commission), at its Twelfth Regular Session considered updating of the *Global Plan of Action for the Conservation and Sustainable Utilization of Plant Genetic Resources for Food and Agriculture* (GPA). It agreed to update the GPA in accordance with the Strategic Plan 2010-2017 for the implementation of the Multi-Year Programme of Work. The Commission requested FAO to prepare the updated GPA based primarily on the *Second Report on the State of the World's Plant Genetic Resources for Food and Agriculture* (SOW-2), and in particular, on the identified gaps and needs, taking into account further contributions from Governments, as well as inputs received from regional meetings and consultations. It further decided that the updated GPA would be considered at its Thirteenth Regular Session.
2. A regional consultation for Europe was convened in Tirana, Albania, 19 to 20 May, 2010 to consider updating of the GPA. The consultation was organized by the Food and Agriculture Organization of the United Nations (FAO); in collaboration with Bioversity International; SEEDNet; and the Faculty of Agriculture and Environment, Agricultural University of Tirana. The *Agenda* is provided in *Appendix A*. The list of participants is provided in *Appendix B*.
3. The consultation began with welcoming remarks from Mr Stefano Diulgheroff, FAO; Mr Ardian Maci, Faculty of Agriculture and Environment, University of Tirana; Mr Dan Leskien, FAO Commission on Genetic Resources for Food and Agriculture; Mr. Mario Marino, International Treaty on Plant Genetic Resources for Food and Agriculture; Mr Lorenzo Maggioni, Bioversity International; and Ms Eva Thorn, SEEDNet.

### **B. INTRODUCTORY PRESENTATIONS**

4. Ms Barbara Pick, FAO, noted the need to gather inputs and recommendations from all regions in order to update the GPA. She indicated that the objective for the European consultation was to receive inputs and recommendations from representatives of the region on both the content and structure as inputs to updating the GPA. It was noted that while common positions would be helpful in providing advice to FAO, there was no need to achieve consensus among all representatives, and various options would be recorded.
5. Mr Stefano Diulgheroff, first reviewed the process and timeline for preparing the updated GPA. He then provided an overview of the significant changes and challenges in PGRFA conservation and use, as well as gaps and needs identified in the SOW-2 that would be considered in updating the GPA based upon advice received during the regional consultations.
6. Ms Thorn provided a summary overview of gaps and needs for updating of the GPA from the European region perspective. The overview was prepared based on country reports from European countries as part of the process for preparing the SOW-2.
7. During the consultation, participants considered the document, "Updating the *Global Plan of Action for the Conservation and Sustainable Utilization of Plant Genetic Resources for Food and Agriculture*", which *verbatim*, included the current *Global Plan of Action* as well as sections of the SOW-2 that identified changes since the *First Report on the State of the World's Plant Genetic Resources for Food and Agriculture* and gaps and needs. A document containing all sections of the existing GPA except the Priorities Activity areas was also available to assist participants, in particular, to review and comment on the

Introduction, Rationale, Aims and Strategies, Structure and Organizations, and Implementation and Financing sections of the current GPA.

8. Participants reviewed and commented on all sections of the current GPA, and the results of discussions were recorded by an assigned *Rapporteur*.

## C. SUMMARY OF RESULTS

### Review of the Leipzig Declaration and Introduction

9. The Leipzig Declaration was briefly considered by the consultation, as the primary responsibility for replacement of the Declaration rests with the Commission.
10. The consultation suggested that the Bureaus of the Commission and the International Treaty on Plant Genetic Resources for Food and Agriculture (International Treaty) consider the best approach to replacing the Leipzig Declaration, including consideration of a joint draft resolution between the Commission and the Governing Body of the International Treaty.
11. The consultation reviewed the Introduction section of the current GPA (paragraphs 1-6), and provided a number of suggestions for consideration by FAO in updating the GPA, building on the current text. The consultation suggested that in updating the introduction the following be considered in preparing this section:
  - The importance of conveying a sense of the urgency and growing need to achieve global food security and the role of plant genetic resources in attaining this global goal;
  - The need to indicate that rapid changes in production conditions are occurring and the need for farmers to have options for mitigation and adaptation, particularly in light of climate change;
  - The need to highlight the coming into force of the International Treaty since the first GPA, and to indicate the areas for contribution of the GPA in the implementation of the International Treaty as a supporting component;
  - The need to note that the GPA has, and will continue to make a significant contribution to the objectives of the Convention on Biological Diversity (CBD) and its programme of work on Agriculture Biological Diversity. Updating should take note of relevant decisions under the CBD; and
  - The need to indicate the many advancements in science and technology that are increasing the potential to use and conserve plant genetic resources.
12. The consultation indicated the importance of the introduction indicating the changes since the first SOW-2, and the identified gaps and needs. The continuing erosion of plant genetic resources in many regions was suggested to be highlighted, as well as action taken and progress made in the implementation of the GPA - both gaps and needs and progress made. It was stressed that the message of urgency needed to be emphasized, and that the GPA was even more important today and would be in future, than in the past.
13. While in general participants agreed on the need to indicate the essential role of plant genetic resource in providing farmers with options (adaptation and mitigation) in light of climatic changes, some participants noted the need for balance in highlighting climate change, so as not to result in loss of attention to as important other conditions and factors, such as the need to increase production and the need for healthy food. Some participants suggested that the linkages among food security, climate change and biodiversity could provide a useful framework.
14. The consultation suggested a section on the need for and role of the GPA, and the need for its updating, be included in the introductory section. The consultation suggested keeping the current text that describes the process for preparing the GPA, and additional text be added to describe the updating process.

15. Overall, the consultation stressed that the introductory section of the current GPA needed significant improvement, to convey a sense of urgency for action, to make a strong case for having and implementing a GPA, and the important roles of PGR in food and agriculture. It was noted that needs and opportunities and progress made in implementation should be highlighted.
16. Closing discussions led to suggestions that perhaps additional GPA communication products would be useful. An updated detailed GPA would act as it has in past, as an operational planning tool. A shorter version, aimed at high level decision-makers should also be considered aimed at more of a communication product than a planning guide, with key messages to motivate and gain understanding of the essential roles of plant genetic resources and the role of the GPA among senior decision-makers and non-experts, which would assist national, regional and global efforts to conserve and utilize PGR, including mobilization of financial resources.

### **Review of the Rationale Section of the *Global Plan of Action***

17. The consultation reviewed the Rationale section of the current GPA (paragraphs 7(a) – 7(g)) and provided the following suggestions for consideration in updating it.
18. Some participants suggested the need to start with a higher-order rationale statement before the detailed rationale statements contained in paragraphs 7a-7g. Some of the elements of a higher-order rationale statement might include:
  - Plants are the starting point for nearly all food production, capturing of organic matter;
  - Food insecurity and poverty are increasing and PGR can make a greater contribution to their alleviation;
  - The overall rationale for the GPA is to produce more and higher quality food;
  - The urgency to address the loss of PGR has increased as erosion continues reducing options for the agricultural sector; and
  - Science and technologies are resulting in innovations that could potentially improve effects to conserve, use and develop PGR, and these potential applications need further attention and consideration.
19. There was general agreement that most of the existing rationale text should remain but that FAO needed to review it carefully to ensure all text remains current. The consultation provided the following suggestions to modify current text:
  - 7(e) (*PGR for food and agriculture are under-conserved and under-utilized*) should be rewritten to improve clarity and context. Highlight the potential of PGR and rewrite it in a positive manner rather than current negative construct.
  - The last sentence of 7(g) should be rewritten to be stronger (current text: *An agreed GPA could help to focus resources on the priorities, which have been identified at various levels, and increase the overall effectiveness of global efforts.*) (Changed text: *An agreed GPA would ~~could help to~~ focus resources on the priorities, which have been identified at various levels, and increase the overall effectiveness of national, regional and global efforts.*)
  - In 7(b) reference to especially to “food crops”, should be changed to, especially to “*food and feed crops*”. In general when reference is made to food crops it should be **food and feed crops**.
20. The consultation suggested that an additional rationale statement be included to indicate that in part, updating of the GPA is necessary as the GPA is an important supporting component of the International Treaty, and this now needs to be reflected.

### **Review of the Aims and Strategies of the *Global Plan of Action***

21. The consultation reviewed the following main Aims of the GPA (paragraph 9):

- (i) to ensure the conservation of plant genetic resources for food and agriculture (PGRFA) as a basis for food security;
- (ii) to promote sustainable utilization of plant genetic resources for food and agriculture, in order to foster development and to reduce hunger and poverty particularly in developing countries;
- (iii) to promote a fair and equitable sharing of the benefits arising from the use of plant genetic resources for food and agriculture, recognizing the desirability of sharing equitably benefits arising from the use of traditional knowledge, innovations and practices relevant to the conservation of PGRFA and their sustainable use.
  - Confirming the needs and individual rights of farmers and, collectively, where recognized by national law, to have non-discriminatory access to germplasm, information, technologies, financial resources and research and marketing systems necessary for them to continue to manage and improve genetic resources.
  - Developing and/or strengthening policies and legislative measures, as appropriate, to promote fair and equitable sharing of benefits arising from the utilization of PGRFA in their exchange between communities and within the international community.
- (iv) to assist countries and institutions responsible for conserving and using PGRFA to identify priorities for action;
- (v) to strengthen, in particular, national programmes, as well as regional and international programmes, including education and training, for the conservation and utilization of PGRFA and to enhance institutional capacity.

22. The consultation suggested:

- With respect to the first aim, participants noted that it should be broadened beyond as “a basis for food security”. One proposal was for the aim to end with: “*as a basis for food security, sustainable agriculture and poverty reduction*”. Some participants felt this was not yet a fully comprehensive list and provided a more generic suggestion rather than a list, with the aim ending with: “*as a basis for current and future use*”.
- With respect to the second aim, participants in general suggested that it be retained as currently worded: (to promote sustainable utilization of plant genetic resources for food and agriculture, in order to foster development and achieve food security to reduce hunger and poverty, particularly in developing countries). It was also suggested that the following could be added to the end of this aim (“*as well to provide options for adaptation to and mitigation of climate change*”).
- With respect to the third aim, participants suggested it be deleted as currently worded and be replaced by the appropriate text of the International Treaty that address access and benefit sharing in relation to plant genetic resources.
- With respect to the fourth aim, participants suggested it be retained as is.
- With respect to the fifth aim, participants suggested it be retained with one addition, research be added to the middle line referring to education and training, to read “*research, education and training*”. Participants requested FAO to consider adding research when education and training is mentioned in other sections in updating the GPA.
- It was observed by some participants that the fourth and fifth aims appear to be lower order aims. Others saw that the difference was that the first three aims had a more global focus, while the latter two were more focussed at the nation level.

23. The consultation reviewed the strategies of the GPA (paragraph 10) and suggested two options:

- One option would be to delete all of paragraph 10a-10f, as many participants did not see the need for this section, especially with an enhanced introduction section already suggested during the consultation.
- Option two would be to retain the text with the following changes:
  - Rewrite current para. 10 as it is currently not clear as to the role of the strategies.

- Include in the strategies the need to enhance linkages between science and technology innovation and application to the conservation and use of PGR (possibly adding this notion to 10c); also this could be considered in the aim section.
- Emphasizing that *ex situ* storage has occurred over several decades to 10a, i.e. it is not new.
- Adding the need for “*standard operating procedures for regeneration of accessions*” (possibly to the end of 10a).
- Adding the need to enhance mobilization of global human and financial resources, building on 10c, to achieve a truly global system for PGR.
- Enhancing reference to farmers and farmer involvement within the current strategies as well as plant breeders. In general use inclusive terminology as much as possible.
- Updating statistics throughout the GPA, e.g. one million accessions need of updating in 10a.
- Rewriting 10 d, not clear as currently worded, and in doing so, highlight the need for plant breeding in the strategy section.

### **Review of the Structure and Organization of the *Global Plan of Action***

24. The consultation reviewed the Structure and Organization of the GPA and provided the following suggestions for consideration in updating.
25. As indicated in paragraph 20 of the current GPA, the GPA has 20 priority activity areas (PAAs) organized around into four main groups. The consultation suggested retaining the four main groups: ***In Situ Conservation and Development***; ***Ex Situ Conservation***; ***Utilization of PGR***; and ***Institutions and Capacity Building***, but made suggestions to change some of the titles as indicated below in Section E. Some participants suggested a fifth group be added, called, Research and Technology Innovation and Opportunities, with a view to enhance the importance of advancing the application of the results of research and technology to improve the utilization and conservation of PGR. Some suggested elements under this new group would include:
  - A science agenda for PGR;
  - Advanced Education – PHD and M.Sc. Training;
  - Attracting scientists to PGR research.
26. Other participants, while agreeing with the need to add the importance of advancing the application of the results of research and technology, suggested this could be achieved by adding a PAA under the current heading of Institutions and Capacity. A third option discussed was to add the notion of enhancing the results of research and technology innovation within a number of existing PAAs.

### **Review of the Priority Activity Areas of the *Global Plan of Action***

27. The consultation undertook a review of the 20 Priority Activity Areas and provided suggestions to be considered in updating the GPA, as indicated below:

#### ***In Situ Conservation and Development***

28. The consultation proposed retaining the title of this group of Priority Activity Areas as it is, or to consider changing it to “*In Situ Conservation and Management*”.

#### **PAA 1. Surveying and inventorying plant genetic resources for food and agriculture**

29. The title of PAA 1 to remain as is. To the **Assessment** section, the consultation proposed adding accomplishments and events since first SOW, e.g. advancement of networks, major new initiatives, etc. and the need for partnership with the environmental sector.
30. No agreement to merge **Objectives**. It was noted that under the **Objectives**, the importance of *in situ* conservation be stressed and issues such as biodiversity hotspots and identification of genetic reserves should be addressed. It was suggested that the importance of maintaining traditional knowledge be included in the current objective 15. Specific wording changes were proposed, as well as additions and deletions movement of text to other sections were provided: **Long-term objectives 15:** To identify, locate, inventory, and as feasible assess any threats to those species, ecotypes, cultivars and populations of plants relevant to food and agriculture, especially those that are of anticipated use. Change the last part into “any threats to any useful genetic diversity in situ and maintained on-farm” (to avoid a list). **Intermediate objectives 17:** To develop useful methodologies for surveying and inventorying plant genetic resources for food and agriculture. To develop “*and apply*” useful methodologies
31. In the review of the changes, gaps and needs, the consultation emphasized the potential resulting from advancements in molecular genetics techniques. The notion of standard definitions and means of assessing genetic vulnerability and erosion was stressed as important, as was the 2010 Biodiversity Indicators Programme.
32. **A new PAA:** The issue of the previously cultivated fields that have been abandoned and rich species and genotypes disappearing was discussed as important to conduct conservation activities. This is not on-farm, nor *in situ* because not in protected areas, so it is falling between these areas. Some participants thought a new PAA could be added under *in situ* conservation, or under an existing PAA to address previously cultivated fields. This was not seen as necessary by some participants.

## **PAA 2. Supporting on-farm management and improvement of plant genetic resources for food and agriculture**

33. Some participants suggested to modify the title to keep only “on-farm management” in the title and move “improvement of PGRFA” under the group Utilization of PGRFA. No agreement on this suggestion resulted. The following title was also proposed without full agreement among participants: “*Supporting on-farm management and on-farm improvement of PGRFA*”.
34. Specific wording change options were proposed to the objectives. Suggestions for movement of text to other sections were provided: **Long-term objectives 32:** To better understand and improve the effectiveness of existing on-farm conservation, management, improvement, and use of plant genetic resources for food and agriculture. To achieve a better balance between *ex situ* and *in situ* conservation. To realize Farmers’ Rights as defined in FAO Resolution 5/89 at the international, regional, and national levels. To promote the equitable sharing of benefits from plant genetic resources for food and agriculture as called for in the Convention on Biological Diversity. To foster the future emergence of public or private seed companies and cooperative enterprises as an outgrowth of successful on-farm selection and breeding. To encourage traditional seed exchange and supply systems.
35. Some participant indicated that the first sentence of the objective (To better understand and improve the effectiveness of existing on-farm conservation, management, improvement, and use of plant genetic resources for food and agriculture”) could be the objective and most of the remaining text moved to Intermediate objective. It was agreed that it is no longer necessary to mention Farmers’ Rights (FAO Resolution 5/89 outdated). To improve the objective, it was suggested to remove administrative measures from the objectives and focus on what are really the objectives, and add the context of the International Treaty and importance of local markets.
36. In **Policy/Strategy** section, some participants thought adding the notion of “primary and secondary centres of diversity, hotspots and specific climatic areas”, would be helpful, as



would the importance of local markets. In the review of the changes, gaps and needs, the consultation provided some specific suggestions to change text. Legislation in accordance with national rules, ecosystem services and utilization of PGR, not only improvement, were emphasized. Suggestions were provided to move plant breeding to utilization. It was suggested that the entire section on **Coordination and Administration** could be deleted.

### **PAA 3. Assisting farmers in disaster situations to restore agricultural systems**

37. Most participants accepted the title as it is. Others suggested to replace *agriculture systems* with “*restore crop diversity*” or “*restore PGRFA*”. Participants suggested this PAA be moved to Institutions and Capacity Building or under Utilization of PGRFA.
38. Some specific wording changes were proposed to the objectives: **Intermediate objectives 52:** To establish capacity to deliver seed of adapted local varieties as needed to help re-establish indigenous agricultural systems in areas affected by natural disasters, war, and civil strife. Some participant suggested to delete: “*indigenous* agricultural systems.” **Intermediate objectives 53:** To establish institutional responsibilities and mechanisms for the identification, acquisition, multiplication, and re-introduction of appropriate genetic materials. To be added under Objective 53: some text on the implementation – systems and mechanisms that would allow this assistance - suggestion that a focal point be nominated to coordinate this task.

### **PAA 4. Promoting *in situ* conservation of wild crop relatives and wild plants for food production**

39. Some participants suggested that the title remains as it is. Other indicated the need to revise it to reflect the problem of *in situ* conservation of wild species. As well, instead of promoting - strengthening or supporting was suggested. Also, it was suggested to change wild crop relative to crop wild relative. There was a suggestion to move PAA 4 after current PAA 1, and it was suggested not to focus only on protected areas.
40. In the **Assessment** section, the consultation proposed adding accomplishments and events since the first SOW. Some additional background text on wild plants for food production was suggested as the section in focused on crop wild relatives. Reference to the Global Plant Conservation Strategy was suggested. Less focus on protected areas would a consideration and add increasing threats of climate change should be considered. The issue of abandoned cultivated fields was raised in terms of where this should be addressed in the GPA.
41. Some specific wording changes were proposed to the objectives. Some participants supported adding the notions of hotspots; genetic reserves of WCR and wild plants for food; the increased threats due to climate change and linked with wild species. **Long-term objectives 66.:** To promote conservation of genetic resources of wild crop relatives and wild plants for food production in protected areas and on other lands not explicitly listed as protected areas. Some participants supported the following change: “To promote conservation *and sustainable use* of genetic resources of wild crop relatives. **Intermediate objective 68:** To create a better understanding of the contributions of plant genetic resources for food and agriculture to local economies, food security, and environmental health. To improve management and planning and promote complementarity between conservation and sustainable use in parks and protected areas by inter alia broadening the participation of local communities in these processes. Some participants supported deleting the first sentence in paragraph 68. **Intermediate objective 69:** To establish better communication and coordination between various institutes and organizations engaged in *in situ* conservation and land use management, nationally and regionally. To conserve genetic diversity for these species to complement other conservation approaches. Some participants supported the following change: “*To establish better communication and coordination between various institutes and organizations engaged in in situ conservation and land use management, provincially,*

- nationally and regionally.*” Some participants supported changing paragraph 69 to be more proactive and specific to mention more partnerships, and include a link with *ex situ*.
42. Specific suggestions were provided on text in the **policy/strategy** section 70: Add: text on wild plants for food production: most of the bullets are related to CWR. Change: “wild crop relatives” to “crop wild relatives”.
- 70 (d) support the creation of advisory panels at the appropriate levels, that where appropriate, involve farmers, indigenous communities, plant genetic resources scientists, local government officials, and community leaders, to guide management of protected areas, according to national rules and regulations. Change - wording to be changed: support the creation of advisory panels at the appropriate levels, that where appropriate, involve farmers, indigenous “*and local communities, breeders,*” plant genetic resources scientists.
- 70 (e) recognize the rights of indigenous communities to PGRFA in protected areas. Change: recognize the rights of indigenous communities to PGRFA in protected areas “*according to national legislation*” or to delete the whole bullet.
71. Governments with the cooperation of the relevant UN bodies and regional, intergovernmental and non-governmental organizations and the farming, indigenous and local communities living in non-protected areas, should seek, where possible and appropriate, to: Add to paragraph 71: Global Strategy on Plant Conservation/CBD.
- (a) Establish conservation of wild crop-relatives and wild plants for food production as an integral component of land-use planning;
- (b) Encourage local communities to conserve and manage wild crop relatives and wild plants for food production, and provide for their participation in decisions relating to such local conservation and management. Change for 71 (b): Encourage “*indigenous*” and local communities.

### ***Ex situ Conservation***

#### **PAA 5. Sustaining existing *ex situ* collections**

43. Various options for merging the title as indicated at the end of this section below.
44. In terms of merging of the objectives, agreement was not reached among participants. some suggested the “Long-term objective” should indicate a point to be reached at the horizon and “Intermediate objectives” should refer to the necessary steps to reach that point. Others suggested to eliminate the distinction between “long-term” and “intermediate” and just have: “Objectives.” Suggestions were also made to improve the **objectives** as follows: **Long-term Objective 79** To delete the word “high”; add “*regional*” to Develop and strengthen cooperation; Add the concept of importance to safety-duplicate the material, both as long-term and as intermediary objective; Add an element of national sustainability; Add the importance of “sharing responsibilities.” Participants indicated that the core objective (of 5+6 together) is to *develop an efficient goal-oriented, economically efficient sustainable system of ex situ conservation*, the rest of the objective could be deleted. With respect to the **Intermediate objectives**, the consultation suggested to: Describe the intermediary steps to reach the core objective (5+6 together); include the need to ensure quality of conservation.
45. Suggestions were also provided to improve the **Policy/strategy** section: include “national” and “regional” levels regarding the need for greater rationalization; include reference to minor crops, neglected crops; specify that documentation is “of the accessions” of the collections; and include additional strategy elements - defining quality standards and ensuring quality conservation via a Quality System.

#### **PAA 6. Regenerating threatened *ex situ* accessions**

46. In regard to the title, the need for the word “threatened” was questioned.

47. The following specific wording changes were proposed for the objectives: **Long-term objectives** 96: “Establish the infrastructure” is not an objective, but an operational element; the word “periodic” is not necessary. The objective is not long-term, rather intermediate. **Intermediate objective** 97: The last sentence is the core part of the objective (to be used for the merged objectives of PAAs 5 and 6) and “world-wide regeneration of accessions” needs clarification. Some participant indicated that it would be useful to add a recommendation to facilitate (in legal terms) the process of regeneration of drug plants (poppy, hemp, etc.).

#### **PAA 7. Supporting planned and targeted collecting of plant genetic resources for food and agriculture**

48. The need for having both *planned and targeted* in the title was questioned - seems redundant to some participants. Missions could be added: *collecting missions*. One suggestion for a new title: “*Expanding ex situ collections through targeted collecting*”.
49. Specific wording changes were proposed to the objectives: **Long-term objectives** 118: “To collect those species...” is not an objective, the objective should be “to secure conservation of what is threatened” “anticipated” use. Replace with “potential” use. If PAA 7 and PAA 8 are merged, long-term objective would be: “*Ensure complete coverage of genetic diversity through collecting the diversity that is missing in ex situ collections*”. Also include the concepts that “*redundancies should be minimized*” and that “*collecting should not exclude difficult material that requires special methodologies of conservation*” and that “*the alternative option of in situ conservation should be kept in mind where it is more appropriate*”. **Intermediate objectives** 119: “To begin” can be removed. Include “*gap analysis, monitoring and collecting missing accessions*” (objective of combined PAA 7 and PAA 8).
50. In the **policy/strategy**, there was a reminder not to ignore wild plants for food, but need to keep within scope of GPA. It was suggested to add the need for information on geographic distribution and genetic composition of material in genebanks and in the field, in order to inform the gap analysis.

#### **PAA 8. Expanding *ex situ* conservation activities**

51. With respect to the title, some participants proposed replacing “Expanding” with “*Improvement of*”.
52. Specific wording changes were proposed to the objectives. **Long-term objectives** 132: The imbalance in *ex situ* collection should be indicated, since some species are completely under-represented (link with PAA 7). **Intermediate objectives** 133: Very general text that does not explain well the specificity of this PAA. It is not appropriate to list here the type of plants such as vegetatively propagated or recalcitrant seed plants, etc., but to mention in general all the plants that are under-represented in *ex situ* collections. Needs to be reformulated to make it clear what is this activity about. Botanic gardens should not be singled out or add other institutions.
53. In the **Assessment** section, the consultation provided some specific suggestions to change text. Assessment: “export crops” is not a category of genetic resources. They are “import crops” from the European perspective. In the **Policy/strategy**: include reference to the baseline strategies of the GCDT and the need for “Sharing responsibilities”. **Capacity**: inappropriate to single out “*in vitro*”, need to add “cryo” and “other technologies.” **Research/technology**: the entire grey box is about *in situ* conservation. Move to “*in situ*” section, except line 1507-1509: (studies of dynamic balance between *in situ* and *ex situ* are important and should be reflected somewhere). **Coordination/administration**: 1531-1533: Move to “Use” section.

### Merging of PAAs in the Section:

54. The consultation considered options for merging PAAs within this group and suggested the following options:
  - Merge PAAs 5 and 8;
  - Merge PAAs 5, 6 and 8;
  - Merge PAAs 5 and 6; 7 and 8 (most participants favoured this option)
  - Merge PAAs 5 and 6 and reformulate 8
55. The following titles were proposed for merged PAAs 5 and 6, and for merged PAAs 7 and 8:
  - Ensuring proper management of *ex situ* collections and sustaining related conservation activities
  - Improving coverage of the genetic diversity that is not represented in *ex situ* collections
56. The need to be consistent in specifying or not using the abbreviation PGRFA in titles was noted. As well it was noted that in PAA 5 sustaining “collections” is used while in PAA 8 expanding “activities” is used. Both “collections” and “activities” may need to be both “sustained” and “expanded”.

### *Utilization of Plant Genetic Resources*

#### **PAA 9. Expanding the Characterization, Evaluation and Number of Core Collections to Facilitate Use**

57. With respect to the title, the consultation suggested the following changes: “Core Collections” should not be specified in the title. Possible new titles: *Characterisation, evaluation and phenotyping of collections to facilitate use*; or *Expanding, characterization, evaluation and improving access to information and results to facilitate use*.
58. With respect to the **objectives** the consultation suggested to delete the objective referring to core collections under the Long-term objectives in para. 149. All other reference to core collections should be deleted. Objective 149 would be more relevant in the *ex situ* part. Change: Users and user’s priorities should be better reflected in the objectives. Climate change and food security needs to be addressed in the objectives. Rewrite Objective 151, (the word “valuable” appears three times). Add an objective which relates to information, documentation and access of PGR; and an objective reflecting on research and new technologies related to trait mining, genomics etc. **Intermediate objectives** 152: Delete: “To establish international core collections.....” (152) or delete entire objective 152. Change: Climate change should be better addressed in the objectives and add a reference to the International Treaty. In addition the importance of information and documentation should be stressed. Include the word “*regional*” in addition to national and international, where appropriate. In Objective 151: include “*identifying*” and also “*phenotypic characteristics*”. Consider merging of the long-term and intermediate and have shorter more crisp objectives.
59. In the review of the **changes, gaps and needs**, the consultation provided some specific suggestions to change text: Page 32 move bullet 1 to *ex situ*; move bullet 2 to *in situ*, and bullet 4 should be more general when addressing collections. With respect to **Research/technology**; participants indicated the importance of bridging the data available through the documentation systems. This is important element for the research infrastructure and should be highlighted.

#### **PAA 10. Increasing Genetic Enhancement and Base-Broadening Efforts**

60. With respect to the title the some participant suggested the following changes. Plant breeding should be addressed in the title: “*breeding research and plant breeding*” Other proposed a new title: *Facilitate the use of wild and exotic material in breeding*.
61. With respect to the objectives the following suggestions were provided: **Long-term objectives** 170: delete last sentence: “To increase sustainability of agricultural systems”. This should be moved as it has a more general text suited to the introductory section. Others suggestions included: Change: “To increase food security.....” as there should be a broader concept expressed, not only food security (food, feed industrial use); the word “better” (plant varieties) should be deleted; “To reduce genetic uniformity ....” should be reworded more positively (“*to increase genetic diversity*”). Overall, long term objectives 170 should be reworded to be more concise. Add to the objective: “development of technology” and “research component” should be included in a new objective. **Intermediate objectives** 171: Change *To increase the genetic diversity available in breeders’ material* and delete the rest. Consider merging of the long-term and intermediate objectives.
62. With regard to the **Assessment** section some participants suggested to: highlight the importance of wild plants for food and the need for semi-domestication. In the **Policy/strategy**; the issue of patenting of varieties is not reflected and is a matter of concern and a reference to the MLS (to use the material) should be added. In the **Capacity section**: highlight the need for strengthening breeding capacity. The value of breeders’ exemption should not be forgotten. In the **Research/technology**: a reference to gene pools should be made. Plant breeding should be reflected in the text “facilitate the use of PGR to strengthen breeding research to show continuity.” In the review of the changes, gaps and needs, the consultation provided some specific suggestions to change text. Delete: second box under assessment Bullet 1 “Overall global plant breeding.....” (not correct). Bullet 4 under policy (not valid only for PPB). Move bullet 3 & 5 to Capacity Building.
63. **New PAAs**: Participants suggested considering revising all the PAAs in this group to more fully consider the new breeding element, including such as the whole chain from screening to variety testing, methodology etc. A new PAA on breeding with relevant issues connected should also be considered and it should promote public breeding, as both major and minor crops will need public support. A new PAA, on farmers’ contribution to diversification of PGR (take bits and pieces from other areas) could also be considered.

#### **PAA 11. Promoting Sustainable Agriculture through Diversification of Crop Production and Broader Diversity in Crops**

64. Participants accepted the title but indicated it could be shorter and made clearer so that the aim is diversification of production systems.
65. With respect to the objective, participants suggested: **Long-term objectives** 179 is considered valid. **Intermediate objective** 181 should be deleted. Change intermediate objective 180: Include also “*regional*” in the text. Intermediate objective 181: Broaden the scope with farmers, consumers, industry etc., and link with gene banks. Consider merging of the long-term and intermediate objectives.
66. With regard to the **Assessment** section participants suggested to broaden the scope, and to highlight bullet 3 “lack of national strategies”. In the **policy/strategy**: bullet 3 should be highlighted as well as the need for legislation. In the **Capacity** section, the requirement of legislation should be addressed. Other suggestions provided include: “Awareness” is stated in many places and could be minimized in the text and several bullets can be moved to other sections.
67. Merging of PAAs in this section was considered without agreements. Suggestions include: Merging PAAs 11 and 12; Merging of PAAs 11, 12 and 14; and a new title “Diversification of crop production and crop use”.

### **PAA 12 Promoting Development and Commercialization of Under-utilized Crops and Species**

68. The title was indicated as being valid as it is.
69. With respect to the Objectives participant provided the following suggestions: the **Long-term objectives** 190 is accepted. Consider merging the Objectives in PAA 12 and PAA 14. **Intermediate objectives** Changes: Intermediate objective 191: breeding needs to be included in the text and replacing the word “improve” was suggested. Merging of the long-term and intermediate objectives should be considered.
70. With regards to **Policy/strategy** section bullet 6 should be highlighted. In the **Capacity** section, bullet 2 should be highlighted. In the **Research/technology** section, bullet 3 legislation should be addressed. Some other specific suggestions provided by participants include: bullet 1 Assessment delete; bullet 3 Assessment move to breeding; bullet 4 Assessment move to PAA 15; Policy section: non food crops deleted; Policy bullet 3 delete; Policy bullet 4 move to plant breeding; Policy bullet 5 move to PAA 15; Policy bullet 6 delete part on major crops; Policy bullet 7 only address the underutilized crops, Policy bullets 8, 9, 10 move to other relevant parts; Capacity bullets 1 and 2 move to other relevant parts; Research bullet 1 move to *in situ*; and Coordination bullet 1 move to PAA 16.

### **PAA 13. Supporting Seed Production and Distribution**

71. The title was indicated as being valid as it is.
72. With respect to the Objectives participant provided the following suggestions: **Long-term objectives** 198: General comment that when rewriting the text it should be considered that seed supply system are important. Change: Address the issue of legislation - legislation which benefits farmers and does not cause impediments. In **Long-term Objective** 199. Add something about diversification specifically addressed to food. A more diverse sector including private breeders, SMEs would be better than a general addressing to seed production systems. Add: Consider a global initiative to strengthen seed production and distribution. **Intermediate objectives:** The issue of legislation should be addressed. Add: A new objective taking legislation into consideration. Participant expressed mixed views on the merging of the long-term and intermediate objectives.
73. With regards to **Policy/strategy** section: bullet 1 very important should be highlighted and the value of breeders exemptions should be stressed in the text. In the **Capacity** section bullet 1 addressing researchers, breeders and curators is not necessary.

### **PAA 14. Developing New Markets for Local Varieties and Diversity-Rich Products**

74. The title was indicated as being valid as it is.
75. With respect to the objectives participant provided the following suggestions: **Long-term objectives** 210: Remains valid however could be reworded taking into consideration the findings in the SOW-2; Change: market mechanisms could be deleted; the term “diversity rich products” is not clear. Merging of the long-term and intermediate objectives could be considered.
76. With regards to **Assessment** section, bullet 7 is important and the last sentence could be transformed into a need, and bullets 1 and 2 (covered in PAA 12), and bullet 3 could be deleted. In the **Policy/strategy** section, bullet 1 should be highlighted.
77. Some participants suggested PAAs 12 and 14 could be merged as they are very much related, while other preferred retaining all of them as they are.

## **Institutions and Capacity Building**

### **PAA 15. Building Strong National Programs**

78. The title was indicated as being valid as it is.
79. With respect to the **objectives** participant provided the following suggestions: sections of the long-term and intermediate objectives could be merged. Participants suggested the main objectives for this PAA are: *“To ensure adequate national implementation remain a building block for the implementation of the GPA”*; and *“To make use synergies between the different national actors could be a priority to build up national programmes”*.
80. With respect to the **Policy/Strategy** section, participants suggested to re-write the first bullet replacing “major centers of diversity” with *“all primary and secondary centers of origin”*; and to include in the second bullet a specific reference to breeders. Under **Capacity**: it was noted that there are a lot of elements that are already includes in the other parts of the document, and this deletion of the entire box could be considered. Reference to Farmers’ Rights should be underlined in the national programme in line with the decisions of the Governing Body of the International Treaty. With respect to the **Coordination/administration** section, most participants suggested deleting Coordination/administration from all 6 PAAs, while some participants expressed a preference to keep this section but reduce it in size.

### **PAA 16. Promoting networks for plant genetic resources for food and agriculture**

81. The title was accepted as it is.
82. With respect to the **objectives**, participants provided the following suggestions: maintain the regional network as the first objective; some considered that it would useful to include an inter-regional and sub-regional approach; delete in the para. “5 to 15 international crop”.
83. With respect to the **Policy/Strategy** section, participants suggested: to delete the box at page 58, except the last bullet point and make with reference to the ITPGRFA. The global crop conservation strategy could be used as guidelines to support the networks. Under **Capacity**: clarification of the second bullet point in the grey box at page 59 was suggested as needed; the third bullet could be moved to training; re-writing of the last part of page 59 to take into account that some of the regional networks already exists – in addition to include a reference to Interregional Approach; the grey box at page 60, concerning “South-South cooperation” could be moved to para. 242 on page 56.

### **PAA 17. Constructing comprehensive information systems for plant genetic resources for food and agriculture**

84. Participant suggested modifying the title as follows: “Constructing and strengthening comprehensive information systems for plant genetic resources for food and agriculture”.
85. With respect to the **objectives**, participants provided the following suggestions: The objectives should encourage the countries to have an high quality information system; all objectives should be revised. Add: facility to objective 261 “development of expertise and infrastructure at the global, regional, national and facility levels”). With respect to the **Policy/Strategy** section: participants underlined the need for more accurate and reliable indicators (grey box page 62); and Under **Assessment**: it could include a reference to a Vision Paper on the Global Information System that was asked by the Governing Body of the International Treaty.

### **PAA 18. Developing monitoring and early warning system for loss of plant genetic resources for food and agriculture**

86. The consultation suggested deletion of PAA 18. The development of an “early warning system for loss of PGRFA” was considered to be a rather unrealistic task. Countries have the role to monitor the trends of PGRFA within their own territories. They may develop

mechanisms, as appropriate, to respond to a decline of particular PGRFA, in order to stop the trends and even reverse them. However, these activities would be very different from country to country and most likely not justify a term “early warning system”.

#### **PAA 19. Expanding and improving education and training**

87. Some participant suggested modifying the title as follows: “Expanding and improving research, education and training.” Other did not support the change.
88. With respect to the **objectives**, participants provided the following suggestions: Change: para 295 needs revision to better understand the meaning of training. Add: Some participants suggested an additional **intermediate objective**: “*To develop and implement a proper research agenda to bridge the gap between the science and PGRFA management/gene bank activities*”. With respect to the **Policy/Strategy** section, include reference to PGRFA in the last bullet box 68-69; and Under **Capacity**: move the entire grey box on page 69 to in-situ and plant breeding.

#### **PAA 20. Promoting public awareness of the value of plant genetic resources for food and agriculture conservation and use**

89. The consultation suggested a change to paragraph 315: “To support mechanisms, particularly in developing countries, for coordinated public awareness at all levels”. Some question if this is an objective.

#### **General comments on structure and content within each Priority Activity Area**

90. The consultation considered the structure and contents within each PAA and provided a number of suggestions to add, modify and delete text, and to move text to more appropriate sections of the GPA. Suggested changes to structure are provided below.

#### **Coordination/administration**

91. With respect to the sub-section on “*Coordination/administration*” the consultation in general, indicated this sub-section was not necessary and could be omitted from the updated GPA, with the existing text moved to other relevant sections within the PAAs as appropriate. Some wished to retain it but suggested the need to reduce the text significantly.

##### **This activity is closely linked with**

92. With respect to the sub-section on “*This activity is closely linked with*” the consultation indicated this section was not necessary and could be omitted from the updated GPA. If it is to be retained, it was suggested that only the number of the PAA be indicated, rather than the full title of the PAA, to shorten the section.

#### **Summary of review of the Long-term objectives and Intermediate objectives**

93. The consultation reviewed the Long-term objectives and Intermediate objectives and provided the following general comments on the objectives:
  - In general, the consultation found most of long-term and intermediate objectives as remaining valid.
  - A few objectives were suggested for deletion or parts of several objectives were suggested to be deleted, as the information is no longer current.
  - Additional text is required to update a number of the objectives, in light of emerging issues and challenges, such as those indicated above to be added to the introductory section of the updated GPA.



- Some objectives should be reviewed for clarity.
94. The consultation considered the potential of merging the currently separate sub-heading of Long-term objectives and Intermediate objectives, to a single sub-heading called objectives. Some participants indicated that merging of the sub-titles was desirable, and that some of the objectives themselves could also be merged. Other participants indicated a preference to retain both sub-headings. However, in doing so, they indicated that the distinction between the long-term and intermediate objectives needed to be clear, in order to retain both sub-headings.

### **Other general suggestions**

95. The consultation indicated the need to be consistent in the use of terms (e.g. indigenous and local communities, crop wild relatives, not wild crop relatives, food and feed production not only food production, etc.).
96. The consultation indicated the need to use strong language as much as possible (e.g. change promote to strengthen).
97. When referring to the various levels the activities are aimed at, the consultation indicated the need to indicate all levels as appropriate (global, regional, national and sub-national levels).
98. The consultation suggested the need to reference new initiatives such as the International Treaty and Global Crop Conservation Strategy appropriately throughout the updated GPA.
99. The consultation suggested highlighting areas for collaboration with environmental sector such as the LifeWeb protected areas initiative, and the Global Plant Conservation Strategy, and to refer to the importance of ecosystem services were appropriate.
100. The consultation suggested greater emphasis be given to plant breeding throughout the updated GPA.
101. Some participants suggested considering a review of the impacts of patenting on PGRFA in updating the GPA, and the impacts of recent legislation in terms of access to PGRFA.
102. The consultation suggested the use of terms such as Farmers rights and Access and Benefit Sharing should be use in a manner consistent with the language of the International Treaty.
103. The consultation suggested ensuring appropriate reference to the better application of the results of science and technology throughout the updated GPA.
104. Some participants saw advantages to addressing public awareness in one section of the GPA. The role of private sector was seen as useful here, as well as the role of civil society. In the review of changes, gaps and needs, suggestions were provided for deleting and moving sections.

### **Implementation and Financing of the Global Plan of Action**

105. The need for a section on Implementation and Financing in the updated GPA was briefly considered by participants. Most participants indicated that the updated GPA would include an updated implementation and financing section. It was noted that financing of the GPA is a priority of the Funding Strategy for the Implementation of the International Treaty on Plant Genetic Resources for Food and Agriculture, and this needed to be fully taken into account in preparing the Implementation and Financing section of the GPA.

## APPENDIX A



**The Plant Production and Protection Division,  
Food and Agriculture Organization**  
in collaboration with  
**the Faculty of Agriculture and Environment,  
Agricultural University of Tirana,  
Bioversity International and SEEDNet**



### European Consultation for the Update of the Global Plan of Action on the Conservation and Sustainable Use of PGRFA

**19-20 May 2010, Tirana International Hotel, Albania**

#### Agenda

#### Monday 19 May 2010

8.00 - 9.00	Registration	
9.00 - 9.40	Welcome ceremony Faculty of Agriculture and Environment Commission on Genetic Resources for Food and Agriculture International Treaty on PGRFA Bioversity International SEEDnet	Stefano Diulgheroff, FAO Ardian Maci, Dean Dan Leskien, FAO  Mario Marino, FAO Lorenzo Maggioni Eva Thorn
9.50 - 10.00	Introduction of participants	
10.00 - 10.10	Agenda and Objectives	Barbara Pick, FAO
10.10 - 10.30	GPA updating process	Stefano Diulgheroff
10.30 - 10.50	Coffee break	
10.50 - 11.20	Changes in PGRFA conservation and use: Challenges for the new GPA	Stefano Diulgheroff
11.20 - 11.40	Regional Summary	Eva Thorn, SEEDNet
11.40 - 12.20	Dynamics of working group discussion	Richard Laing, FAO
12.20 - 14.00	Lunch	
14.00 - 15.40	Working Group session	
15.40 - 16.00	Coffee break	
16.00 - 17.40	Working Group session	
17.40 - 19.20	Working Group session	

#### Tuesday 20 May 2010

8.30 - 10.10	Working Group session	
10.10 - 10.30	Coffee break	
10.30 - 12.10	Working Group session	
12.10 - 14.00	Lunch	
14.00 - 14.30	Wrap up Sec.I (Introduction and other sections)	Richard Laing
14.30 - 15.00	Wrap up Sec.II ( <i>In situ</i> and on farm management)	Barbara Pick
15.00 - 15.30	Wrap up Sec.III ( <i>Ex situ</i> conservation)	Lorenzo Maggioni
15.30 - 16.00	Wrap up Sec.IV (Use of PGRFA)	Eva Thörn
16.00 - 16.30	Coffee break	
16.30 - 17.00	Wrap up Sec.V (Institutions and capacity building)	Mario Marino
17.00 - 17.30	Closure	

## APPENDIX B

### List of Participants

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## II. REPORT OF THE REGIONAL CONSULTATION IN AFRICA

### A. INTRODUCTION

1. The Commission on Genetic Resources for Food and Agriculture (Commission), at its Twelfth Regular Session in October 2009 endorsed the *Second Report on the State of the World's Plant Genetic Resources for Food and Agriculture* (SOW-2) and considered updating the *Global Plan of Action for the Conservation and Sustainable Utilization of Plant Genetic Resources for Food and Agriculture* (GPA). The Commission agreed to update it in line with the Strategic Plan 2010-2017 for the implementation of the Multi-Year Programme of Work. It requested the Food and Agriculture Organization of the United Nations (FAO) to prepare the updated GPA based primarily on the SOW-2, and in particular, on the identified gaps and needs, taking into account further contributions from Governments, as well as inputs received from regional meetings and consultations. It further decided that the updated GPA would be considered at its Thirteenth Regular Session in 2011.
2. An African Regional Consultation for gathering inputs for the update of the GPA was held in Nairobi, Kenya, 2-3 June 2010. It was organized by FAO with technical and logistical support from Bioversity International in collaboration with the Kenyan Agricultural Research Institute (KARI), Ministry of Agriculture. Representatives attended the consultation from Benin, Botswana, Burkina Faso, Burundi, Cameroon, Central African Republic, Chad, Congo (Republic of), Cote d'Ivoire, Eritrea, Ethiopia, Gambia, Ghana, Guinea, Guinea-Bissau, Kenya, Madagascar, Malawi, Mali, Mauritius, Namibia, Niger, Nigeria, Rwanda, Senegal, Seychelles, Sierra Leone, Tanzania (the United Republic of), Togo, Uganda, Zambia and Zimbabwe, as well as observers from the SADC Plant Genetic Resources Centre (SPGRC), the Eastern Africa Plant Genetic Resources Network (EAPGREN), the International Institute for Tropical Agriculture (IITA). The secretariats of the Commission and of the International Treaty on plant genetic resources for food and agriculture (International Treaty) were also present.
3. The meeting was organized in plenary and working group sessions, and was conducted in both English and French. A working document containing the current GPA and relevant sections of the SoW-2, in particular, sections dealing with identified gaps and needs, and a regional analysis of the state of plant genetic resources for food and agriculture (PGRFA) were made available to the participants before the consultation and used as the basis for discussion during the working sessions.
4. The meeting was opened by the FAO Representative in Kenya, Mr. Castro Camarada, who welcomed delegates and emphasized the role of PGR in world food security, the need to take appropriate measures to respond to new challenges such as climate change, and to realize opportunities to apply new technologies. Opening remarks were also provided by: Messrs. Zachary Muthamia on behalf of the host country and KARI; Mr Dan Leskien on behalf of the secretariat of the Commission, Mr Kent Nnadozie on behalf of the International Treaty secretariat; and Mr Jojo Baidu-Forson on behalf of Bioversity International.
5. Closing remarks were given by Mr Cheikh Alassane Fall, representative of the African Regional Group and a member of the Bureau of the Commission. He thanked the Governments of Italy and Spain for their financial support and the delegates, organizers and supporting staff for their contributions and active participation.

### B. INTRODUCTORY PRESENTATIONS

6. Ms Barbara Pick, FAO, indicated the importance of gathering inputs and recommendations from all regions in order to update the GPA as requested by the Commission. She stated that the main objective for the African consultation was to

receive inputs and recommendations from representatives of the region on both the content and structure, which would serve as inputs in the updating of the GPA. It was noted that while common positions would be helpful in providing advice to FAO, there was no need to achieve consensus among all representatives. All options would be recorded.

7. Mr Stefano Diulgheroff, FAO, first reviewed the process and timeline for preparing the updated GPA, as had been approved by the Commission. He provided an overview of the significant changes and challenges in PGRFA conservation and use, as well as gaps and needs identified in the SOW-2. These would be considered in updating the GPA, based upon advice received during the regional consultations.
8. Mr Dan Kiambi provided a summary overview of gaps and needs for updating of the GPA from the African region perspective. This summary had been prepared based on Country Reports for Plant Genetic Resources from the region, which had been prepared as contributions to the process of preparing the SOW-2.
9. Mr Diulgheroff described the process for undertaking the consultations. He noted that five working groups would consider five separate agenda items, and that each working group was to be provided with a facilitator-recorder. The results of each working group would be presented and discussed in plenary sessions, providing delegates with opportunities to summarize key messages to be considered in the GPA updating process, including the most significant changes and challenges that needed to be considered.

## **C. SUMMARY OF RESULTS**

### **Review of the Leipzig Declaration and Introduction**

10. The consultation suggested development of a document (resolution or declaration), which would capture new areas that have come to light since 1996, such as climate change, trends in food security, niche markets, policy environment including the International Treaty, the Millennium Development Goals, access and benefit sharing regimes and transfer of technology. It was agreed that the updated GPA should reference the Leipzig declaration; make reference to the inadequacy of resources for the implementation of the 1996 Plan; request the Bureaus of the Commission and International Treaty to consider best options to replace the Leipzig Declaration, including consideration of a joint draft Resolution between the Commission and the Governing Body. The consultation also noted that the Bureaus may also wish to recommend to their respective bodies that the updated GPA be endorsed by the FAO Conference, in addition to the Governing Body of the Treaty and the Commission.
11. The Consultation noted that it would also be important to highlight the urgency to achieve food security in the context of rapid environmental and socio-economic changes that are occurring; to highlight the critical role of PGRFA in achieving this goal, in particular, by providing farmers with options for adaptation to these changes and ensure necessary productivity increases in an ecological sustainable way; and to use the language of the International Treaty on Plant Genetic Resources for Food and Agriculture, wherever appropriate.
12. The consultation suggested specific changes in the introduction (paras. 1-6): to mention the International Treaty and its strengths; to add text on emerging issues such as climate change, trends in food security, niche markets, new technologies, policy environment, the Millennium Development Goals, access and benefit sharing regimes and transfer of technology. A new section was also suggested to refer to implementation achievements and challenges observed since adoption of the current GPA. It was suggested that the last para. (currently 6) should refer to the updated Plan. Some countries suggested revisiting the issue of forestry in the updated plan in the light of emerging issues such as biofuels. No consensus was reached on this suggestion.

### **Review of the Rationale Section of the *Global Plan of Action***

13. In the subsection on rationale (para. 7) it was proposed to inset in the chapeau emerging issues such as climate change and implementation gaps observed in the first plan and in SOW2. Some countries questioned the use of the word “specifically” in the heading. Some countries proposed to review the term “centres of diversity” in item (b) to add clarity regarding the different views on the geographic distribution of crop diversity; and highlight the implications of most resources being in the developing world. It was further suggested to sharpen the subsection by providing an updated estimate of *ex situ* holdings around the world in item (c); modifying item (e) to be consistent with the chapeau; recognizing progress made since 1996; and emphasizing the fact that PGR issues are more important now than before. Some countries suggested replacing the last sentence of item (f) to provide for continuity. Some countries also argued that there were few sources of funding not many as implied in the current text item (g) and proposed modifying it to refer to “*insufficient*” funding not “*gaps*”. Along the same lines some countries suggested to consider re-writing the whole section based on the presentation made on challenges and changes and further suggested to condense and sharpen it in order to have greater impact.

### **Review of the Aims and Strategies of the *Global Plan of Action***

14. The consultation reviewed the aims of the GPA (para. 9) and agreed that they appear to be appropriate. Suggested changes included: to include (in bullet 2) “*economic*” development; and also “*enhancing the capacity to use the resources for crop improvement*”. It was further proposed to use International Treaty language (in bullet 3) to introduce “*promotion and harmonization*”.
15. On strategies (Para 10) some countries observed that the wording of the whole paragraph did not clearly articulate the strategies thus suggested deleting it all and replacing it with the Priority Activity Areas. Other countries made suggestions for amendment the current text to – mention in item (a) loss of materials because of inadequate funding leading to increased need for regeneration and collection of new samples and move last sentences to the chapeau; to add in item (d) “*crop improvement*” or to modify to refer to “*development of methods that take account of complementary conservation methods; information sharing and Monitoring and Evaluation (M&E)*”; to split item (e) to allow separate attention to CWR; on-farm conservation and farmers and their communities then also include text on incentives for in situ/on-farm conservation.

### **Review of the Structure and Organization of the *Global Plan of Action***

16. The consultation considered the general structure of the GPA (para. 11-13), as well as the organization of the PAAs. Most countries agreed that the current 4 main groups are still valid. Most countries preferred to retain the current structure with modifications on the way long term and intermediate objectives were stated by suggesting introducing “long term goals and specific objectives”. Some countries however, suggested merging the *in-situ* and *ex-situ* sections into one “*Conservation*” section to reflect the importance of integration of these complementary approaches, as also reflected in article 5 of the International Treaty. In addition some countries suggested dropping the section on *linkage* all together because most PAAs are linked to each other anyway.

### **Review of the Priority Activity Areas of the *Global Plan of Action***

17. The consultation reviewed the 20 PAAs and provided suggestions to be considered in updating the GPA, as indicated below.

### *In situ Conservation and Development*

18. The consultation recommended that all priority activities are relevant and should be retained, and further confirmed that the gaps and needs summarized from SOW-2 were relevant and appropriately reported in the sections. Cross cutting issues such as climate change and other emerging issues including GMO's are considered important and relevant to all priority activities of the GPA. But the particular importance/impact of climate change on PGRFA *in situ* should be highlighted. It was observed that a subsection on *Research/Technology* is missing in PAA 4, therefore recommended to include it. The subsection should include a paragraph on research on domestication of wild crop relatives and wild plants for food and agriculture as well as capacity for application of new technologies particularly important for *in situ* resources. The particular importance of global change (environmental, social, climate change) on all the priority activities of *in situ* conservation was emphasized to be highlighted. It was also pointed out that incentives for *in situ* conservation need to be highlighted, with particular emphasis on valuation, cost/benefit analysis, and impact assessment of loss of PGRFA.
19. Recognizing climate change as cross cutting issue, some countries suggested highlighting it as priority activity area under *in situ* conservation and development; while others suggested that climate change be highlighted and addressed as either a long term or short term objective under PAA 2.

#### **PAA 1. Surveying and inventorying PGRFA**

20. General comments included strong supported to making reference to the International Treaty and use of Treaty language particularly in reference to local and indigenous knowledge etc. Regarding emphasis and preferences, some countries recommended *documentation* to be highlighted in whole GPA; some emphasized the need to refer to "*farmer varieties*" in text while others suggested farmer's roles to be outlined in this activity and throughout section since the current document tends does not focus on the central role of farmers in *in-situ* conservation. The consultation did not have a clear definition of long and intermediate objectives, therefore there was a tendency to debate placement into long and intermediate. Some countries suggested re-ordering the long and intermediate objectives so that paragraph 16 is long term and paras. 17 and 15 are intermediate; or alternatively, paragraph 17 is long term and paras. 15 and 16 are intermediate.
21. Specific suggestions were made in a number of paragraphs. The title was reviewed and most countries confirmed retaining it unchanged, but some suggested adding "*documentation*" after inventorying while others added "*characterization*". Some countries noted that there was a gap in para. 14, regarding coordination. They argued that while many surveys and inventories had been completed, they were not coordinated. Therefore, there was a need for coordination of actions with better information management and sharing. Some countries also suggested replacing "rational" with "*effective*" in para. 14. The consultation found the **long term objectives** still valid. Specific changes were suggested in para. 15 to replace "those species, ecotypes, cultivars and populations of plants relevant to food and agriculture" with "*PGRFA*" and also delete "if possible" from the French version. Some countries urged that in para. 16 National policy themes should supersede all, while complementary conservation topic is secondary, so suggested having a long term objective that reads "*To facilitate the development of national policies related to the conservation and sustainable use of plant genetic resources for food and agriculture*" and to move the development of complementary conservation strategies to the intermediate objectives. Most countries confirmed the **intermediate objectives** with no change; though some suggested adding "*access, adoption, improvement, avail, disseminate*" after the word "develop" in para. 17.



As per the **Policy/strategy** subsection some countries suggested that it needed to highlight actions for conservation at the national level. Some countries also suggested amending para. 19 to read “.....properly considered and *documented*”. Regarding **Capacity**, some countries supported the addition of text in para. 20 to capture “*recent opportunities to access international funding*” and not just leave responsibility to countries. Some also suggested adding “*collaboration*” to para. 21 in the French version.

## **PAA 2. Supporting on-farm management and improvement of PGRFA**

22. The title was confirmed by most countries although some felt that it was vague and non-technical. The same countries recommended that “*participatory breeding*” be added after management. Some Francophone countries stated that translation for *on-farm* is not clear and also queried whether one improves *PGR* or *varieties*.
23. The **Long-term objectives** were debated with varied opinions. Many countries felt that there were too many elements in the long term objectives and suggested that they be synthesized into a shorter version with some emphasizing that synthesis should capture all ideas already expressed. Other countries supported that any elements that don’t fit after synthesis can be added to the intermediate objectives. However, a few countries felt strongly that the long term objectives be retained unchanged as they were explicit and clear for those less familiar with topic. The consultation recognized the need to highlight “*incentives*” for farmers and some countries suggested the addition of an objective to cater for incentives. Specific changes suggested by a few countries include deleting “existing” in para. 32 line 208 (English version); changing *CBD* (line 213) to “*International Treaty on plant Genetic Resources for food and Agriculture*” then adding “*and International Treaty*” after FAO Resolution 5/89 (line 211); using a stronger word instead of “realize” (line 210) in reference to Farmers’ Rights to highlight the importance of farmer’s rights in *in situ* conservation. It was further suggested to update the objective in light of provisions in the International Treaty; and amending line 215 to read - To encourage traditional seed exchange and supply systems “*including community genebanks*”. Most countries considered the **intermediate objectives** as valid and a few suggested considering Farmer’s rights under intermediate objectives. In reviewing para. 34 in the **Policy/strategy** subsection some countries stressed that many countries have strategies for conservation *in situ* – the problem is with their implementation. Further, recognizing the potential impact of GMO’s to *in situ* conservation, a few countries suggested that GMO’s and associated research issues should be included in para. 44b.
24. The consultation reviewed the **Research/technology** subsection and observed that although climate change and other emerging issues such as GMO’s are cross cutting and considered important and relevant to all priority activity areas; the particular importance /impact of climate change on PGRFA *in situ* should be highlighted. Further, some countries suggested either highlighting climate change as a stand-alone priority activity area under *in situ* conservation and development, or, alternatively, to include as separate paragraph under Research/technology - para. 44. Some countries suggested, under **Coordination/ administration** subsection, a review of partnerships to ensure that new partnerships are properly incorporated e.g. Global Crop Diversity Trust (GCDDT), World Agroforestry Centre and that already reported partnerships, which are still relevant are duly updated (e.g. in para. 48 - IPGRI now Bioversity International).

## **PAA 3. Assisting farmers in disaster situations to restore agricultural systems**

25. Some countries indicated the importance of early warning systems under this priority activity; however there was no consensus as to the need and where in the PAA it should be addressed. There will be need to adjust long and intermediate objectives in light of changes to title if it incorporates early warning aspects. Some countries also recognized the need for assessment as a crosscutting issue to all four priority areas with results important for advocacy and policy support rather than just for disaster preparedness. The

consultation reviewed the title of the PAA and came up with varied suggestions including amending the title to read “..*restore PGR in agricultural systems*” or “..*farmers in disaster situations and climate change*” while others wanted *developing early warning systems* to be reflected in the title.

26. The **Long term objectives** were confirmed as relevant by most countries. Specific changes were recommended including to make reference to rural communities rather than peoples and changing “rehabilitation” to “*restoration*” in para. 51. It was also suggested to make correct the translation in line 495 of the French version. Similarly, there were varied suggestions on the **Intermediate objectives**, including introducing an aspect of monitoring; adding documentation of plant genetic resources at the farm level; highlighting the role of farmers (not only scientists). Some countries also suggested to add “*and climate change*” in para. 52 – after “natural disaster”; replacing “*ex situ* collections” in para. 60 with “*germplasm*.” Some countries disputed the need to qualify disasters such as war, civil strife etc and suggested that reference to “*areas affected by disaster*” should suffice. A few countries suggested including, in para. 54 in the **Policy strategy** subsection, monitoring and early warning systems as pre-disaster measures/activities to enhance preparedness. Alternatively, some countries felt that early warning can be covered under capacity to cater for need to develop communities’ capacity.

#### **PAA 4. Promoting *in situ* conservation of wild crop relatives and wild plants for food production**

27. The consultation observed that sustainability of conservation *in situ* was closely linked to incentives (use, socio economic, cultural). Similarly, some countries observed that integration / complementarities between *ex situ* and *in situ* were not reflected and therefore there is need to ensure that *ex situ* and *in situ* are not working in parallel but together. The consultation further noted that *characterization* of materials is a pre-cursor to implementation of conservation and more emphasis needs to be put on this activity. There is need to know what the material is that is being conserved, particularly on farm, as it changes with management practices. Some countries emphasized the importance of specifying the farmer’s role in the whole section; the value of community genebanks was also highlighted.
28. Specific suggestions were made in the title and different subsections. Changes suggested by some countries for the title included making reference to “*crop wild relatives*” instead of “wild crop relatives”; adding “*and agriculture*” at end of title after “food production” which should be reflected in subsequent sections. However, other countries confirmed the title of the PAA. In the French version, some countries noted that the title though informative is repetitive.
29. Some countries wanted changes in the wording of the **long term objectives** though there was no consensus. Change suggested include deleting “... in protected areas and on other lands etc ....” thus the sentence should end at “food production”; replacing “...promote...” in line 662 in the English version with “*ensure*”; and adding in para. 66 “*in situ conservation*”. The **intermediate objectives** were confirmed as relevant. Regarding **Policy/strategy** some countries noted that policy support for crop wild relatives (CWR) needs to be highlighted as they are not given adequate attention. There is also need to incorporate in line 634 (English) lessons learnt from pilot project on CWR to assist in implementation (applies to all 4 priority activity areas), since there has been progress but more must be done to incorporate and widely disseminate lessons learnt. Some countries went further to recommended highlighting the importance of wild species to local economies in para. 68. Having noted that the **Research/technology** subsection is missing under this PAA some countries proposed creating a new subsection and adding a paragraph on research on domestication of crop wild relatives and wild plants for food and agriculture. Other research components proposed include seed storage, reproductive

behaviour etc. Some countries suggested modifying the **capacity** subsection by adding “*manage and sustainably use*” to para. 73b.

### ***Ex Situ Conservation***

30. The consultation considered the four PAAs under this group and suggested the following three options for changing them:
  - Option 1:* merging PAA 5 and PAA 8 and changing the title to: “*Sustaining and expanding ex situ collections*”
  - Option 2:* merging PAA 5 and PAA 6, retaining title of PAA 5;
  - Option 3:* to retain existing PAAs but modify PAA8 to cover *ex situ* conservation of non-orthodox (recalcitrant and vegetatively propagated) species only. Reordering of PAAs to reflect a management sequence was proposed (PAA 7, PAA 5, PAA 8, PAA 6).
31. It was also suggested that Long-term and Intermediate Objectives be re-arranged to have a broad main objective followed by specific objectives.

#### **PAA 5. Sustaining existing *ex situ* collections**

32. Some suggested changing the title to: “Sustaining and expanding *ex situ* collections or Strengthening *ex situ* collections”. Expansion was deemed necessary in light of new and emerging issues like climate change.
33. With regard to **Long-term and intermediate objectives** the Consultation suggested adding aspects of supporting countries financially and through capacity building to the 3<sup>rd</sup> long-term objective and support for monitoring viability and health of collections as a new long-term objective. Long-term objective formulation should reflect changes in the title. It was suggested using the long-term objective of PAA 8 “To conserve PGRFA so that they will be available for use” for the merged PAA 5. Reorganizing of long-term and intermediate objectives will be needed. Recognition of, and developing farmers’ roles in *ex situ* conservation as well as benefits for farmers should be considered. Objectives should also be updated in the light of the establishment of the GCDT and the entry into force of the International Treaty. The importance of capacity building should be highlighted. The development of core and reference collections should be included.
34. In the **Assessment** subsection, a cautionary statement should be added that the increased number of collections stored does not assure their quality. It should be stressed that the loss of genetic diversity continues. Efforts and achievements of the GCDT should be recognized. Mention should be made of the role of botanic gardens. Under Policy and Strategy there should be stronger emphasis on national collections and on the importance of properly documenting indigenous knowledge.

#### **PAA 6. Regenerating threatened *ex situ* accessions**

35. The Consultation considered keeping the title: Regenerating *ex situ* accessions but adding an explanation for “threatened”.
36. The **long-term objective** should be broader and changed to: To establish *capacity* for regenerating *ex situ* accessions. It was stressed that regeneration must be carried out timely and continuously. The issue of germplasm health in *ex situ* collections should be incorporated. The intent and meaning of the 2<sup>nd</sup> **Intermediate objective** was not clear to the participants. Under **Assessment** it should be mentioned that more action at national programme level is needed.

#### **PAA 7. Supporting planned and targeted collecting of PGRFA\**

37. The Consultation suggested that an explanation for “*targeted*” is needed and that “*planned*” should be deleted.

38. The Consultation suggested making the **long-term objective** more inclusive by bringing it in line with International Treaty language – *To collect PGRFA and associated information prioritizing threatened species*. The **intermediate objectives** should include an aspect of continuity and gap-filling – *To ensure greater coverage of diversity through continuously collecting diversity that is missing in collections through targeted and prioritized collecting*. Under **Policy/Strategy**, there is a need to develop “*best practice guidelines for collectors*” to replace the FAO Code of Conduct where national legislation governing germplasm collecting is absent or weak.

#### **PAA 8. Expanding *ex situ* conservation activities**

39. The Consultation suggested changing the title to “Expanding *ex situ* conservation for non-orthodox species” reflecting that this PAA is dealing mainly with the conservation of vegetatively propagated and recalcitrant species. It was proposed that the **long-term objective** be re-written – *To develop management strategies for ex situ conservation of vegetatively propagated and recalcitrant seeded plants*. Under **Research/Technology** the need for more research on ‘*non-orthodox species*’ conservation should be highlighted.

### ***Utilization of Plant Genetic Resources***

40. In many instances, it was noted that the French version of the GPA does not portray the same meaning as the English version. The consultation suggested referring to “*sustainable*” utilization of Plant Genetic Resources in the section. The consultation highlighted the need to elaborate in the document on benefit sharing and biological intensification in the light of climate change. Restoration was also highlighted as important activity that should be mentioned in PAA 3. There were concerns about how implementation of the GPA by countries could be made more effective. The consultation noted that the section on use tends to concentrate more on *ex situ* and nothing was said about *in situ* resources. Therefore it was suggested to formulate an activity about the promotion of the use of genetic resources from *in situ* collections.
41. Some countries suggested merging PAA 12 and 14, while others suggested putting PAA 13 at the end of the section as PAA 14.

#### **PAA 9. Expanding the characterization, evaluation and number of core collections to facilitate use**

42. The consultation observed that the concept of core collections was not well comprehended and that the emphasis of numbers was not correct. It was therefore suggested that the PAA be reworded to read “Expanding the characterization, evaluation and *further development* of core collections to facilitate use”.
43. The consultation reviewed the **Assessment** subsection and recommended to highlight the need to improve access to characterization and evaluation data by a wide-range of actors, and also the need for developing descriptors for germplasm characterization for more crops.
44. The consultation agreed to keep the **long term objectives** and the **intermediate objectives** separate. However, it was emphasized that the long term objectives should be consolidated within one broad sentence and any objectives which do not fit within the sentence, should be included in intermediate objectives. It was suggested to rephrase para. 148 by removing the word “**ease**”, so that the sentence would read “To increase and facilitate use of conserved plant genetic resources”. The formulation of the intermediate objective in para. 150 was not seen as an objective. It was suggested that it should be rewritten or be transferred to policy and strategy. In the French version it was noted that the first sentence of para. 152 was a repetition of para. 151, and therefore it should be deleted. In the **Policy/strategy** subsection, it was observed that collecting baseline data is

essential meaningful evaluation therefore changes were suggested in para. 153 (a) by inserting the words “*Establish baseline data*”, at the beginning. In the **Capacity** subsection para. 155, it was argued that “*to begin a step-by-step, targeted characterization and evaluation programme for selected priority germplasm*” is no longer relevant in the context of the updated GPA, and therefore the phrase should be removed or reformulated. Under **Research/technology**, it was suggested to add “*plant breeding*” at the end of para. 160 to highlight the link between evaluation and plant breeding.

#### **PAA 10. Increasing genetic enhancement and base-broadening efforts**

45. The consultation observed that support was needed to intensify enhancement and base-broadening efforts hence suggested to change the PAA text to: “*Support genetic enhancement and base-broadening efforts*”. Equivalent text was suggested in French to read: “*Intensifier et renforcer les activités d’amélioration génétique et d’élargissement de la base génétique*”.
46. Some changes were suggested in the French version for the purpose of clarity including reformulation of Line 1967 to avoid redundancy with line 2086; replacement of the word “instituts” by “organismes” in the **Policy / strategy** subsection para. 172; and by institutions in the **Research/technology** subsection para. 174. In para 175, **Coordination/administration**, the consultation highlighted the need to include networking among breeders to allows for sharing community of practices and to exchange ideas.

#### **PAA 11. Promoting sustainable agriculture through diversification of crop production and broader diversity in crops**

47. The consultation suggested that this activity should capture the importance of plant breeding for developing countries and particularly for Africa. The proposed new text reads: “*Promoting sustainable agriculture through diversification of crop production, broader diversity in crops and breeding*”. It was proposed to capture genetic enhancement in Line 2086 in the English version by modifying the sentence to read: “*There is an urgent need to increase genetic enhancement and plant breeding capacity worldwide in order to be able to adapt agriculture to meet the rapidly expanding demand for more and different food, as well as non food products, under substantially different climatic conditions from those prevailing today*”.
48. Changes in the French version included replacement of the word “instituts” by “organismes” in the **Policy/strategy** subsection para. 183; modification of line 2248 to read: “*La nécessité de sensibiliser davantage les décideurs*”.

#### **PAA 12. Promoting development and commercialization of under-utilized crops and species**

49. The consultation expressed the need to highlight potentially useful and neglected species because of their importance for food security and poverty alleviation and suggested the title of the PAA to read: Promoting development and commercialization of *potentially useful, neglected and under-utilized crops and species*.
50. Changes were suggested in para. 192 **Policy/strategy** to add: *In addition foster public - private partnerships and put in place legislations to promote benefit sharing*. In para. 193, it was argued that training and capacity building alone is not enough, therefore, it was suggested to reformulate the paragraph to read: “*Training, capacity building and strengthening for scientists.....*”.
51. In the **Research/technology** sub section para.185, it was suggested to remove the word “on-farm” so that it reads: “*Support efforts to identify those activities used in plant breeding, plant research and farming systems that foster diversity*”.

#### **PAA 13. Supporting seed production and distribution**

52. The consultation suggested to modify para. 197 in the **Assessment** subsection by adding “*including through community seed banks*” at the end. It was further suggested to reformulate para. 204 in the **Capacity** subsection to include the new seed legislation harmonization initiatives at several sub-regional levels in Africa. It should read: “Governments, subject to *regional harmonized legislations*, national laws, regulations and policies.....”.

#### **PAA 14. Developing new markets for local varieties and “diversity-rich” products**

53. The consultation proposed to include: “*Promote local industry and processing*” as an element of the **long-term objective**. It was also suggested to replace the word “primitive” by “*traditional*” in para. 209 line 2470, and in the French version.

### ***Institutions and Capacity Buildin***

54. The Consultation agreed that the SOW-2 was a good basis for updating the PAAs and its subsections. The Consultation also suggested that all PAAs be re-contextualized in the light of new issues such as climate change and the International Treaty.
55. As for the overall title of the group of PAAs 15-20, it was suggested to change: “Institutions and capacity building” to “*Sustainable institutional and human capacity building*”.

#### **PAA 15. Building strong national programmes**

56. The group agreed that the title should reflect the need for continuous support both political and financial of the national programmes focused on PGRFA conservation and use (plant genetic resources management and improvement). A tentative synthesis of this could be reflected in the following title: “*Building, developing and supporting national programmes*”.
57. Under the long-term objectives, it was suggested to add “participate in global efforts to conserve, *access and use*” (Para. 223). Some participants suggested that para. 224 be reformulated and reorganized with bullets. An additional long-term objective proposed was to ensure a capacity building component within the national programmes.
58. With the regard to the **Assessment** section, insertions from the SOW-2 were considered relevant. Some wording changes were proposed like “long-term storage facilities” to become “long-term conservation facilities” in para. 219. Some participants suggested delete the first and second sentences. The need from the SOW-2 “*Many countries still lack national strategies and/or action plans for the management of diversity - or if they have them, they do not fully implement them. Areas that require particular attention include setting priorities, enhancing national and international cooperation, the further development of information systems and identifying gaps in the conservation of PGRFA, including CWR*” was considered of particular relevance as well as the need to strengthen capacities for the development of national strategies and action plans for the management of biodiversity. Under **Policy/strategy**, there was a general agreement on the need to re-contextualize the section in the light of the International Treaty. The impact of changing policies on PGRFA conservation should be assessed and strategies should be adjusted accordingly. “*The need for greater awareness among policy makers, donors and the general public of the value of PGRFA, and the importance of crop improvement, in meeting future global challenges*” (SOW-2 p.115 b.2) and to incorporate PGRFA activities in the national development agenda were emphasized. The importance of incentives for farmers to maintain and make available local varieties was also highlighted, as well as the need to encourage on-farm conservation within agricultural development programmes.

59. National efforts should synergize with regional and international partners. The Consultation also expressed the need to elaborate and implement laws and regulations for PGRFA conservation and utilization. **Capacity** building component under the national programmes should contemplate adequate development for infrastructures and staff, in particular on new technological developments (molecular tools, GIS, etc.), as well as for farmers, particularly on participatory plant breeding. ABS should be underlined in national programmes in line with the provisions of the International Treaty. Strengthening informal seed systems, including certification and community genebanks should also be considered in the strategy of National Programmes. Text from the SOW-2 “*There is a need to strengthen the ability of farmers, indigenous and local communities and their organizations, as well as extension workers and other stakeholders, to sustainably manage agricultural biodiversity*” (SOW-2 p. 43, b. 2) was emphasized. Media tools should be largely used in this context.

#### **PAA 16. Promoting networks for plant genetic resources for food and agriculture**

60. The consultation proposed either to keep the title as it is or to add the words “*and strengthening*” after the word “promoting”.
61. Regarding the **Objectives**, it was proposed to add a reference also to “*ex situ*” under para. 243 of the GPA or to drop the “*in situ*” one.<sup>1</sup> Some suggested consider the re-localization of some long-term objectives under the intermediate ones (paras. 245 and 246 of the GPA). The promotion of farmers’ participation in the networks, especially women, as well as strengthening public and private partnerships should be highlighted.
62. Under **Assessment**, reference about language issues in the coordination and implementation of network activities was made. Under **Policy/strategy**, gaps and needs from the SOW-2 bullets 3<sup>2</sup>, 5<sup>3</sup> and 6<sup>4</sup> (p. 87) were highlighted. With reference to “the need for closer collaboration and coordination, nationally and internationally, especially between the agriculture and environment sectors” (Gaps and Needs from SOW-2, p. 44 b. 4), the inter-disciplinarity involving other actors than from agriculture and environment was emphasized. In addition, concern was expressed about the need for sustainable funding. Under **Capacity**, issues related to inter-networks cooperation and information technologies were raised. Under **Research/technology**, the Consultation expressed the idea that the networks are not only a vehicle for implementing collaborative research but also for enhancing synergies and providing comparative advantages. Under **Coordination/administration**, the need to involve NGOs was expressed.

#### **PAA 17. Constructing comprehensive information systems for plant genetic resources for food and agriculture**

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<sup>1</sup> The French translation should match the English version and use the word “et” instead of “ou”.

<sup>2</sup> “While there are still high levels of duplication globally for a number of crops, especially major crops, much of this is unintended and many crops and important collections remain inadequately safety duplicated. The situation is most serious for vegetatively propagated species and species with recalcitrant seeds”

<sup>3</sup> “ Given that international germplasm exchange is a key motivation behind many networks, additional attention is needed both to promote the effective implementation of ITPGRFA, and in particular its multilateral system of access and benefit sharing, as well as to develop arrangements for those other crops that are not currently included in the system but that are within the overall scope of the ITPGRFA”

<sup>4</sup> “To better serve the management of collections and encourage an increased use of the germplasm, documentation, characterization and evaluation all need to be strengthened and harmonized and the data need to be made more accessible. Greater standardization of data and information management systems is needed”

63. The title of PAA 17 was considered valid by some of the participants; some others suggested to incorporate the concepts of maintenance, strengthening and promotion of the use of the information systems.
64. **Under the long-term objectives**, the Consultation agreed to emphasize the need to periodically update information and databases on a regular basis and to promote application of standards for inter-operability and exchange among systems. Under the **intermediate objectives**, it was suggested to add “To assemble *and periodically update*” (Para. 263). Under the **Assessment**, the issues of accessibility to information as well as capacity were raised. In the **Policy/strategy**, para. 269, reference to the International Treaty was proposed to be added. It was also suggested to highlight the need for the NFPs to commit themselves to keep the data useful, efficient and user-friendly, in synergy with regional and global efforts where relevant. Gaps and needs “*There is a need for more accurate and reliable measures, standards, indicators and baseline data for sustainability and food security that will enable better monitoring and assessment of the progress made in these areas. Of particular need are standards and indicators that will enable the monitoring of the specific roles played by PGRFA*” (SOW-2 p.200 b.7) was emphasized. Regarding **Capacity**, the lack of infrastructures and the need for training and promoting the application of standards for inter-operability and exchange among systems were emphasized. The Consultation agreed on the need to reformulate para. 270 to specify the facilities referred to, as well as para. 274 to highlight the lack of human resources. Under **Research/Technology**, the Consultation suggested some wording changes in bullet c) “*Provide the necessary means*” to replace “Develop means [...]”.

#### **PAA 18. Developing monitoring and early warning systems for loss of plant genetic resources for food and agriculture**

65. The title of PAA 18 was considered valid by the majority of the participants; some others suggested to add the words “*and/or enhancing*” after “developing” and the word “*adapted*” before “monitoring and early warning systems”.
66. In the **Objectives**, the Consultation proposed some wording changes in para. 281 “*To contribute to minimize*” and in para. 282 to replace “To determine” with “*To identify*”, and to add in the last sentence “To establish *monitoring* mechanisms to ensure that information is *timely* transferred [...]”. The need to carry out impact assessments and the need to develop tools and criteria for monitoring genetic loss were both emphasized.
67. The Consultation agreed that the **Assessment** section should be re-contextualized in the light of new issues such as climate change, ecosystems shrinkages, industrialization, etc. Some participants suggested some changes in para. 280, in particular, either to delete the first sentence “Various factors, both natural phenomena and the results of human behaviour, including urban expansion, agricultural modernization, civil strife and war, can put plant genetic resources for food and agriculture at risk” or to specify the natural phenomena referred to. Changes from the SOW-2, “*There is evidence that more attention is now being paid to increasing the levels of genetic diversity within production systems as a means of reducing risk, particularly in the light of the predicted effects of climate change*” (SOW-2 p.43 b.10) and “*There has been a substantial increase in awareness over the past decade of the extent and nature of the threats posed by climate change, and of the importance and potential of PGFRA in helping agriculture to remain productive under the new conditions through their underpinning of efforts to breed new, adapted crop varieties*” (SOW-2 p.115 b.8) were emphasized. The Consultation proposed to re-contextualise the **Policy/strategy** section in the light of the new challenges, including the International Treaty. It was also suggested to reformulate para. 284 and the text from SOW-2 “*There is a need to promote standard definitions and means of assessing genetic vulnerability and genetic erosion, as well as to agree on more and better indicators, in order to be able to establish national, regional and global baselines for monitoring diversity and changes in it, and for establishing effective early warning systems*” (SOW-2 p.20 b.5) to emphasize the need for direct impact assessment. The need to link early



warning systems with the information generated by local seed systems and community genebanks; the need to promote standard definitions and means of assessing genetic vulnerability and genetic erosion, as well as to agree on more and better indicators; and the need to involve local communities in the efforts to strengthen farmers' capacities for evaluation of genetic erosion were highlighted. Under **Capacity**, the need for technical and financial support for building capacities to elaborate indicators was emphasized as well as local communities' role in strengthening farmers' capacities for evaluation of genetic erosion. *"The need for greater awareness among policy makers, donors and the general public of the value of PGRFA, and the importance of crop improvement, in meeting future global challenges"* (SOW-2 p.115 b.2) was emphasized. The issue of the French translation was also raised for para. 285.<sup>5</sup> It was suggested to add the issue of the definition of standards under **Research/Technology**.

### **PAA 19. Expanding and improving education and training**

68. The majority of the participants validated the title of PAA 19 as it is. Some participants suggested to add the words "[...] and training in PGRFA"; a minority also proposed to delete the words "Expanding and".
69. Under the **long-term objectives**, it was suggested to reformulate para. 295 and in particular, to remove the term "functions" and replace with *"activities of collecting"*, and to highlight the need to encourage all educating institutions to introduce in their programmes training and courses on PGRFA. In the **Intermediate objectives**, it was proposed to delete para. 298. Some wording changes were suggested in para. 296 to delete the word "advanced" and to add the words "... in developed and developing countries for all PGRFA stakeholders". It was also proposed to add in para. 297 "... in subjects identified as priorities nationally and regionally" and to highlight the need for under-graduate and post-graduate programmes on PGRFA in para. 299.
70. The Consultation agreed that the **Assessment** section should be reduced, and that change from the SOW-2, *"Overall global plant breeding capacity has not changed significantly; a modest increase in the number of plant breeders has been reported by certain national programmes and a decline by others"* (SOW-2 p.114 b.1), should be modified to reflect the fact that plant breeding capacity has decreased in Africa. It was also suggested to emphasize phytosanitary issues as well as the lack of understanding of international agreements and treaties. Under **Policy/strategy**, SOW-2 gap and need *"There is a need to assess human resource capacity and needs in the various aspects of conserving and using PGRFA, and to use this as the basis for drawing up national (and ultimately regional and global) education and training strategies"* (SOW-2 p.137 b.5) was emphasized. It was also suggested to reformulate the SOW-2 gap and need *"Greater efforts are needed to include the concepts of conservation biology, especially with respect to agrobiodiversity, in biological sciences curricula at all levels"* (SOW-2 p.137 b.8) to reflect the need for under-graduate and post-graduate programmes on PGRFA. In **Capacity**, the need for training in plant physiology, taxonomy, etc. and for promoting understanding of international agreements and treaties were emphasized as well as the need for mentorship programmes in PGRFA. The Consultation agreed that **Research/technology** section should be improved to highlight the need to involve university students in field activities, especially collecting PGRFA. Under **Coordination/ administration**, it was proposed to add the words *"In addition, advanced programmes should be developed in cooperation with relevant regional academic consortia or associations in the light of the needs assessed at the national level"*.

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<sup>5</sup> "méthodes de rassemblement" should be replaced with "méthodes de collecte".

## **PAA 20. Promoting public awareness of the value of plant genetic resources for food and agriculture conservation and use**

71. The Consultation agreed that all the sections under PAA 20 should be re-contextualized in the light of the new challenges, including climate change, new eating habits, niche markets, HIV-AIDS, etc. The consultation proposed either to keep the title as it is or to add the words “*and advocacy*” after “promoting public awareness” or “*Educating and*” before “Promoting”.
72. In the **Long-term Objectives**<sup>6</sup> para. 314, it was suggested to modify it as follows: “To integrate fully *education*, public awareness, *sensitization and ownership* into all local, national, regional and international programme activities *on the importance/value of PGRFA*”. Under the **Intermediate Objectives** para. 315, it was also suggested to modify it as follows: “To support *and strengthen* mechanisms, particularly in developing countries, for coordinated public awareness *and advocacy* activities at all levels”. Some participants felt that additional intermediate objectives could be added which would lead to the long-term objective.
73. Under **Assessment**, the Consultation agreed that the Changes from the SOW-2 p. 17 b. 2<sup>7</sup> and 3<sup>8</sup>; p. 43 b. 10<sup>9</sup>, p. 86 b. 4<sup>10</sup> and 5<sup>11</sup>, and Gaps and needs p. 17 b. 2<sup>12</sup> should be relocated under more relevant PAAs of the GPA. In **Policy/strategy**, the Consultation agreed to emphasize the need to encourage multinational companies that use genetic resources to participate in public awareness activities. The valorization of local diversity and the need to develop and institutionalize tools and strategies for disseminating PGRFA information were also highlighted. In para. 317, it was proposed to add the words “National strategies should identify objectives and strategies for public awareness, defining target audiences, partners and tools for public outreach *but also fostering the development of private-public partnerships*”. It was also suggested to relocate para. 318 under Capacity and to change “Adequate consideration should be given to production of public awareness materials [...]” to “*enhancing the capacity for producing public awareness materials*”. Under **Capacity**, the gap and need from the SOW-2 “*In the effort to mobilize additional resources for ex situ conservation, greater efforts are needed in raising awareness among policy makers and the general public, of the importance of PGRFA and the need to safeguard it*” (SOW-2 p.87 b.9) was suggested to be reformulated by adding a reference to PGRFA utilization. In para. 305 it was proposed to mention phytosanitary issues. The need to strengthen human resources, notably through media, and to train trainers on the evaluation of social, cultural, economic value of PGRFA were also emphasized. Under **Research/Technology**, the gap and need from the SOW-2 p. 44 b. 10 was proposed to be relocated under the *In situ* PAAs. The Consultation also agreed to emphasize the need for information on the social, cultural, and economic value of PGRFA. Concerning **Coordination/administration**, it was

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<sup>6</sup> The “*final objectives*” should be corrected and become “*long-term objectives*”.

<sup>7</sup> Scientific understanding of the on farm management of genetic diversity has increased, and this approach to the conservation and use of PGRFA has become increasingly mainstreamed within national programmes

<sup>8</sup> Interest in and awareness of the importance of conserving CWR, both *ex situ* and *in situ*, and its use in crop improvement have increased substantially

<sup>9</sup> There is evidence that more attention is now being paid to increasing the levels of genetic diversity within production systems as a means of reducing risk, particularly in the light of the predicted effects of climate change

<sup>10</sup> Interest in collecting and maintaining collections of CWR is growing as land-use systems change, concerns about the effects of climate change grow and techniques for using the material become more powerful and more readily available

<sup>11</sup> Interest is also growing in neglected and under-utilized crops in recognition of their potential to produce high-value niche products and as novel crops for the new environment conditions that are expected to result from climate change

<sup>12</sup> A better understanding of, and support for, farmers’ management of diversity is still needed, in spite of significant advances in this area. Opportunities exist for improving the livelihoods of rural communities an essential element of such efforts

suggested to emphasize the need for partnerships with international companies using genetic resources and for a closer collaboration between FAO and WHO.

### **Implementation and Financing of the Global Plan of Action**

74. The consultation suggested revising the Implementation and Financing section to include new institutions and mechanisms such as the Global Crop Diversity Trust, the Benefit Sharing Fund of the International Treaty and Climate Change Resource Allocation; require countries to make commitments to support National programmes; and establish an endowment fund to address resources not covered by the Trust and Benefit Sharing Fund.

## APPENDIX A

### Agenda

Day 1 – Wednesday 2 June 2010

8.00 - 9.00	Registration	
9.00 - 9.45	<p>Welcome ceremony</p> <p>FAO</p> <p>KARI</p> <p>FAO Commission on Genetic Resources for Food and Agriculture</p> <p>International Treaty on PGRFA</p> <p>Bioversity International</p>	<p>Stefano Diulgheroff, FAO AGP</p> <p>Castro Camarada, Representative in Kenya</p> <p>Zachary Muthamia</p> <p>Dan Leskien</p> <p>Kent Nnadozie</p> <p>Jojo Baidu-Forson</p>
9.45 - 10.00	Introduction of participants	
10.00 - 10.10	Agenda and Objectives	Barbara Pick, FAO
10.10 - 10.30	GPA updating process	Stefano Diulgheroff
10.30 - 10.50	Coffee break	
10.50 - 11.30	Changes in PGRFA conservation and use: Challenges for the new GPA	Stefano Diulgheroff
11.30 - 12.00	Regional Summary	Dan Kiambi, ICRISAT
12.00 - 12.20	Dynamics of working group discussion	Stefano Diulgheroff
12.20 - 13.50	Lunch	
13.50 - 15.30	Working Group session 1	
15.30 - 15.50	Coffee break	
15.50 - 17.30	Working Group session 2	
17.30 - 19.10	Working Group session 3	

## Day 2 – Thursday 3 June 2010

8.30 - 10.10	Working Group session 4	
10.10 - 10.30	Coffee break	
10.30 - 12.10	Working Group session 5	
12.10 - 14.00	Lunch	
14.00 - 14.30	Wrap up Sec.I (GPA introductory parts)	Wilson Marandu, Bioversity
14.30 - 15.00	Wrap up Sec.II ( <i>in situ</i> and on farm)	Julia Ndungu-Skilton, Bioversity
15.00 - 15.30	Wrap up Sec.III ( <i>ex situ</i> )	Herta Kolberg, Bioversity
15.30 - 16.00	Wrap up Sec.IV (use)	Robert Guei, FAO
16.00 - 16.30	Coffee break	
16.30 - 17.00	Wrap up Sec.V (institutions and capacity building)	Barbara Pick
17.00 - 17.30	Closure	S. Diulgheroff; Cheikh Alassane Fall, Representative of Africa in the Bureau of the FAO Commission on Genetic Resources; K. Nnadozie; Jojo Baidu-Forson

In yellow: Plenary sessions

In green: Working groups sessions

## APPENDIX B

### List of Participants

#### Regional Consultation for Africa: Update of Global Plan of Action on the Conservation and Sustainable Use of PGRFA, Nairobi, Kenya, 2-3 June 2010

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### **III. REPORT OF THE REGIONAL CONSULTATION IN LATIN AMERICA AND THE CARIBBEAN**

#### **A. INTRODUCTION**

1. The Commission on Genetic Resources for Food and Agriculture (*Commission*), at its Twelfth Regular Session, endorsed the *Second Report on the State of the World's Plant Genetic Resources for Food and Agriculture (Second Report)* and considered updating the *Global Plan of Action for the Conservation and Sustainable Utilization of Plant Genetic Resources for Food and Agriculture (GPA)*. The *Commission* requested the Food and Agriculture Organization of the United Nations (FAO) to prepare the updated GPA based primarily on the *Second Report*, and in particular, on the identified gaps and needs; taking into account further contributions from Governments, as well as inputs received from regional meetings and consultations. It further decided that the updated GPA would be considered at its Thirteenth Regular Session in 2011.
2. The consultation of the Latin American and the Caribbean region for the updating of the GPA, was held in La Antigua, Guatemala, 9-10 August 2010. The consultation was organized by FAO in collaboration with the Secretariats of the Commission and of the ITPGRFA, with the support of the Ministry of Environment, Rural and Marine Environment of Spain; the Spanish Agency of International Cooperation for the Development (AECID) and the Ministry of Agriculture of Guatemala (MAGA). The agenda is provided in Appendix A and the list of participants in Appendix B. This report presents the results of the discussions on the updating of the GPA held during the regional consultation.

#### **B. INTRODUCTORY PRESENTATIONS**

3. The consultation started with a welcome and opening remarks by H.E. Mr. Juan Alfonso de León, Ministry of Agriculture of Guatemala, followed by brief addresses made by Mr. Luis Salaices, Manager of the Varietal Registration Office of the Ministry of Environment, Rural and Marine Environment of Spain; Mr. Iván Angulo, FAO's Guatemalan, *ad interim*, Representative; Ms. Juanita Chaves, International Treaty for Plant Genetic Resources for food and Agriculture; Ms. Eva Hain, Commission on Genetic Resources for Food and Agriculture; and Ms. Maria Luisa Aumesquet, The Spanish International Cooperation for the Development Agency (AECID).
4. Mr. Stefano Diulgheroff, Plant Production and Protection Division Officer, FAO, indicated that the consultation for Latin America and the Caribbean is part of a regional consultative process for the update of the GPA which started in May 2010 and will be completed in November 2010. The objective of the consultation is to receive inputs and recommendations from representatives of the region on both the content and structure of the GPA as inputs for its updating. He then provided an overview of the significant changes since the GPA adoption in 1996, and new challenges in plant genetic resources for food and agriculture conservation and use. He ended pointing out the gaps and needs identified in the SOW-2 that may be considered in updating the GPA.
5. Ms. Marleni Ramírez, Director of the Regional Office for the Americas of Bioversity International, provided a summary of the results of the "Workshop for the identification of

regional priorities on plant genetic resources for food and agriculture in Latin America and the Caribbean”, held a year ago in Cartagena de Indias, Colombia.

6. Mr. Diulgheroff described the process for undertaking the consultation. The delegates were divided in five working groups; each group had the opportunity to review and make contributions over the GPA introductory parts and the main four thematic groups of the GPA. Working groups were requested to consider changes, gaps and needs identified in the *Second Report*, that *verbatim*, were inserted in the different sections of the GPA working document prepared for this consultation.
7. A *Rapporteur* for each of the five subjects (introductory parts and the main four thematic groups of the GPA) was assigned. *Rapporteurs* recorded the participants’ contributions and presented the results in a plenary session.

### C. SUMMARY OF RESULTS

8. The regional consultation highlighted the importance of having an updated GPA. In an objective, concise, pragmatic and clear way, the updated GPA should identify priorities at global level for the conservation and sustainable utilization of PGRFA, as well as facilitate awareness raising among the public and decision makers, about the role of PGRFA in the current and future context of food security and of the challenges that population growth and climate change impose on agriculture. Comments and suggestions proposed during the discussions are summarized for the different sections of the GPA in the following paragraphs.

### D. REVIEW OF THE LEIPZIG DECLARATION AND INTRODUCTION

9. Most delegates recommended moving the Leipzig Declaration to an appendix; although, due to its historical, philosophical and current importance, some suggested it should stay at its current location.
10. The consultation suggested that the GPA should be periodically reviewed (every 5-10 years) and that this aspect should be mentioned in the Introduction. Capacity building and the funding needed to implement it, together with climate change and the complementarity of *in situ ex situ* conservation were, according to the participants, the most important subjects that the updated *Plan* should highlight. Some delegates suggested to add new paragraphs to the introduction to include updated information, explain the updating process of the GPA, and discuss the GPA implementation at country level. With regard to the current text, a specific suggestion was made to add the word “access” to line 6 of the first paragraph.
11. The consultation considered the following suggestions to strengthen and update the rest of the paragraphs of the Introduction section:
  - To mention the relationship among the GPA, the International Treaty for Plant Genetic Resources for Food and Agriculture (ITPGRFA) and the Second Report on the State of the World’s Plant Genetic Resources for Food and Agriculture (*Second Report*).
  - To mention the most relevant events in the past 15 years, including climate change; update the current text with quantitative data from the SOW-2 and other sources, and strengthen the paragraphs related to food security.
  - To highlight the role and function of PGRFA in agroecosystems and recognize the role of local communities in PGRFA conservation.

### **E. REVIEW OF THE RATIONALE SECTION OF THE *GLOBAL PLAN OF ACTION***

12. The consultation reviewed items 7(a)-7(d) of the rationale section of the GPA. As per its content, almost all agreed to retain (a-g) current items; some suggested merging 7(a) and 7(c); others proposed reviewing the last sentence of 7(d) related to Access and Benefit Sharing (ABS), after the Conference of the Parties' meeting of the CBD in Nagoya, Japan, later this year. The results of the ABS negotiations, if relevant, could be included in the Rationale section of the GPA.
13. The consultation agreed to retain the text of the current section, but recommended to strengthen it with updated data. Some participants suggested highlighting the essential role of PGRFAA for agriculture sustainability, food security and for climate change adaptation, and to stress in this sections article 14 of the ITPGRFA.

### **F. REVIEW OF THE AIMS AND STRATEGIES OF THE *GLOBAL PLAN OF ACTION***

14. For the **Aims** section several suggestions were made, without reaching consensus. Some participants suggested reducing the section to three more specific, pragmatic and conclusive aims. Suggestions to update paragraph 8 and to move it to the Introduction section, as well as to include the words "To create and strengthen..." in the last bullet in paragraph 9 were also made. Others proposed adding a new aim with the following text "To provide elements to adopt national legislation leading to conservation and utilization of PGRFA".
15. With regard to the **Strategies**, para. 10 (a-f), almost all participants proposed either to reduce the text drastically, making it clearer, or to delete it.

### **G. REVIEW OF THE STRUCTURE AND ORGANIZATION OF THE *GLOBAL PLAN OF ACTION***

16. The consultation agreed on retaining the current GPA thematic groups (*In situ* conservation and development; *Ex situ* conservation; Utilization of plant genetic resources; Institutions and capacity building). Nonetheless it suggested review the content of the Priority Activity Areas (PAA) in order to reduce, summarize and make it more direct and clearer. The consultation also suggested review the Spanish translation of the PAA titles, because in some cases it does not fully reflect the meaning of the English version.
17. Some participants suggested moving the **Assessment** sections of the PAAs to an appendix. The consultation agreed on the need to review and rewrite the objectives of the PAAs in the four main groups by defining them as clear and focused as possible through a concise and direct language. No consensus was reached on either to have only one heading for the objectives or to keep two separate sections, namely "long term objectives" and "intermediate

objectives”. In the latter case the term duration and the duration of the GPA should be defined and specified. It was noted that the term of implementation of these objectives is important, because it might influence the eventual GPA funding. Some participants suggested changing these sections to “general goals” and “specific objectives”, avoiding temporal regency and making them result oriented. Participants also suggested to harmonize the modifications of the long and intermediate objectives with the *Policy/strategy* sections of the different PAA.

## **H. REVIEW OF THE PRIORITY ACTIVITY AREAS OF THE *GLOBAL PLAN OF ACTION***

18. The participants reviewed the 20 Priority Activity Areas (PAAs) of the GPA, in particular, their titles, objectives and different sections, including the changes, gaps and needs identified in the *Second Report*. The suggestions provided by the consultation for consideration in the GPA updating are described in the following sections.

### ***In situ Conservation and Development***

19. Most of the participants agreed to retain the four current PAAs, although some proposed (a) to merge PAA 3 with PAA 2; or (b) to leave two PAAs: one for on-farm management of crop genetic resources (PAA2), and another one for *in situ* conservation of wild plants of interest for food and agriculture (PAA 4). This last option would imply, in addition to what is suggested in (a), also to merge the current content of PAA 1 into both PAA 2 and 4.

### **PAA 1. Surveying and Inventorying Plant Genetic Resources for Food and Agriculture**

20. The consultation agreed on retaining the current **title**. Most of the participants agreed that when surveying and inventorying a community-based approach which gathers farmer’s and other community member’s traditional knowledge and cultural practices should be applied. In surveying and inventorying, participants highlighted the importance to develop and apply geographic information systems (GIS), as well as to develop genetic erosion indicators for different geographic areas. Others mentioned that the use of molecular biology techniques should not be too emphasized in this PAA.
21. For the **assessment** section, participants suggested including information about the main species and crops inventoried since 1996. They also asked to highlight the important role of seed fairs in surveying and inventorying. As per the **objectives** some pointed out that the aim of this PAA is the conservation of plant genetic resources; others mentioned that the scope of the objectives of this PAA should not be just limited to the plant genetic resources “that are of anticipated use”, but rather extended to all resources of current or potential value for food and agriculture.
22. In the **Capacity** section the need to improve capacity on climate change impact and adaptation assessment, was highlighted. In the Research/Technology section participants suggested including development and use of ecogeographic maps during inventories.

### **PAA 2. Supporting on-farm management and improvement of Plant Genetic Resources for Food and Agriculture**

23. In general terms, the consultation in this PAA suggested to highlight the importance of promoting sustainable systems for conservation; to acknowledge markets' role at community level, and the need to integrate biodiversity conservation and economic development approaches in development programs.
24. The title of this PAA was considered valid; while for the **objectives** section, participants noted that references related to 1989 FAO's resolution on farmer's rights, and on benefit sharing on the Convention of Biological Diversity (CBD) are obsolete. It was suggested to refer to the ITPGRFA, as per these subjects. The development and implementation of legal frameworks related to these subjects is an urgent matter and therefore should not be included in the long term objectives. Specific changes suggested for this section include the modification of the current long term objective to "enhance and increase the efficiency of on-farm conservation systems" and the need to emphasize complementarity between *in situ* and *ex situ* conservation strategies.
25. In the **Policy/strategy** section, participants suggested including the following subjects: incentives to implement local, high diversity productive systems ("biodiverse chacras"); community banks to provide sowing materials to farmers; agroecotourism for on-farm conservation funding; and strategies to strengthen partnerships between Governments and farmers. In the **Capacity** section, the importance of including farmers and their organizations in breeding programmes, was highlighted. Participants suggested, for the **Research/technology** section, to include social and cultural dimension to the research activities, and to include studies on pollinators. Under **Coordination/administration**, the consultation asked to highlight the fundamental role of Governments to ensure sustainability to on-farm conservation efforts.

### **PAA 3. Assisting farmers in disaster situations to restore agricultural systems**

26. Most of the participants suggested keeping this PAA and its **title**, though some pointed that, regardless of the importance of the subject covered in this PAA, it could be merged with PAA 2, due to its strong linkage to on-farm management. Some participants stressed the need to add aspects related to preparedness, mitigation and restoration. Other relevant subjects mentioned were climate change effects and the need to involve local seed systems to restore agricultural systems in case of disasters. As per constraints related to the fast and secure access to germplasm in case of emergencies, in particular of the vegetatively propagated materials, some participants emphasized the need to develop a fast germplasm transfer system, which under the terms of the Treaty's Multilateral System, when applicable, includes the harmonization of quarantine protocols and other phytosanitary aspects. Others suggested the possibility of widening this PAA to cover genetic erosion and all other possible disaster situations, including those generated by economic crisis. Should that be the case, it was suggested to include in the **objectives** section, the development and establishment of early warning systems, and other mechanisms to secure duplication of *ex situ* collections and improve preparedness in case of disaster.
27. In the **Policy/strategy** section it was proposed to consider the establishment of policies and plans for farming systems rehabilitation after disasters that included PGRFA; to promote local community banks in partnership with local networks in different geographic areas to sustain the assistance in case of disasters. For the **Coordination/administration** section suggestions

included recognition of Governments' function in coordinating assistance to farmers after disaster situations.

#### **PAA 4. Promoting *in situ* conservation of wild crop relatives and wild plants for food production**

28. The consultation agreed on recognizing this PAA as very relevant and suggested to keep it without significant changes. Most of the participants recommended deleting the word “promoting” from the **title**. Others proposed to change the title to “*In situ* management of important wild plants for food and agriculture”<sup>13</sup>, and to widen this PAA by covering also the use of these species. Others observed the importance of considering, as part of the on-farm conservation subjects, the case of the weedy wild crop relatives.
29. In the **Policy/strategy** section, the consultation considered a priority to establish programs for the conservation of wild crop relatives. In the **Research/technology** section participants asked to highlight the importance of studying the reproductive biology of the wild species and to conduct ethno-botanic studies for these species. In the **Coordination/administration** section the indigenous community rights on PGRFAA in protected and non protected areas, should be considered.

#### ***Ex Situ Conservation***

30. The consultation considered the four PAAs under this group and suggested the following options for their current **structure**: (a) to keep the four PAAs, but reordering them as follows: start with PAA 7, then 5, 6 and 8 respectively; or (b) merging PAA 5 and PAA 8.

#### **PAA 5. Sustaining existing *ex situ* collections**

31. Most of the participants agreed on maintaining the current **title**, though others suggested to merge PAA 5 with PAA 8 and modify the title to: “Sustaining and increasing the activities for *ex situ* conservation of germplasm”. If both PAAs were merged, participants highlighted the need for a special review of the last long term **objective**<sup>14</sup> as well as of the intermediate objectives.
32. In the **Assessment** section, participants indicated that in the text extracted from the *Second Report*, besides climate change, other conditions that directly or indirectly might affect PGRFAA conservation, such as land use change, infrastructure work (roads, docks), etc. should be considered. Participants stressed that even when an enlargement on the number of seed accessions in banks is mentioned, their current status was not specified (level of characterization, regeneration, representativeness of the stored diversity, part of a core collection, etc.).

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<sup>13</sup> “Manejo *in situ* de las plantas silvestres de interés para la alimentación y la agricultura”, in the Spanish version

<sup>14</sup> In particular the content related to sovereignty “recognizing that states have sovereign rights over their own plant genetic resources for food and agriculture”, and because the “sovereign rights” are also mentioned in the last intermediate objective.

33. The **capacity** section is very important for the Region, as well as its funding. The need to promote capacity building among young students in basic areas related to *ex situ* conservation, and not just in molecular markers or new technology, was highlighted. The need to strengthen at country level the current genebanks' installed capacity and to create new capacity for laboratories, green houses and installations for *ex situ* conservation was also stressed.

#### **PAA 6. Regenerating threatened *ex situ* accessions**

34. Among the general observations, some participants asked to highlight that the regeneration of the collections should take place close to the areas of origin; especially with local materials containing high genetic diversity, to avoid losing their characteristics. Regarding the **title**, some suggested modifying it to: "Regenerating and multiplying *ex situ* collections", by deleting the word "threatened" and in order to stress the importance of ensuring availability of material and meeting access needs. In the **objectives** section some suggested improve the current long term objective, and also to replace the word "infrastructure" by "regeneration capacity". Others mentioned that the long term objective should "Guarantee that relevant collections are not threatened". Some participants also suggested moving intermediate objective 3 under the Institutions and Capacity Building group.
35. Participants suggesting a change in the PAA title, asked to review, modify and add words related to "multiplication" in the **Assessment** section. For the **Policy/strategy** section some suggested highlighting that the national conservation strategies should set the basis for conservation; stressing the importance of safety duplications of the stored germplasm.

#### **PAA 7. Supporting planned and targeted collecting of plant genetic resources for food and agriculture**

36. Three proposals were made to modify the **title** in the Spanish version: (a with more consensus) change the word "selective" to "targeted"<sup>15</sup>; (b) delete the word "selective" from the title; (c) delete from the title the words "planned and selective". The consultation recommended reviewing the text under the **objectives** section; some participants remarked that the current long term objective should be an intermediate objective.
37. Under the **Assessment** section, participants mentioned that some of the paragraphs reported from the *Second Report* are not pertinent and should go under the Institutions and Capacity Building group. Some suggested considering new subjects in the **Capacity** section, specifically developing and promoting the use of tools that enhance collecting, such as modeling programs, ecogeographic maps, GIS, and computer programs that link data from *inter alia* morphological and molecular characterizations. It was noted that the text in the **Policy/strategy** section relates to what is established in the CBD, but it should relate to what is presently under the ITPGRFA. Other participants suggested a specific text.<sup>16</sup>

#### **PAA 8. Expanding *ex situ* conservation activities**

<sup>15</sup> This option confirms the present English title.

<sup>16</sup> "Collecting practices should be developed with regard to the objectives and obligations set forth in the Convention on Biological Diversity, subject to their national legislation, to respect the knowledge of indigenous communities regarding the conservation and sustainable use of biological diversity".



38. In general terms some participants suggested to focus this PAA on tubers and/or vegetative propagation materials, and on the development of protocols for their conservation. With regard to the **title**, most participants proposed maintaining it as it is. Participants that suggested merging PAA 5 and 8, mentioned the need for a new title; the same would apply to the long term and intermediate **objectives**. Some participants mentioned that the current long term objective is not compatible with the PAA title, and others mentioned that it does not focus on the subject addressed by this PAA, since it does not reflect the difficulties related to the conservation of recalcitrant seeded plants and vegetatively propagated species. All suggested an editorial review of the intermediate objectives. Under the **Assessment** section, should PAAs 5 and 8 be merged, it was suggested to include paragraphs related to the conservation in botanical and ethnobotanical gardens.

### *Utilization of Plant Genetic Resources*

39. Participants suggested harmonize this group **title** with Article 6 of the ITPGRFA (“Sustainable use of plant genetic resources”). As for the **structure** of this group, the consultation suggested merging PAA 12 with PAA 14; conveying in the text the important subjects related to them: markets, crops commercialization, local varieties, underutilized species and diversity rich products. In case these PAAs were merged, a new title was suggested: “Promoting development and commercialization of underutilized crops and species, local varieties and diversity rich products”. Other suggestions were: (a) to merge PAA 12 and 14 into PAA 11 (“Promoting sustainable agriculture...”) and leaving in this group four PAAs only (current PAAs 9, 10, 11 and 13). (b) To incorporate PAA 11 to PAA 2, due to its relevance and relation to on-farm management and improvement.

### **PAA 9. Expanding the characterization, evaluation and number of core collections to facilitate use**

40. Some participants suggested changing the **title** into “Expanding characterization and evaluation of the collections, by promoting the integration of core collections”. As for the long term **objectives**, it was suggested reformulating the whole section. The following text was proposed to replace para. 148: “To promote plant breeding that results in higher levels of genetic diversity in crops and agricultural systems. To identify germplasm of potential value for direct use by farmers and for its introduction in pre-breeding and breeding programs”. As per paragraph 149, it was suggested to add: “..., forming relevant, core collections for climate change mitigation...”. In the third paragraph of the intermediate objectives it was proposed deleting the word “international”.
41. The consultation considered that all gaps and needs reported from the *Second Report*, related to the **Policy/strategy** section are relevant; and that participatory approach and research should also be highlighted. In the **Capacity** section, suggestions to move and incorporate paragraph 159 to the section of Implementation and Financing of the GPA were made. The need to promote capacity for young students in basic topics such as breeding and characterization was also highlighted. Participants suggested that in the **Research/technology** section not just core collections should be emphasized. In the **Coordination/administration** section, participants noted that periodic assessments on the use of core collections at global level are difficult to implement. It was suggested to change the focus to regional level.

### **PAA 10. Increasing genetic enhancement and base-broadening efforts**

42. Most participants suggested to include in a prominent way the concept of breeding in the **title**. Participants suggested reformulating the long term **objective**, deleting the first two sentences and moving the fourth at the beginning of the paragraph. As per the intermediate objective, it was suggested to add at the end of the paragraph the following phrase "... and the use of last generation technologies". In the *Policy/strategy* review, participants assessed that the paragraphs reported from the *Second Report* were relevant and that the need to promote new tools like biotechnology should be emphasized. In the *Capacity* section the need for developing Molecular Assisted Selection (MAS) for selection and breeding in marginal lands, was mentioned.

### **PAA 11. Promoting sustainable agriculture through diversification of crop production and diversity in crops**

43. Participants suggested incorporate under this PAA considerations concerning the following subjects: nutritional characteristics, ethno-botany, studies on germplasm and its association with related micro organisms (i.e. symbiotic nitrogen fixation). A modification to the **title** was suggested by several participants: "Promoting diversification of crop production and broadening crop diversity for sustainable agriculture". Replace the second intermediate objective by "Developing models for diversified production and genetic variability use".
44. Some participants suggested including in the *Policy/strategy* section, policies to support diversification programmes and incentives to include new species in the production systems. In the *Capacity* section some highlighted the relevance of paragraphs (d) and (e), and in the *Research/technology* proposed including the promotion of basic research on wild species domestication for the development of high nutritional adapted cultivars.

### **PAA 12. Promoting development and commercialization of under-utilized crops and species**

45. The consultation agreed on merging PAA 12 with PAA 14. In the light of this proposal, general comments mentioned to highlight the following activities: (a) to promote the development of actions to add value to under-utilized and wild species; (b) to promote species diversification in the markets, through new alternatives and incentives; (c) to promote domestication and improvement of under-utilized species; and (d) to gather ethno-botanic information of these species. Participants suggested harmonization of long term and intermediate objectives accordingly.

### **PAA 13. Supporting seed production and distribution**

46. Participants agreed that this PAA is still valid and should not be merged with others. Reference to traditional/non-formal seed systems should be included under the long term **objective**; and the first long term objective should be moved to the end of the second one. As per the first intermediate objective it was suggested to delete the word "parastatal" and to change the text to "Organizing and enhancing viable seed production and distribution

mechanisms; including community banks for local varieties of crops important to small farmers”. Under the *Policy/strategy* section, participants suggested including the need to develop mechanisms to provide for propagation materials for subsistence farming.

#### **PAA 14. Developing new markets for local varieties and “diversity-rich” products**

47. In general terms, suggestions for this PAA included the integration of the following activities and subjects: (a) To promote mechanisms and incentives for developing new niche markets; (b) to promote new policies for the creation and development of new markets for local varieties and “diversity-rich” products; (c) to promote initiatives to encourage new markets for local varieties and “diversity-rich” products, such as appellation of origin, seal of quality, added value, etc.; (d) to promote the creation of records to work with native varieties; and (e) to promote access to markets for these species and define standards for new products.

### *Institutions and Capacity Building*

48. The consultation agreed on modifying the **title** in this group and to highlight, as a priority, the strengthening of institutions and capacity building. In relation to its **structure**, some participants considered merging PAA 15, 17 and 18, since the last two are considered as integral elements of a solid and consistent national program. Others suggested merging PAA 17 and 18, only, under a new title. Others proposed merging of PAA 15 and 16, and of PAA 19 and 20.

#### **PAA 15. Building strong national programmes**

49. Most of the participants agreed on maintaining the current **title**, but others suggested modifying it to reflect, not just building, but also establishing and strengthening or consolidating the national programs. The consultation agreed on improving the current long term **objectives**. Particularly changing the first objective to: “strengthening the national programmes”, or “building and strengthening national programmes for conservation and use”. In paragraph 223, of the Spanish version, all participants asked to replace the word “garantizar” (to ensure) by “desarrollar” (to develop). Others suggested merging both objectives, making them clear and focused on the expected final product (to have strong national programmes) and highlighting the unambiguous and logic need to support the national programme on the long run.
50. The consultation suggested a new organization for the intermediate objectives with a clearer, direct text, addressing the elements and needs reflected in the long term objectives. Some participants suggested to include a new objective to focus on the need for periodical reviews and constant improvement also by adding key stakeholders and ensuring sustainability on the long run.

#### **PAA 16. Promoting networks for plant genetic resources for food and agriculture**

51. Some participants suggested modifications to the **title**: (a) start the title with “Promoting and consolidating...”; (b) replace the word “promoting” by “strengthening” and to avoid the PGRFA reference.

52. Different opinions emerged for the long term **objectives**: some proposed maintaining paragraphs 224-226, others considered that the current objectives are very specific and suggested changing them to: “Promoting efficient, consolidated networks to cover the majority of regions”. Most of the participants suggested taking advantage of the current text of the intermediate objectives to edit the long term objective. The new text should be more complete, direct and stronger. The use of words like “promoting”, “strengthening”, “consolidation” was suggested, as well as to highlight the need for funding.
53. The consultation agreed on modifying all the intermediate **objectives**. The new text could use some paragraphs from the current long term objectives and some sentences and phrases from the existing intermediate objectives. It should be short and concrete. Consensus was reached to delete from paragraph 248 numeric targets. Some suggested deleting paragraph 247, since its main aim is also stated in paragraph 243.

### **PAA 17. Constructing comprehensive information systems for plant genetic resources for food and agriculture**

54. Some participants considered maintaining the current **title**; others suggested deleting the word “*amplios*”<sup>17</sup> in the Spanish version and replace it by a better translation of the corresponding English word “comprehensive”. Others proposed the following title: “Strengthen national, regional and international information systems for PGRFA”.
55. Under long term **objectives** some participants suggested modifying the beginning of paragraph 260 into “facilitating and exchanging”, as well as either delete 261 and 262 or move them to the intermediate objectives. Others suggested modifying all the paragraphs (260-262), since the current ones only mention exchange while it should focus on enhancing capacities on PGRFA information management at national/regional levels. They also suggested merging the long term objective in paragraph 261 with the intermediate objective in paragraph 265.
56. Most of the participants agreed on reviewing all the intermediate objectives, because they are either vague or long. It was suggested to use more explicit and direct words/verbs and eliminate redundancies. It was recommended to modify paragraph 264 as follows: “Establish a regional mechanism...”.

### **PAA 18. Developing monitoring and early warning systems for loss of plant genetic resources for food and agriculture**

57. The consultation noted a discrepancy in the **title** between the English and Spanish versions and recommended to improve the Spanish translation. Most of the participants suggested to reformulate the long term objective, since long term and intermediate aspects are confounded in it. The following text was suggested: “Establishing and managing effective warning systems”. For the first intermediate objective, the following changes to the current text were suggested: “Monitoring genetic erosion using key indicators” and delete the rest.

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<sup>17</sup> “wide” in English

### **PAA 19. Expanding and improving education and training**

58. It was suggested to modify the **title** into “Establishing expanding and improving education and training programmes”. Contrasting views were expressed with regard to the long term objective: some proposed to confirm it, while others suggested to modify it by including a wider scope of population groups. In this regard, the phrase “education and capacity at all levels” was suggested as more appropriate. In general terms the intermediate **objectives** are considered to be too short, general and fail to mention target populations; most of the participants mentioned that target groups such as scientists, producers, communities, decision makers, etc. should be specifically mentioned. Some participants suggested modifying paragraph 296 into “To implement education and training programs for advanced training...”. In paragraph 297, it was suggested to include a reference to the national level as well. Others suggested merging objectives in paragraph 297 to 299 into one intermediate objective.

### **PAA 20. Promoting public awareness of the value of plant genetic resources for food and agriculture conservation and use.**

59. Participants suggested reviewing the Spanish translation of the **title**. Most of the participants asked to change the long term **objective** in paragraph 314, in order to mention all population levels. As per the intermediate **objective**, most of the participants suggested modifying it into: “Developing public awareness in national programmes”, taking advantage of the country’s public media capacity. Participants suggested considering, in this objective, or in an additional one to “develop progressively awareness activities at all levels for all population groups”.

### ***Implementation and Financing of the Global Plan of Action***

61. The consultation reviewed the section on implementation and financing in pages 61-63 of the GPA. According to the participants the next review of the GPA should occur before 15 years from its adoption and a mechanism for monitoring the implementation of the updated GPA should be established. It was proposed to explore new funding mechanisms, and to strengthen or widen existing ones, as well as to highlight the responsibility of developed countries to provide funding for the GPA implementation in developing and in transition countries. The consultation suggested to include a funding title for each PAA in this section.
62. Participants suggested to adjust paragraphs 1, 2 and 3 in the light of the new developments occurred at international level since 1996 in particular the entry into force of the ITPGRFA. Paragraph 3 should be reformulated, in a more active way, including concrete, specific recommendations. In paragraph 8 participants recommended highlighting the recognition of national governments’ contribution, as well as their responsibility to support these activities.
63. Some participants suggested including in each PAA a funding section, identifying the main potential financial sources. This new section should make reference to the financial strategy of the ITPGRFA (Art. 18), to provide for the actions and financial mechanisms of each priority activity.

64. In the Region capacity development for the four GPA thematic groups is a high priority. The need for funding it's a cross-cutting element which is even more evident particularly relevant to accomplish PAAs under the Institutions and Capacity Building grouping. The consultation solicited to give priority to this subject, since without funding, institutionalization and capacity building cannot be reached.

## APPENDIX A - AGENDA

### REGIONAL MEETING ON PLANT GENETIC RESOURCES FOR FOOD AND AGRICULTURE: APPLICATION OF THE INTERNATIONAL TREATY AND UPDATING OF THE GLOBAL PLAN OF ACTION

#### Organized by

The Food and Agriculture Organization of the United Nations (FAO)  
The Secretariat of the International Treaty for Plant Genetic Resources for Food and  
Agriculture

#### In collaboration with

The Ministry of Environment, Rural and Marine Environment of Spain  
The Spanish International Cooperation for the Development Agency (AECID) and the  
Guatemalan Ministry of Agriculture (MAGA)

**La Antigua (Guatemala), August 9-12 de agosto, 2010**

<b>Monday 9, 2010</b>		
<b>08:30-09:00</b>	Registration	
<b>09:00-09:20</b>	Welcome ceremony	<p><b>Juan Alfonso de León</b> Ministry of Agriculture, Guatemala</p> <p><b>Luis Salaices</b> Manager of the Varietal Registration Office of the Ministry of Environment, Rural and Marine Environment of Spain</p> <p><b>Iván Angulo</b> The Food and Agriculture Organization of the United Nations, FAO, Guatemala</p> <p><b>Juanita Chaves</b> International Treaty for Plant Genetic Resources for Food and Agriculture, FAO</p> <p><b>Eva Hain</b> Commission on Genetic Resources for Food and Agriculture, FAO</p> <p><b>María Luisa Aumesquet</b> The Spanish International Cooperation for the Development Agency, AECID.</p>
<b>09:20-09:35</b>	Introduction of Participants	
<b>09:35-09:45</b>	Objectives and expected results from the consultation	<p><b>Stefano Diulgheroff</b>, FAO</p> <p><b>Mario Marino</b>, FAO</p>
<b>09:45-09:55</b>	GPA updating process	<b>S. Diulgheroff</b> , FAO

<b>09:55-10:10</b>	<b>Coffee break/Group Picture</b>	
<b>10:10-10:30</b>	Changes in PGRFA conservation and use: Challenges for the new GPA	<b>S. Diulgheroff</b> , FAO
<b>10:30-10:50</b>	Regional Summary	<b>Marleni Ramírez</b> , Bioversity International
<b>10:50-11:00</b>	Dynamics of working groups Working group, session 1	<b>S. Diulgheroff</b> , FAO
<b>11:00-12:40</b>	Working group, session 1	
<b>12:40-14:00</b>	<b>Lunch</b>	
<b>14:00-15:40</b>	Working group, session 2	
<b>15:40-16:00</b>	<b>Coffee break</b>	
<b>16:00-17:40</b>	Working group, session 3	

<b>Tuesday 10, 2010</b>		
<b>08:30-10:10</b>	Working group, session 4	
<b>10:10-10:30</b>	<b>Coffee break</b>	
<b>10:30-12:10</b>	Working group, session 5	
<b>12:10-14:20</b>	<b>Lunch</b>	
<b>14:20-15:00</b>	Wrap up Section I (GPA introductory parts)	<b>David Williams</b> , Bioversity International
<b>15:00-15:40</b>	Wrap up Section II ( <i>In situ</i> and on-farm conservation)	<b>Juan Fajardo</b> , España
<b>15:40-16:20</b>	Wrap up Section III ( <i>Ex situ</i> conservation)	<b>Silvana Maselli</b> , Guatemala
<b>16:20-16:40</b>	<b>Coffee break</b>	
<b>16:40-17:20</b>	Wrap up Section IV (Use of PGRFA)	<b>M. Ramírez</b> , Bioversity International
<b>17:20-18:00</b>	Wrap up Section V (Institutions and capacity building)	<b>Zoila Fundora</b> , Cuba

<b>Wednesday 11, 2010</b>		
<b>09:00-09:20</b>	Third Session of the Governing Body Progress and new challenges for the Parties.	<b>Modesto Fernández</b> , Cuba
<b>09:20-09:40</b>	The Multilateral System of Access and Benefit-Sharing Challenges and progress in the application of the Multilateral System, Secretariat of the International Treaty	<b>Juanita Chaves</b> , FAO
<b>09:40-10:00</b>	CGIAR experiences on the application of the Multilateral System	<b>Elcio Guimaraes</b> , CIAT



<b>10:00-10:40</b>	National experiences on the application of the Multilateral System	<b>Leontino Tavares, Brasil</b>
<b>10:40-11:00</b>	<b>Coffee break</b>	
<b>11:00-11:20</b>	How the Material Transfer Agreement (MTA), works	<b>Mario Marino, FAO</b>
<b>11:20-12:30</b>	Working groups session on progress and needs for the application of the Multilateral System	
<b>12:30-14:00</b>	<b>Lunch</b>	
<b>14:00-15:30</b>	Working groups session	
<b>15:30-15:45</b>	<b>Coffee break</b>	
<b>15:45-17:30</b>	Plenary discussion and conclusions	

<b>Thursday 12, 2010</b>		
<b>09:00-09:20</b>	Challenges and progress on the application of the Treaty's Funding Strategy	<b>J. Chaves, FAO</b>
<b>09:20-09:40</b>	Second call for proposals under the Benefit-sharing Fund	<b>J. Chaves, FAO</b>
<b>09:40-10:00</b>	Questions and comments	
<b>10:00-10:15</b>	<b>Coffee Break</b>	
<b>10:15-10:55</b>	Projects approved on the first call of Proposals under the Benefit-sharing Fund	<b>Z. Fundora, Cuba</b> <b>Federico Condón, Uruguay</b>
<b>10:55-11:15</b>	<b>Questions and comments</b>	
<b>11:15-12:30</b>	Other projects and programs for the conservation and sustainable use of PGRFA in the Region	<b>Allan Hruska, FAO</b> <b>Charlotte Lusty, GCDT</b> <b>M. Ramírez, Bioversity International</b> <b>Nick Remple, UNDP</b>
<b>12:30-14:00</b>	<b>Lunch</b>	
<b>14:00-15:00</b>	Working groups session on national progress and needs related to the Funding Strategy	
<b>15:00-15:20</b>	<b>Coffee Break</b>	
<b>15:20-16:30</b>	Working groups session	
<b>16:30-17:15</b>	Plenary discussion and conclusions	
<b>17:15-17:30</b>	Closure	

## APPENDIX B

### List of Participants

COUNTRY	NAME	POSITION/ INSTITUTION	E: MAIL
Argentina	<b>Andrea M. Clausen</b>	Coordinadora Proyecto Recursos Genéticos del <b>INTA</b>	aclausen@balcarce.inta.gov.ar
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## **IV. REPORT OF THE REGIONAL CONSULTATION IN ASIA**

### **A. INTRODUCTION**

1. The updating of the Global Plan of Action (GPA) for the conservation and sustainable use of plant genetic resources for food and agriculture (PGRFA) was agreed by the Commission on Genetic Resources for Food and Agriculture (Commission) during its Twelfth Regular Session in October 2009. The Commission requested the Food and Agriculture Organization of the United Nations (FAO) to prepare the updated GPA based primarily on the Second Report on the State of the World's Plant Genetic Resources for Food and Agriculture (SOW-2), and in particular, on the identified gaps and needs, taking into account further contributions from Governments as well as inputs received from regional consultations. The updated GPA would be considered during the Thirteenth Regular Session of the Commission in 2011.
2. In line with the above, the Asian Regional Consultation for the Updating of the GPA was conducted in Chiang Mai, Thailand, on September 7-8, 2010. It was organized by FAO and was conducted back-to-back with the Second National Focal Point Meeting of Project GCP/RAS/240/JPN *Capacity Building and Regional Collaboration for Enhancing the Conservation and Sustainable Use of Plant Genetic Resources in Asia* and with a workshop on the implementation of the International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA). The consultation was attended by representatives of 18 countries from the region, namely Bangladesh, Bhutan, Cambodia, China, India, Indonesia, Japan, Republic of Korea, Lao PDR, Malaysia, Mongolia, Myanmar, Nepal, Pakistan, Philippines, Sri Lanka, Thailand and Viet Nam. International experts from FAO, Bioversity International, and the Global Crop Diversity Trust also attended the consultation as observers and facilitators. For the list of participants see Annex A.
3. The consultation was organized in plenary and working group sessions and was conducted in English. A working document on the Updating of the GPA including gaps and needs identified in the SOW-2 and a synthetic analysis of gaps and needs for the Asia Region were distributed to the participants one month before the regional consultation. These documents were used as major reference during the working group sessions. The agenda of the consultation is attached as Annex B.

### **B. INTRODUCTORY PRESENTATIONS**

4. The meeting was opened with remarks by Mr. Dan Leskien, Senior Liaison Officer of the Commission's Secretariat, who outlined the international context under which the GPA is being updated and in particular the Multi Year Programme of Work of the Commission. He emphasized the importance and urgency of updating the GPA, one of the essential elements of the FAO global system on PGRFA conservation and sustainable use, in the light of socio-economic and environmental changes that have occurred since its adoption in 1996. In this regard he also noted the need to strengthen cooperation between the Commission and the ITPGRFA.
5. A presentation on the GPA updating process was subsequently given by Mr. Stefano Diulgheroff, FAO, who informed that the Asian consultation is the fourth out of seven regional consultations scheduled in 2010. Based on inputs received from the regions and on the gaps and needs identified in the SOW-2, a first draft of the updated GPA will then be prepared by FAO. This first draft will be presented for review to the joint meeting of the Bureaus of the Commission and ITPGRFA and to the Fifth Session of the Inter-Governmental Technical Working Group on PGRFA, in March and April 2011,

respectively. The revised updated GPA will finally be considered by the Commission at its Thirteenth Regular Session in July 2011. In a second presentation the FAO Officer briefly highlighted the changes that occurred to the conservation and sustainable use of PGRFA since the adoption of the GPA in 1996. He also stressed the fact that evolving and challenging issues will contribute to making food security a major global priority for at least the next 20 years. These issues include population increase, accelerating urbanization rates, growing income disparities, global temperature changes, higher demand for biofuel and demand for more efficient and sustainable agricultural production practices. In this context the conservation and sustainable use of PGRFA is an essential component of a successful global food security strategy. The updating of the GPA offers an opportunity to:

- i. further promote complementary and integrated *in situ* and *ex situ* conservation efforts;
  - ii. foster use of PGRFA including through enhanced plant breeding activities and strengthened local seed systems;
  - iii. take advantage of opportunities raised by newly-developed technologies of molecular biology, informatics and communication;
  - iv. strengthen local capacity and institutions.
6. Results from a regional analysis of gaps and need in the implementation of the 20 GPA priority activity areas for the conservation and sustainable use of PGRFA were presented by Mr. Percy Sajise, FAO Consultant. The analysis was prepared based on country reports from Asian countries as part of the process for preparing the SOW-2. It was noted that gaps and needs identified in SOW-2 were sufficiently inclusive to reflect those from the region. Finally, Mr. Duncan Vaughan, CTA, GCP/RAS/240/JPN explained the mechanics of the working group sessions which have been designed to ensure that all country representatives revise all the different sections of the GPA, namely its introductory parts, the priority activity areas under the In situ Conservation and Development, Ex Situ Conservation, Use of PGRFA, and Institutions and Capacity Building. Together with the above mentioned regional analysis (i) a document titled "Updating the Global Plan of Action for the Conservation and Sustainable Utilization of Plant Genetic Resources for Food and Agriculture", which verbatim, included the current GPA as well as sections of the SOW-2 that identified changes, gaps and needs; and (ii) a document containing all sections of the existing GPA except the Priorities Activity areas was also available to assist participants, in particular, to review and comment on the Introduction, Rationale, Aims and Strategies, Structure and Organizations, and Implementation and Financing sections of the current GPA. During the working group sessions, participants were divided into two groups; each of them were assisted by a facilitator and a rapporteur, who in plenary presented the group's results for the final discussion.

### C. SUMMARY OF RESULTS

7. The regional consultation overall considered that the GPA is an important framework and that to a large extent its 20 priority activity areas (PAA) remain a valid guide for national programmes, as well as regional and international collaboration. Detailed suggestions for updating it were provided and are described in the following paragraphs. In general terms the region unanimously agreed on the need to improve and keep as clear and concise as possible the editorial style of the document. This was a particular matter of concern to all the countries whose official language differs from the six UN languages in which the GPA will be translated. In line with the approach to make the updated GPA accessible and understandable to a wide audience, it was proposed to add a glossary of terms that are commonly referred to in the GPA. Participants also stressed the importance of the GPA that retain its capacity to serve different realities, including national programmes in different developmental stages as they occur in the Asian region. They noted that new

opportunities exist as a result of the rapid development in communications technology such as the internet and in data storage and processing which should be reflected in relevant activities of the GPA. They also expressed the desire to see the cross-cutting role of the established National Information Sharing Mechanism (NISM) highlighted where it is most appropriate.

### **Review of the Leipzig Declaration and Introduction**

8. The general sentiment of the Asian group is that the general principles of the Leipzig Declaration are still valid but there may be a need to develop a new declaration produced jointly by the Commission and the Governing Body of the Treaty which considers, in addition, the new imperatives of climate change and the various key international agreements and mechanisms such as the Treaty and the Global Crop Diversity Trust, among others.
9. The regional consultation suggested improvements in the introduction by including a more complete narrative up to 2010 and relevant statements from other international groups such as the G8, and emphasis on the climate change and the importance of nutritional aspects while addressing food security. There was also a suggestion on the need to indicate the major progress made since the GPA was implemented and the rationale for updating the GPA which may require a new section. There was also a discussion on the relevance of forestry to GPA implementation especially, as it relates to *in situ* conservation of PGRFA in Protected Areas which are in the administrative jurisdiction of the forestry sector.

### **Review of the Rationale of the Global Plan of Action**

10. The regional consultation suggested that a further elaboration of the rationale section is needed to include the current role of PGRFA in food security; the role of GPA for Treaty implementation and also the on-going threats to loss of PGRFA diversity.

### **Review of the Aims and Strategies of the Global Plan of Action**

11. Concerning the aims, participants suggested that, for consistency, the wordings of the Treaty should be used in the third aim of the GPA concerning the benefit-sharing. The aims should also capture the spirit of the Treaty, particularly the principle of facilitating access to PGRFA materials and information taking advantage of the development in information technology. The Asian consultation also suggested that the strategies should be reviewed in the light of the entry into force of the Treaty and the establishment of the Global Crop Diversity Trust.

### **Review of the Structure and Organization of the Global Plan of Action**

12. The Asian group consultation affirmed that the 4 main groups of the GPA are still valid. As per the sections on Long Term and Intermediate Objectives in each PAA it was suggested to reorganize them into a “Goal” and an “Objectives” section. Participants agreed that the section which describes how a particular activity is related to other activities in the GPA can be deleted.

### **Review of the Priority Activity Areas of the Global Plan of Action**

#### ***In Situ* Conservation and Development**

13. There was a general consensus in the Asian group that *in situ* conservation, especially on-farm conservation involving small farmers, is very important in the region considering the backdrop of poverty and livelihood requirements on one hand, and abundance of PGRFA on the other hand, where these small farmers have been the custodian all along. However, on-farm conservation has just gained scientific attention and is at various stages of implementation in several countries in the region.



### **PAA 1. Surveying and inventorying PGRFA**

14. The Asian regional consultation affirmed that this activity is still of high importance and the long term objective remains valid and relevant. The group, however, suggested that the intermediate objective should state that methodologies be developed and existing methodologies should also be applied and further refined.
15. The regional consultation highlighted the importance of the use of participatory methods and approaches which have been developed to ensure the participation of farmers and resource users in on-farm and other forms of *in situ* conservation. It also reiterated the importance of giving high priority to PGRFA surveying, inventorying and collecting in remote and “disturbed” areas, which due to a combination of factors including area accessibility, topography and security have not been adequately covered, in particular as far as CWR and under-utilized crops are concerned.

### **PAA 2. Supporting on-farm management and improvement of PGRFA**

The group suggested the title of the activity should be changed by replacing “supporting” by “promoting”. This is because supporting implies providing something to initiate or strengthen on-farm management and improvement of PGRFA, whereas promoting offers a wider range of leverages and interventions to bring about on-farm management and improvement of PGRFA. The consultation also suggested including the need for enhancing resilience to stresses of farming systems at the end of the first sentence. There is also the need to update reference to the International Undertaking (IU) to reflect Treaty provisions on Farmer’s Rights.

17. The consultation highlighted the following needs in the Asian context: (a) policies which should facilitate on-farm management and improvement of PGRFA through marketing of products thereof; (b) need to apply grass roots knowledge in the on-farm management and improvement of PGRFA; and (c) need to mention private sector as possible supporter of research and promotion of on-farm management and improvement of PGRFA (Paragraph 31). The participants also pointed out the importance of the community-based approach in promoting *in situ* and on-farm conservation and sustainable use of PGRFA in response to the dominant constraints of poverty, the need to strengthen livelihoods options of local communities. The successful application of community based approaches in other areas of natural resource management should be recognized.

### **PAA 3. Assisting farmer’s in disaster situation to restore agricultural systems**

18. There was a suggestion from the Asian group to replace “agricultural systems” by “agricultural plant diversity” in the title of this PAA, though no consensus was reached on this proposal. The group affirmed the validity and relevance of the long term and intermediate objectives of this activity while highlighting the role of community seed banks in restoring agricultural systems. Participants indicated that there are now several countries in the region which are promoting the establishment of community seed banks to serve both as community bioregisters as well as source of materials for agricultural systems restoration after natural disasters. There was also the recommendation to include “local varieties and populations that are adapted...” in the last extract from the SOW-2 after para. 50.

### **PAA 4. Promoting *in situ* conservation of wild crop relatives and wild plants for food production**

19. The group recommended to insert in the title “and management” after “conservation” to indicate the need to manage properly the wild crop relatives and wild plants which are mostly in Protected Areas. The term “wild crop relatives” also needs to be changed throughout the document to “crop wild relatives”. The long term objective remains valid and relevant. The Asian consultation suggested to insert “or further develop” after “initiate” in the first sentence of para. 67 in the intermediate objectives section. The group

also indicated the need to highlight the vulnerability of CWR and wild plants for food production to climate change's effects. In Line 701, the suggestion was to change to "recognize that women are active participants and ...".

### ***Ex Situ Conservation***

20. The consultation noted that the definition and delineation of what constitutes *ex situ* conservation has evolved considerably since the mid-1990. Hence it was suggested that the present reality is carefully elaborated to explain, for example, DNA banks, bio-banks and others. This could be included in the list of common definitions as earlier suggested.
21. It was also recommended to merge PAA 8 "Expanding *ex situ* conservation" with PAA 5 "Sustaining *ex situ* conservation activities".

### **PAA 5. Sustaining existing *ex situ* collections**

22. It was suggested that this activity should consider the issue of duplication and safety back-up and these two aspects of duplication could be treated separately in the context of new developments such as the Svalbard Global Seed Vault. The participants also recommended that this activity needed to highlight the fact that PGRFA collections in National Programs often have different emphasis from major collections found in the CGIAR Centers and their importance should not be under-appreciated in the updated GPA. A case in point is the collection of native forages in Mongolia.
23. The group recommended that the long term objective is out of date and needed careful revision. One comment was whether the word "develop" is still relevant.
24. There were recommendations by the group referring to specific areas of the document. Paragraph 80 needs updating in relation to the Multilateral System of the Treaty and in Paragraph 81, exchange of information is more relevant than "Use of PGRFA". Gaps and needs from SOW-2 as indicated under lines 978-996 (after para. 84) are relevant; however, the group consensus is that the word "additional" in Line 989 is not needed. Gap from SOW-2 in lines 1018-1024 (after para. 87) is considered relevant though the group strongly felt that this point should address more the need for building up and conserving collections. In lines 1049-1053 (after para. 92), the group stressed the importance of the "national" dimension too.

### **PAA 6. Regenerating threatened *ex situ* collections**

25. The delegates recognized the very high importance of this aspect of *ex situ* conservation. However, this "unglamorous" aspect of *ex situ* conservation has difficulty attracting funding except for some limited support from the Global Crop Diversity Trust. However, it should also be recognized that there might be important national collections which are not attracting funding from the Trust which will, therefore, require long term funding.
26. Following the above premise, the Asian group suggested that the long term objective should emphasize regeneration of all PGRFA since many crops of national importance have not been studied in relation to regeneration protocols. The delegates also suggested the following:
  - a. Extract from the SOW-2 in lines 1106-1108 emphasizes that maintaining viability of materials in the hot humid tropics, which many countries in the region experience, is a major challenge and there is lack of scientific work for developing conservation technologies for this kind of situation. The lack of "green technologies" for genebanks was also indicated by participants in this regional consultation. In addition, the importance of developing research and development technologies for maintaining viability of accessions was emphasized by participants. The contrast between easy and rapid genotyping compared with the laborious and unchanging methods of viability testing was considered an issue which must be addressed *urgently*. In this regard, a re-examination of

regeneration guidelines and ways of reducing the tedium of regeneration was suggested.

- b. Last sentence in par. 97 was deemed by the group as requiring review in the light of the developments since the supposed “first world wide regeneration”.

#### **PAA 7. Supporting planned and targeted collecting of PGRFA**

27. The delegates suggested that this activity should have an expanded section to reflect the need for all relevant information to be included during collecting such as indigenous knowledge and environmental factors. It was also suggested that there might be a need to update guidelines for collecting germplasm especially in relation to information that should be included with the use of new collecting tools and methods. For example, Global Positioning System (GPS)-aided collecting can leverage more information from a collecting site.
28. The value of repeated collecting in areas which have been previously collected was suggested as a useful means of understanding the real situation regarding genetic erosion for germplasm of national and international importance. This point is also relevant to paragraph 120. It was suggested that there is a need for emphasis in collecting broadly to include under-utilized crops and wild plants used for food, medicinal food and others.
29. The high importance of a wide range of crop wild relatives (CWR) in countries and regions where animals are central to agriculture was also raised by the group. In such situations, there are a range of issues needing attention, i.e., from knowing species identity to lack of knowledge on how best to conserve these rangeland germplasm materials closely associated with animal production.
30. The long term objectives should reflect the importance of CWR and under-utilized crops.
31. The group recommended that intermediate objectives should be recast to reflect that some countries do not have or have just recently established germplasm collections. This is more than just gaps.
32. Delegates mentioned the need to leverage partnership both within and across countries with experts in PGRFA, such as taxonomists, to help correctly identify germplasm. In order to promote inter-country partnership, it was recommended to regularly update expert directories.
33. Second gap in the extract from SOW-2 (lines 1325-1326) seems to belong more appropriately to *in situ* conservation.

#### **PAA 8. Expanding *ex situ* conservation activities**

**(suggested by the group to merge with PAA 5. Sustaining existing *ex situ* collections)**

34. The delegates felt that the wording for long term objectives was too general. It should focus on integration of new developments in *ex situ* collection, e.g., DNA banks and bio-banks.
35. The group also suggested recasting the intermediate objectives to reflect the development of strategies for non-orthodox germplasm because current wording is too narrow and may exclude some intended germplasm. In addition, it was felt that the intermediate objectives need to reflect the increasing demand many genebanks are facing to conserve the products of research such as mutants, RII populations, GMOs and others.

#### **Utilization of Plant Genetic Resources**

36. The delegates emphasized the importance of establishing the linkages between germplasm conservation, plant breeding and seed delivery as a key guideline for enhancing the use of PGRFA. The consultation also recommended merging PAA 12 and PAA 14 as they have a lot of common elements and relationships. This integration will

require reformulation of objectives and the whole write up while retaining the basic elements in the original separate PAAs.

37. It was also noted that “Plant Breeding” which is a very important vehicle for use of germplasm is not explicitly mentioned in any one of the PAA’s titles. The consultation considered the title of PAA 10 and suggested to replace it by “Enhancing plant breeding and related activities”.

**PAA 9. Expanding the characterization, evaluation and number of core collections to facilitate use**

38. There was considerable discussion of the title by the Asian delegates and two points were finally agreed: a). “and number of core collections” could be dropped from the title; and b) the current definition of core collection should be reconsidered. The core collection concept has evolved and now includes “special germplasm sets” “mini” and “micro”-core collections. The updated GPA should reflect what genebanks are currently doing to facilitate use of germplasm. The definition of these special germplasm sets should be included in the glossary of basic terms earlier suggested.
39. The delegates also suggested the need to highlight the importance of collaboration between genebank curators and other scientists in order to include data arising from other specialized types of characterization beyond the usual passport data.
40. This additional data can help direct germplasm evaluation as a result, for example, of soil type where germplasm was collected. In some cases, this is referred to as “satellite data”. It should reflect, in very clear terms, that the key to the use of PGRFA is greatly enhanced by the ability to access relevant information and there is a need to leverage current information technology to serve this purpose. As a consequence, the current guideline for evaluating and characterizing germplasm must be updated to reflect current technologies that have become available.
41. The delegates expressed the need for the wordings of the long term objectives to be succinct and simple.
42. The group suggested that paras. 148-152 need recasting. Base broadening should not be used as its meaning is open to conjecture (before Paragraph 155).

**PAA 10. Increasing genetic enhancement and base-broadening efforts**

43. The Asian group is in agreement on the importance of increasing the capacity of plant breeding in the public sector in order to address the dwindling number of plant breeders. The delegates then suggested incorporating the following statement in this activity: “there is now a dearth of conventional plant breeders in the public sector due to increased demand in the private sector and declining enrolment in conventional plant breeding in schools and universities. Also, there is aggressive promotion of modern methods of molecular breeding programs with more lucrative work offers”. The group also took notice that the term “base broadening” needs to be defined or included in the glossary of terms.
44. The delegates noted that Asia and other regions are prone to several kinds of natural disasters that effect agricultural lands. They therefore recommended that in addition to climate change (as it is mentioned in the changes reported from the SOW-2 after para. 168), also effects of natural disasters such as salt affected lands from tsunami’s, ash deposits from volcanoes, etc. should be addressed by breeders. In this connection, there should be a narrative added to emphasize this point.
45. It was also suggested to recast the objectives to emphasize aspects related to plant breeding by using terms such as “To reduce genetic uniformity” can easily be misconstrued. The recommendation of the group was to be positive and call, for instance, increasing genetic diversity. Objectives should also emphasize the vital roles of

participatory plant breeding and molecular techniques. It should also reflect the current understanding and strategies of addressing climate change and variations.

46. Some specific recommendations were as follows: recast para. 172 to reflect that the need is to make genetic variation available to the breeder using several strategies; the need extracted from SOW-2 in lines 1850-4 (before paragraph 173) emphasizes clearly that efforts must be invested to ensure access to the widest possible variation in order to have the tools for breeding crops adapted to extreme weather conditions and novel biotypes of pests and diseases.

**PAA 11. Promoting sustainable agriculture through diversification of crop production and broader diversity of crops**

47. The title of this activity needs to be changed since diversification and diversity are in the same sentence but being used in different contexts. The Asian group suggested the change in title such as “Reducing the vulnerability of agricultural systems by diversification”. The importance of the title of this activity is well recognized but the objectives do not seem to match the current trends. Mongolia, for example, is introducing new crops in order to address the consequence of increasing temperatures.
48. Specific comments of the group are the following: Paragraphs 179-80 – the suggestion is to change “reduce genetic erosion and possible genetic vulnerability” into “promote agrosystem diversity to enhance productivity and reduce threats that may be posed by pests and diseases”. The meaning of para. 181 is not clear at all and needs to be recast.

**PAA 12. Promoting development and commercialization of under-utilized crops and species (suggestion is to merge with Activity 14)**

**PAA 13. Supporting seed production and distribution**

49. The Asian group suggested to change the title of this activity to “Supporting local seed production and distribution” to emphasize the relevance and importance of this activity at the local level. It was also noted that there is a need to emphasize enhancing local capacity for producing seeds as large enterprises will not cater to small volume of seed requirements by small farmers especially in situations where farmers save seeds. The consultation also recognized the reality that there exist considerable variations among the countries in Asia in terms of level of development of the seed sector. Country to country variations in terms of seed production and distribution were elaborated by some delegates including varying degrees of involvement of the private sector. In some countries the increasing role of the private sector was mentioned while in others the government has to respond to this need.
50. Specific comments and recommendations of the group are the following: delete Line 2355 as it does not belong here; recast Paragraph 200 as meaning is not clear.

**PAA 14. Developing new markets for local varieties and “diversity rich” products (suggestion is to merge with Activity 12)**

**Institutions and Capacity Building**

**PAA 15. Building strong national programmes**

51. The suggestion of the Asian group is to change the title by adding “strengthening” to read “Building and strengthening national programmes”.
52. The delegates noted that, in the long term objectives under para. 222, the term equitable and, under para. 223, the phrase “share in the benefits” need further clarification.
53. The Asian group affirmed that the intermediate objectives remain valid and relevant. The group further emphasized the need to link *in situ* and *ex situ* strategies for PGRFA conservation especially in the Asian context where the two are often not well integrated.

During the discussions in the plenary session, the group highlighted the importance of the NISM in the context of strengthening national programmes, not only to bring together scattered information on PGRFA within the country, but also as a national platform for promoting collaboration and partnerships among various PGRFA stakeholders. They strongly recommended the inclusion of a reference to NISM in the updated PAA.

#### **PAA 16. Promoting networks for plant genetic resources for food and agriculture**

The Asian group suggested a change in the PAA title to read “Strengthening the Multilateral System and promoting networks for plant genetic resources for food and agriculture”.

55. The delegates suggested to revise the long term objectives under para 243 (*in situ* oriented networks) and under para. 244 to clarify the scope of the “scientific exchange”. They also emphasized the need under this PAA to promote compatibility among information systems; to address and promote the Multilateral System of Access and Benefit Sharing, as well as networks for underutilized and neglected crops.

#### **PAA 17. Constructing comprehensive information systems for plant genetic resources for food and agriculture**

56. The Asian group suggested changing the title to read “Constructing and strengthening comprehensive information systems for plant genetic resources for food and agriculture”.
57. The delegates suggested to have an introduction mentioning the various existing information systems on PGRFA such as EURISCO and others.
58. The delegates affirmed that the long term objectives remain valid and relevant, though the concept of “useful information” expressed in para. 260 may need some elaboration. As per the intermediate objectives, the group suggested to highlight the importance for ensuring compatibility among information systems, and to emphasize the importance of strengthening NISMs and the need for linkages of NISMs with accession level information systems.

#### **AA 18. Developing monitoring and early warning systems for loss of plant genetic resources for food and agriculture**

59. The Asian group suggested changing the title to read “Developing and strengthening monitoring and early warning system for loss of plant genetic resources for food and agriculture”.
60. The delegates affirmed the validity and relevance of the long term objectives. With regard to the intermediate objectives, the group had the following suggestions for improvement: monitor and report genetic erosion in *ex situ* collections; monitor and report genetic erosion of *in situ* plant genetic resources for food and agriculture and develop indicators for genetic erosion of *in situ* and *ex situ* plant genetic resources for food and agriculture.
61. The group also suggested highlighting the following areas:
  - Contamination of PGRFA either by gene flow from genetically modified plants or wild relatives needs to be considered as genetic erosion;
  - Climate change and other factors should be considered for monitoring and in developing an early warning system;
  - Information dissemination should be a two-way process to and from germplasm users.

#### **PAA 19. Expanding and improving education and training**

62. The Asian group recommended changing the title to “Building up human resource capacity”.
63. The delegates affirmed the validity and relevance of the long term objectives.

64. The group suggested to address the “brain drain” in the intermediate objectives considering that countries in the region experienced not only lack of human resources in some basic areas of PGRFA such as taxonomy and molecular biology but also the on-going recruitment of human resources in these areas by countries which can pay higher salaries and offer better benefits. In consideration of this brain drain phenomenon coupled with the basic lack of human resources in taxonomy and molecular biology, the delegates recommended assistance in training their staff in these two critical areas, as well as other needed areas.

**PAA 20. Promoting public awareness of the value of plant genetic resources for food and agriculture**

65. Asian group suggested changing the title into “Promoting public awareness on the importance of plant genetic resources for food and agriculture for sustainability and food security”.
66. “Final” objective should be changed to “long term objectives”. The group affirmed the validity and importance of both the long term and intermediate objectives.

**Implementation and Financing of the Global Plan of Action**

67. The Asian delegates considered financing as very important in the implementation of the GPA in the region which must be addressed in the updated GPA. In addition, there are now new internationally-based financing mechanisms which need to be included such as the Global Crop Diversity Trust, Benefit-Sharing Fund of the Treaty, and others which need to be mentioned in the updating of the GPA.
68. The group also felt that more detail is needed regarding implementation arrangements such as what kind of mechanisms can be used to implement GPA, how will GPA activities be coordinated at the international level such as by FAO, and involvement of regional networks at regional and national levels.

## **ANNEX A**

### **Asian Consultation on GPA Updating Chiang Mai, Thailand, 6-10 September 2010**

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## ANNEX B

### Agenda and Schedule for the Regional Consultation and Working Group Sessions for the Asian Region

Overall facilitator Stefano Diulgheroff

Faciliator for In Situ Conservation and Development – Percy Sajise

Rapporteurs for In Situ Conservation and Development – Dan Leskien and Godfrey Mwila

Facilitator for Ex situ conservation – Duncan Vaughan

Rapporteur for Ex situ conservation – Chikelu Mba

Facilitator for Utilization of Plant Genetic Resources – Duncan Vaughan

Rapporteur for Utilization of Plant Genetic Resources – Chikelu Mba

Faciliator for Institutions and Capacity Building – Percy Sajise

Rapporteurs for Institutions and Capacity Building – Dan Leskien and Godfrey Mwila

#### **Tuesday 7th September – GPA consultation**

8:30-9:20	GPA revision process Changes and challenges for GPA	Stefano Diulgheroff (FAO)	<b>Plenary</b>
9:20-9:50	<i>The Synthesis</i>	Percy Sajise (FAO consultant)	<b>Plenary</b>
9:50 -10:00	Dynamics of Working Groups	Duncan Vaughan (FAO)	<b>Plenary</b>
10:00 -10:20	Coffee		
10:20 -12:00	Working Group 1*		In-situ/Ex-situ
12:00 -13:00	Lunch		
13:00 -14:40	Working Group 2*		Ex-situ/In-situ
14:40 -15:00	Coffee		
15:00 -16:40	Working Group 3*		Use/Capacity Building/Introduction
<b>18:30</b>	<b>Reception</b>		



**Wednesday 8th September 2010 – GPA**

9:00-10:40	Working Group 4*	Use/Capacity Building/Introduction	
10:40-11:00	Coffee		
11:00-12:40	Working Group 5*	Use/Capacity Building/Introduction	
12:40-14:40	Lunch		
14:40-15:40	Discussion – In-situ and Ex-situ		<b>Plenary</b>
15:40-16:00	Coffee		
16:00-17:00	Discussion - Synthesis Sections, Use Capacity Building and Introduction		<b>Plenary</b>
<b>Evening free</b>			

## **V. REPORT OF THE REGIONAL CONSULTATION IN NORTH AMERICA**

### **A. INTRODUCTION**

1. The Commission on Genetic Resources for Food and Agriculture (Commission), at its Twelfth Regular Session, in October 2009, agreed to update the Global Plan of Action for the Conservation and Sustainable Utilization of Plant Genetic Resources for Food and Agriculture (GPA), in accordance with its Strategic Plan 2010-2017 for the implementation of the Multi-Year Programme of Work. The Commission requested the Food and Agriculture Organization of the United Nations (FAO) to prepare the updated GPA based primarily on the Second Report on the State of the World's Plant Genetic Resources for Food and Agriculture (SOW-2) and, in particular, to focus on the identified gaps and needs, taking into account further contributions from Governments, as well as inputs received from regional meetings and consultations. It further decided that the updated GPA would be considered at its Thirteenth Regular Session in 2011.
2. A regional consultation for North America to discuss updating the GPA occurred in Beltsville, Maryland, USA on 21 - 22 September 2010. The agenda is presented in Appendix A. It was organized by FAO and the U.S. Department of Agriculture/Agricultural Research Service (USDA/ARS). Representatives from Canada, the United States, FAO, and the Secretariat of the Commission attended (see the list of participants in Appendix B).
3. The consultation began with opening remarks by Mr. Stefano Diulgheroff, FAO; Ms. Eva Hain, FAO Commission; Dr. Brad Fraleigh, AAFC/ISCB; Ms. June Blalock, USDA/ARS; and Dr. Peter Bretting, USDA/ARS. Dr. Fraleigh was elected to Chair the consultation and Ms. Karen Williams was elected Rapporteur.

### **B. INTRODUCTORY PRESENTATIONS**

4. Mr. Diulgheroff delivered a presentation describing the process and timeline for updating the GPA. The gaps and needs identified in the SOW-2, along with input from Governments and from the regional consultations, will be considered in updating the GPA. Mr. Diulgheroff then described changes in conservation and use of Plant Genetic Resources for Food and Agriculture (PGRFA) and the challenges for updating the GPA. He stressed that PGRFA is ever more important for global food security.
5. Dr. Bretting described the current status of the US National Plant Germplasm System. Dr. Richards similarly described current developments with Plant Gene Resources of Canada.
6. The attendees agreed that the objectives of the North American consultation should include generating recommendations (as precise as possible) regarding the content and structure of the updated GPA. They noted that the GPA is now a supporting element of the International Treaty on PGRFA (International Treaty), and its Governing Body takes the GPA into account in order to mobilize funding for priority activities, plans and programmes. In this context they discussed how the GPA can serve to guide the International Treaty's Funding Strategy and how the Priority Activity Areas (PAAs) might be prioritized within the updated GPA, so that the GPA can serve as an effective tool for setting priorities for global PGRFA efforts.

7. Throughout the consultation, the attendees referred to the document, "Updating the Global Plan of Action for the Conservation and Sustainable Utilization of Plant Genetic Resources for Food and Agriculture," which included the text of the current GPA, as well as sections of the SOW-2 that identified new information, gaps and needs since the first SOW Report. They also consulted reports of other regional consultations that had already taken place during this cycle.

## C. SUMMARY OF RESULTS

### Review of the Leipzig Declaration and Introduction

8. The consultation emphasized the importance of a new declaration, or its equivalent, as a means for publicizing the adoption of the new GPA. It expressed support for a joint declaration by the Governing Body of the International Treaty and the Commission, if feasible. In any case, the adoption of the revised GPA must be treated as a special occasion deserving international attention. Owing to its historical significance, the Leipzig Declaration should be retained as an appendix to the new GPA.

9. The consultation suggested the following modifications or additions for the **Introduction** section (Paragraphs 1-6):

- State that this is an update of the first GPA.
- In place of Paragraph 6, highlight accomplishments (1 or 2 paragraphs) resulting from the framework established by first GPA. Cite the adoption of the International Treaty, the revision of priorities for the CGIAR genebanks based on the GPA, and the new national PGRFA programs established after the first GPA was adopted (countries could be listed).
- Mention the complementarity of the GPA with the Convention on Biological Diversity (CBD).

10. The consultation recommended that the activities of the GPA be prioritized, but it chose not to undertake such a prioritization at this time.

### Review of the Rationale for a Global Plan of Action

11. The consultation suggested adding an explanation of why it was necessary to update the GPA. The explanation should cite the request from the Commission that FAO prepare the update, which should take into account the gaps and needs identified in SOW-2.

12. The **Rationale** should emphasize the growing global problems of food security, climate change, habitat destruction and a growing urgency to address these challenges. It should elaborate on the fact that PGRFA are both threatened by these problems and can contribute to solving them. As examples, growing human populations threaten wild areas, and climate change threatens to make current areas of distribution of crop wild relatives unsuitable for their survival. More information is needed on the many contributions of PGRFA to solutions for the many challenges faced by agriculture, including the need for increased production, threats from pests and diseases, climate change, etc.

13. The **Rationale** should include more information about the continuing genetic erosion in plant genetic resources, and increasing concerns about the effects of climate change and other factors. The loss of genetic materials within breeding programs should be highlighted as a separate cause for concern. The genetic vulnerability of many crops should be accorded more attention.

14. The **Rationale** should emphasize the capacity of molecular technologies to increase the contributions of PGRFA to solving problems.

15. The **Rationale** should make it clear that the GPA covers crop wild relatives, as well as crops. The current elements of the **Rationale** discuss crop plants exclusively. The Aims and Strategies section mentions crop wild relatives only in one sentence.

16. The **Rationale** should state that science and technology make important contributions to the conservation and sustainable use of plant genetic resources.

### **Review of the Aims and Strategies of the Global Plan of Action**

17. Two revisions for Paragraph 9 were recommended. First, the current text in bullet 3 regarding sharing of benefits and capacity building should be replaced by language taken directly from the International Treaty. Second, bullet 5 should be revised as follows: “to strengthen, in particular, national programmes, as well **as increase regional and international cooperation**, including education and training, for the conservation and utilization of PGRFA and to enhance institutional capacity.”

18. The consultation recommended deleting entirely Paragraph 10, which addresses strategies, because the content of this paragraph appears in other sections.

### **Review of the Structure and Organization of the Global Plan of Action**

19. The consultation suggested that the subsections of **Coordination/administration** and **This activity is closely linked with** be eliminated from all the PAAs.

20. The name of the **Assessment** section should be changed to **Background** or **Current status**.

21. Achievements under the first GPA should be included in the **Background** section for each PAA.

### **Review of the Priority Activity Areas of the Global Plan of Action**

22. As a general comment, the consultation recommended that, under the relevant PAA, the updated GPA should highlight progress made toward meeting the goals set by the first GPA.

23. Furthermore, all elements related to benefit sharing should be referenced to the International Treaty.

24. Duplication among PAAs should be reduced as much as possible and should be included only to add emphasis to sections or subjects (e.g., climate change).

### ***In situ* Conservation and Development**

25. The consultation proposed to change the **title** of this section to “*In situ* Conservation and Management.”

26. PAAs 1, 2 and 4 should be retained; merge PAA 3 with PAA18.

### **PAA 1. Surveying and inventorying plant genetic resources for food and agriculture**

27. In Paragraph 15, change “cultivars” to “traditional cultivars” and delete the phrase “especially those that are of anticipated use.”

## **PAA 2. Supporting on-farm management and improvement of plant genetic resources for food and agriculture**

28. The scientific knowledge of on-farm management of PGRFA has advanced considerably over the past 15 years; therefore, much of the **Background** section should be rewritten to focus on the relevant scientific and technical advances.

29. The policy commentary under **Long-term objectives** should be updated. The text on benefit sharing should refer to the relevant section and text in the International Treaty. An additional objective should be added to cover assisting farmers in dealing with emerging challenges, including climate change.

30. Under **Intermediate objectives**, change “local” to “local and traditional” systems of knowledge.

31. The concept of “plant improvement” should be retained in this PAA.

32. Under **Research/technology**, section (b), change “gene flow” to “gene flow, including of transgenes.” Under section (c), include participatory plant breeding as another type of crop improvement approach. Add a new section covering “studies of the dynamic balance between *in situ* and *ex situ* conservation.”

## **PAA 3. Assisting farmers in disaster situations to restore agricultural systems**

33. The consultation recommended re-locating PAA 3 with PAA 18 (Developing monitoring and early warning systems for loss of plant genetic resources for food and agriculture) under Institutions and Capacity Building. Wherever this PAA ultimately appears in the GPA, change the **title** to “Assisting farmers in disaster situations to restore crop systems.”

## **PAA 4. Promoting *in situ* conservation of wild crop relatives and wild plants for food production**

34. The consultation suggested changing the **title** to “*In Situ* conservation and management of crop wild relatives and wild plants for food production.”

35. In the **Background**, include a reference to the Global Strategy for Plant Conservation developed under the CBD, and highlight the importance of wild species for food production.

36. Under **Policy/strategy**, either eliminate section (e) or add the phrase “according to national legislation.”

37. If the section **Coordination/administration** is eliminated from all the PAAs, section 74(a) should be moved to the **Policy/strategy** section, and could be rephrased as “Enhance coordination, at both the national and international levels, between organizations in the environment and agricultural sectors.”

38. A **Research/technology** section is needed. Types of research which might be included in this section are studies of:

- the dynamic balance between *in situ* and *ex situ* conservation, including direct comparisons of historically conserved vs. existing *in situ* accessions;

- models for assisted migrations of populations of crop wild relatives that may be threatened in their natural habitats by factors including climate change, alien invasive species, encroaching urbanization, etc.;
- the reproductive biology and habitat requirements of crop wild relatives; and
- the taxonomy of crop wild relatives.

### ***Ex Situ* Conservation**

39. The consultation proposed changing the **title** to “*Ex Situ* Conservation and Management.”

40. A new PAA should be added to emphasize the importance of documentation of *ex situ* collection holdings and associated characterization/evaluation data. There should be corresponding follow up in the **Capacity and Implementation** sections.

41. Eliminate PAA 8 and reorder the other PAAs to 7, 5, a new PAA on documentation, and 6. The only reason to maintain PAA 8 is if there is a need to highlight managing “recalcitrant” germplasm.

### **PAA 5. Sustaining existing *ex situ* collections**

42. The consultation proposed a new **title** of “Sustaining existing *ex situ* collections and associated information” or “Maintaining and developing existing *ex situ* collections and associated information.”

43. Merge information from PAA 8 related to vegetatively propagated and recalcitrant-seeded plants into this PAA. This PAA should also address the growing importance of managing genetic and genomic stocks. The capacity to distribute germplasm to users should also be discussed.

44. Modifications for the **Background** section include:

- Add the demands and needs associated with managing vegetatively propagated and recalcitrant-seeded plants (originally located in PAA 8), including challenges involved with safety duplication of such accessions.
- Update by mentioning the Global Crop Diversity Trust (GCDT).
- Mention that the unintended presence of proprietary genes in genebank accessions has recently become a genebank management challenge for some crops. Reference the CGIAR recommendations for handling this concern in a practical manner.

45. Under **Intermediate objectives**, re-write the first objective in Paragraph 81 using a more positive tone. The phrase “to promote access to and exchange of information about plant genetic resources for food and agriculture” could begin the sentence. Change the reference to the CBD to a reference to the International Treaty (which did not exist when the first GPA was written).

46. The **Policy/strategy** section should mention the need for greater rationalization of the global system of *ex situ* collections and refer to the ongoing projects supported by the GCDT.

47. Under **Research/technology**, highlight the need for 1) research on the best seed storage conditions for orthodox seeds, and 2) genomic studies/phenotypic studies better linking molecular data with phenotypic descriptor data.

### **PAA 6. Regenerating threatened *ex situ* accessions**

48. The consultation noted that this PAA should include the widespread need for regenerating accessions that are vegetatively propagated and those with recalcitrant seeds.

49. Modify the **Background** section as follows:

- Add an explanation of “threatened” which includes the concepts of viability, health, security, and quantity of accession seeds and other propagules.
- Update with information on advances made in the regeneration of collections, including initiatives by the GCDT.
- Delete the reference to a global coordinating mechanism for regeneration.

50. Re-phrase the **Long-term objective**, replacing the current statement with “to regenerate germplasm to satisfy needs for conservation, distribution and safety duplication.”

51. The **Intermediate objectives** should be revised. In the first sentence, the phrase “initiate action” should be deleted because it is out of date. The last sentence should be deleted because it refers to a world-wide regeneration of accessions (by the CGIAR), which was already undertaken.

52. Under **Policy/strategy**, delete the following sentence in Paragraph 102: “Regeneration should not be viewed as a means of maintaining collections in sub-standard conditions on a long-term basis.”

53. In the **Research/technology** section, Paragraph 111, add “Applied research is needed to develop additional accession regeneration methods that are appropriate for cross-pollinated species.”

#### **PAA 7. Supporting planned and targeted collecting of PGRFA**

54. The consultation had two specific suggestions for the **Background** section of this PAA. The third sentence “Global needs for collecting are not as high as 20 years ago...” should be changed to “Global threats to collections are different than they were 20 years ago. Threats to landraces and crop wild relatives now include climate change, alien invasive species, encroaching urbanization, etc.” In Paragraph 117, the text should discuss the growing urgency to collect crop wild relatives due to concerns about the effects of climate change and land-use patterns, and as new technology increases the ease of incorporating these materials into crop breeding programs.

55. Under **Intermediate objectives**, the words “To begin” should be deleted.

56. Add a **Research/technology** section that includes the use of GIS to make field collecting more effective.

57. The **Policy/strategy** section should refer directly to the International Treaty.

#### **PAA 8. Expanding *ex situ* conservation activities**

58. The consultation recommended deleting this PAA. The discussion of recalcitrant seeds should be moved from this PAA to PAA 5. Botanic gardens should be covered under Institutions and Capacity Building (PAA 15 or 16).

### **Utilization of Plant Genetic Resources**

59. The consultation suggested a new **title** for this section: “Sustainable utilization of plant genetic resources.”

60. This section needs to take into account the Global Partnership Initiative for Plant Breeding Capacity Building (GIPB) and include a brief discussion of participatory plant breeding.

61. Overall, this section might be re-formulated as follows:

- Add a new PAA 10bis that discusses the many and highly diverse users of PGRFA, with an emphasis on plant breeding.
  - Merge PAAs 11, 12, and 14. The title for the merged PAA could be “Diversification of crop production and crop use.”
  - Re-order the revised PAAs as 9, 10, 10bis, merged (11, 12 and 14), and 13.
- More details for these changes are provided in subsequent paragraphs.

#### **PAA 9. Expanding the characterization, evaluation and number of core collections to facilitate use**

62. Taking into account practical experience with genebank management since the mid-1990s, the consultation recommended that core collections be de-emphasized in this PAA. Wherever core collections are mentioned in the text, the discussion should be broadened to include evaluation subsets and other subsets that facilitate PGRFA use. To reflect this, change the section title to “Expanding characterization and evaluation to facilitate use.” In addition, the links between characterization, evaluation and plant breeding should be highlighted in this section. Add that characterization and evaluation data should be documented and made readily available for use.

63. In the **Background** section, clarify the distinctions between characterization and evaluation.

64. Under **Long-term objectives**, Paragraph 148, delete sentence 3 and retain sentence 1, 2 and 4. Sentence 3 would be included in the proposed new PAA 10bis. Delete all of Paragraph 149.

65. The **Intermediate objectives** should include developing high throughput evaluation methods for identifying accessions with valuable traits. Examples include rapid, computerized assays of genetic and metabolic content; new biochemical analyses which require relatively small samples, little time, and few chemicals; and novel methods for rapidly-capturing morphological and structural variation in the field via hand-held computers.

66. In the **Policy/strategy** section, add “recognize that characterization and evaluation data can also help to improve *in situ* management of landraces, crop wild relatives, other wild plants, and forages.” Subsection (c) should include the concept of improving access to information.

67. In all sections of **Research/technology**, complement the mentions of core collections with text about a range of evaluation subsets. Additional suggestions for this section were:

- Paragraph 161 – refocus on evaluation; include high throughput evaluation for traits related to adaptation to and mitigation of climate change, nutritive traits, etc.
- Paragraph 161 – include another paragraph on characterization.
- Paragraph 162 – replace “core collections” with “core collections and evaluation subsets for collections.”

#### **PAA 10. Increasing genetic enhancement and base-broadening efforts**

##### **PAA 10bis. Supporting activities of plant breeders and other users of plant genetic resources**

68. The consultation proposed a **new PAA 10bis** with this title. The **Long-term objective** for this new PAA would be “To promote plant breeding and other uses of genetic resources that effectively increase their utilization leading to greater productivity and genetic diversity of crops and agricultural systems overall.” One of the **Intermediate objectives** would be: “As appropriate, effectively generate varieties that are widely or specifically adapted.”

69. Elements of the **Background** would include:

- Breeders are the principal delivery system by which plant genetic resources are delivered to farmers.



- Plant genetic resource information systems direct breeders and others to relevant germplasm material, evaluation information, and characterization information.
- There are many other scientific disciplines, in addition to plant breeding, that use plant genetic resources, including taxonomy, pathology, genetics, and medicine.
- The GIPB has a role in supporting plant breeding.
- There is a concern in many parts of world about the dwindling numbers of plant breeders.
- Crop genetics and breeding research are interdisciplinary.

70. The **Policy/strategy** section would include:

- encouraging the development of stakeholder groups who provide input to genetic resources systems regarding how to best meet their needs;
- reconsidering national policies and legislation that may affect participatory breeding, including the development of appropriate intellectual property protection and seed certification procedures for varieties developed through participatory plant breeding; and
- incorporating decentralized, participatory, and gender-sensitive approaches to plant breeding in national strategies to address the needs of poor farmers in less favorable environments.

71. The **Capacity** section would include:

- developing expertise to provide sound advice to germplasm users; and
- building plant breeding capacity in advance of addressing the challenge of adapting crop production to climate change.

72. The **Research/technology** section would include:

- making biotechnologies, genomics and other tools more widely available to plant breeding programs.

#### **Merged PAAs 11, 12, and 14. Diversification of crop production and crop use**

**PAA 11. Promoting sustainable agriculture through diversification of crop production and broader diversity in crops**

**PAA 12. Promoting development and commercialization of under-utilized crops and species**

**PAA 14. Developing new markets for local varieties and “diversity-rich” products**

73. The consultation recommended merging PAAs 11, 12 and 14 into a new PAA. This PAA should focus on underutilized crops, as well as on specific traits of major crops, both of which are needed to address the challenges of climate change, and nutritional and health concerns. The **Policy/strategy** section of the merged PAA should include the premise that capturing the potential market value of crops requires greater integration of the different segments of the production chain.

**PAA 13. Supporting seed production and distribution**

74. The consultation’s reordering of the PAAs would make this the last PAA for this group. The consultation had no other comments on this activity.

### **Institutions and Capacity Building**

75. The consultation proposed a new title of “Building sustainable institutional and human capacities.” As mentioned above, PAA 3 should be incorporated into PAA 18 in this group.

**PAA 15. Building strong national programmes**

76. The consultation suggested that in the **Background**, Paragraph 220, botanic gardens should be mentioned as a type of institution that is important to a national program. This replaces the discussion of botanic gardens in PAA 8. Botanic gardens are in the mainstream of plant genetic resource conservation and should be treated as such. The **Background** should also state that national strategies and plans for conservation and use of PGRFA are important for setting priorities, distributing roles and responsibilities, and allocating resources.

77. Under **Policy/strategy**, emphasize that one of the elements of a strong national program involves setting national priorities, including priorities for assistance sought from international agricultural development programs. In Paragraph 230, place additional emphasis on effective coordination and collaboration among all the elements of a national program for PGRFA conservation, including ministries, government institutions, universities, private companies, CSOs, farmers' groups, and others. Closer collaboration between institutions in the agriculture and environment sectors is especially needed. Add this phrase: "Enhance coordination, at both the national and international levels, between organizations in the environment and agricultural sectors."

#### **PAA 16. Promoting networks for plant genetic resources for food and agriculture**

78. The consultation recommended that the **Background** include a statement according equal weight to regional, crop-specific and thematic networks, depending on their specific contexts and objectives. Networks will also play an important role in safety duplication of genebank accessions.

79. In Paragraph 242 of the **Background**, emphasize the synergy between national programs and networks. Networks support national programs and national programs support networks, making both more effective.

#### **PAA 17. Constructing comprehensive information systems for plant genetic resources for food and agriculture**

80. The **Background** section should be updated with information on recent improvements in the accessibility of information describing many collections. It should also be updated with information regarding the new GRIN-Global and Genesys PGR information management systems. This section should note that a global information system is one of the supporting elements of the International Treaty.

81. The **Long-term objectives** and **Intermediate objectives** should emphasize that data must be made more accessible and data formats should be as compatible as possible across different systems.

82. Under **Policy/strategy**, Paragraph 269, add a statement regarding how information is handled by the International Treaty, but the reference to Article 8(j) of the CBD should remain. A new paragraph in this section should reiterate the importance of integrating various information systems to enable global, regional and national assessments for PGRFA.

83. The information under **Coordination/administration** in Paragraph 276 is outdated. The **Coordination/administration** section should be deleted throughout the document, but if similar information were included elsewhere, it must be updated.

#### **PAA 18. Developing monitoring and early warning systems for loss of plant genetic resources for food and agriculture**

84. The consultation recommended merging PAA3 into this PAA. A possible new title would be "Preparing for and reacting to threats to genetic diversity."

85. The **Background** should incorporate concepts from both the old PAA 3 related to assisting farmers with responses to disasters and the old PAA 18 related to developing monitoring and early warning systems.

86. In discussing the use of material from genebanks to assist farmers in disaster situations, it should be clear that material in genebanks is just one element of the response to a disaster. Other elements, such as locating and utilizing pockets of surviving genetic diversity *in situ* or identifying nearby, less-affected areas with similar environmental conditions, might be even more important. Information on recent work related to indicators useful for monitoring should be included.

87. Under **Policy/strategy**, state that, if needed, an early warning system should be implemented at the national level and, if appropriate, dangers would then be brought to international attention. The extent and nature of possible threats to existing diversity on farm and *in situ* require additional study. Higher-order indicators should be developed for measuring the extent of genetic erosion and genetic vulnerability. A lower number of indicators will be more manageable. Many indicators can be combined and indexed to create fewer major indicators.

88. In the **Research/technology** section, Paragraph 289 should be reformulated and include a need for further research into applying GIS technology to monitoring and predicting the loss of PGRFA and incorporating the resulting information into comprehensive information systems.

#### **PAA 19. Expanding and improving education and training**

89. The consultation suggested two additions to the **Background** section:

- A decline in taxonomic expertise has limited the ability to conserve and utilize PGRFA.
- In many countries, personnel are inadequately trained to collect, conserve, regenerate, characterize, document and distribute PGRFA. This lack of expertise endangers many valuable PGRFA collections.

90. The **Capacity** section should specifically mention the need to enhance capacity in plant taxonomy and in agronomic practices needed to maintain existing gene bank holdings.

91. Related to the **Policy/strategy** section, the consultation recommended assessing the existing capacity and needs in each country for conserving and using PGRFA, and applying this information to develop national, regional and global strategies for education and training.

#### **PAA 20. Promoting public awareness of the value of plant genetic resources for food and agriculture conservation and use**

92. The consultation viewed this PAA as continuing to focus on promoting public awareness rather than on advocacy.

93. The **Background** section should include updated information regarding advances in scientific understanding of on-farm management of PGRFA, increasing awareness of the importance of conserving crop wild relatives *ex situ* and *in situ*, the importance of genetic diversity for reducing risk in production systems, and the growing interest in underutilized crops.

94. Three changes were suggested for the **Policy/strategy** section. First, in Paragraph 316, the last sentence should be revised to read “Public awareness **and the roles that specific target audiences can play in sustaining plant genetic resources activities** should be considered when developing any national programme activity.” Second, the section should state that stakeholders who use genetic resources should be encouraged to participate in public awareness activities.

Lastly, this section should mention the need to assess the full value of PGRFA and the impact of its use, and to bring this information to the attention of policy makers and the public.

95. Paragraph 322 of the **Capacity** section should mention the important role of botanic gardens in promoting awareness.

### **Implementation and Financing of the Global Plan of Action**

96. The consultation recommended that the **Implementation** section cross-reference relevant sections of the International Treaty, and that it focus on the primary role that national governments play in the implementation of the Priority Activity Areas.

97. Note in this section that different countries will play different roles in the implementation of the GPA. The role each country plays in implementation at the international, regional and national levels will depend on the stage of development of its national program. All countries must play a role if the goals of the GPA are to be achieved.

98. The **Financing** section should reference the funding strategy of the International Treaty.

COMMISSION ON  
GENETIC RESOURCES  
FOR FOOD AND  
AGRICULTURE



**The UN Food and Agriculture Organization**  
in collaboration with  
**the United States Department of Agriculture**  
**Agricultural Research Service**

**North American Consultation for the Global Plan of Action on the Conservation and Sustainable Use of PGRFA**

**21-22 September 2010, George Washington Carver Center, U.S.A.**

**Agenda**

**Tuesday 21 September 2010**

8.00 – 9.00	Registration	
9.00 – 9.40	Welcome Commission on Genetic Resources for Food and Agriculture (CGRFA) AAFC, Canada USDA/ARS	Stefano Diulgheroff, FAO Eva Hain, FAO CGRFA Secretariat Brad Fraleigh June Blalock, Peter Bretting
9.50 – 10.00	Introduction of participants and Election of the Chair	Peter Bretting
10.00 – 10.10	Agenda and Objectives	Brad Fraleigh
10.10 – 10.30	GPA updating process	Stefano Diulgheroff
10.30 – 10.50	Refreshment break	
10.50 – 11.20	Changes in PGRFA conservation and use: Challenges for the new GPA	Stefano Diulgheroff
11.20 – 11.35	Summary of PGRFA in U.S.A.	Peter Bretting
11.35 – 11.50	Summary of PGRFA in Canada	Ken Richards
11.50 – 12.20	Dynamics of discussions	
12.20 – 14.00	Lunch	
14.00 – 15.40	Preliminary discussion on prioritization within the updated GPA	
15.40 – 16.00	Refreshment break	
16.00 – 17.30	Review of introductory parts of the original GPA	

**Wednesday 22 September 2010**

8.30 – 10.10	Review of Priority Activity Areas of the original GPA	
10.10 – 10.30	Refreshment break	
10.30 – 12.10	Review of Priority Activity Areas of the original GPA	
12.10 – 14.00	Lunch	
14.00 – 14.30	Review of Priority Activity Areas of the original GPA	
14.30 – 15.00	Discussion on implementation and financing of the next GPA	
15.00 – 15.30	Discussion on any proposed new Priority Activity Areas	
15.30 – 16.00	Summary discussion	
16.00 – 16.30	Refreshment break	
16.30 – 17.00	Summary discussion	
17.00 – 17.30	Closing comments	

**APPENDIX B****Participants**

<b>Name</b>	<b>Title/ Position</b>	<b>Institution</b>	<b>Email</b>
Ken Richards	Research Manager	AAFC, Saskatoon	<a href="mailto:Ken.Richards@agr.gc.ca">Ken.Richards@agr.gc.ca</a>
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Stefano Diulgheroff	Agriculture Officer, AGP	FAO	<a href="mailto:stefano.diulgheroff@fao.org">stefano.diulgheroff@fao.org</a>
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Brad Fraleigh	Director, Multilateral Science Relations	AAFC/ISCB	<a href="mailto:Brad.Fraleigh@agr.gc.ca">Brad.Fraleigh@agr.gc.ca</a>
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Mark Widrechner	Curator/ Horticulturist	USDA/ARS Ames, Iowa	<a href="mailto:Mark.Widrechner@ars.usda.gov">Mark.Widrechner@ars.usda.gov</a>
Edward Garvey	Plant Exchange Officer	USDA/ARS Beltsville, Maryland	<a href="mailto:Edward.Garvey@ars.usda.gov">Edward.Garvey@ars.usda.gov</a>

## VI. REPORT OF THE REGIONAL CONSULTATION IN NORTH AFRICA, NEAR EAST AND CENTRAL ASIA

### A. INTRODUCTION

1. The regional consultation for North Africa, the Near East and Central Asia was convened in Aleppo, Syrian Arab Republic, 2 to 3 November, 2010, to consider updating of the *Global Plan of Action for the Conservation and Sustainable Utilization of Plant Genetic Resources for Food and Agriculture* (GPA). The consultation was organized and funded by the Food and Agriculture Organization of the United Nations (FAO) with the collaboration of the International Center for Agricultural Research in Dry Areas (ICARDA). The Consultation *Agenda* is given in *Appendix A*. The list of participants is provided in *Appendix B*.
2. Mr Stefano Diulgheroff, FAO welcomed all participants to the consultation. He indicated his appreciation to ICARDA for organizing and hosting the consultation in collaboration with FAO, and thanked the staff for all the logistic support. Mr Diulgheroff stressed the ever growing role that plant genetic resources for food and agriculture (PGRFA) are playing in the context of global food security and of climate change. He invited all representatives from the region to make a substantive contribution in the process of updating the GPA, which represents since its adoption by 150 countries in 1996 a key international instrument for the conservation and sustainable use of these resources.
3. Dr Ir. Maarten van Ginkel, Deputy Director General – Research, ICARDA welcomed participants to the Centre. He stated that ICARDA was pleased to be part of the regional consultation as further efforts are needed to conserve and sustainably use dryland agrobiodiversity, and to strengthen national plant genetic resources for food and agriculture. Dr van Ginkel stressed the urgent need to identify novel genes in genebanks and introgress these into modern cultivars to address growing production constraints. He indicated that the consultation would build on past collaboration of FAO and ICARDA in developing the CWANA contribution to the *Second Report on the State of the World's Plant Genetic Resources for Food and Agriculture* (SOW-2), and indicated that ICARDA will continue to play a key role in collecting and maintaining the genetic resources of CWANA region and in capacity building of NARS genebanks.
4. Mr Dan Leskien, the FAO Commission on Genetic Resources for Food and Agriculture (Commission) reported that the Commission, at its Twelfth Regular Session, agreed to update the GPA in accordance with its Strategic Plan 2010-2017 for the implementation of the Multi-Year Programme of Work, and would consider the updated GPA its Thirteenth Regular Session in 2011. The Commission requested that FAO prepare the updated GPA based primarily on the SOW-2, and in particular, on the identified gaps and needs, taking into account further contributions from Governments, as well as inputs received from regional consultations.
5. Mr Leskien stressed the importance of the GPA as a supporting component of the International Treaty on Plant Genetic Resources for Food and Agriculture (International Treaty), and that the Commission had recommended that the GPA be focussed, so as to assist priority setting, including identifying priorities for the Funding Strategy of the International Treaty. He indicated that the Commission had called for coordination with the Secretary of the International Treaty in the GPA updating process, and he described the process and presented the timeline for preparing the updated GPA.
6. Dr Ahmed Amri presented an overview of the characteristics of the production systems in the region and some of the production challenges. He provided a summary overview



of gaps and needs from a regional perspective in consideration in updating of the GPA. The overview was prepared based on country reports from the region submitted to FAO as part of the process for preparing the SOW-2.

7. Mr Stefano Diulgheroff provided an overview of the significant changes and challenges in PGRFA conservation and use, as well as gaps and needs identified in the SOW-2 that would be considered in updating the GPA based upon advice received through the consultations from all regions. He indicated that the objective for the North Africa, the Near East and Central Asia consultation was to receive proposals and recommendations from representatives of the region on both the content and structure of the GPA as inputs for its updating. Mr Diulgheroff informed that common positions among participants, though helpful in providing advice to FAO, would not be necessary, as all suggestions and options would be recorded.
8. Ms Barbara Pick, FAO, described the composition and organization of the working group sessions. Participants which were divided into four groups considered the document, "Updating the *Global Plan of Action for the Conservation and Sustainable Utilization of Plant Genetic Resources for Food and Agriculture*", which *verbatim*, included the current *Global Plan of Action* as well as sections of the SOW-2 that identified changes since the *First Report on the State of the World's Plant Genetic Resources for Food and Agriculture*, and gaps and needs. Participants were also provided with other documents to assist in reviewing all sections of the current GPA including the Leipzig Declaration, the Introduction, Rationale, Aims and Strategies, Structure and Organization, and the Implementation and Financing section. The results of discussion were recorded by facilitators.

## B. SUMMARY OF RESULTS

### Review of the Leipzig Declaration and Introduction

9. The Leipzig Declaration was briefly considered. Participants noted that the Leipzig Declaration is an important element of the current GPA, and many of its concepts remain valid. They suggested that the Declaration could provide the basis for re-negotiation of a new declaration by the Commission, or possibly a Joint Declaration between the Commission and the Governing Body of the International Treaty. Participants suggested that the Leipzig Declaration be placed as Annex in the updated GPA, given its historical significance.
10. Participants also provided a less favourable option, that is to replace the Leipzig Declaration with a Preface, using much of the language contained in the Leipzig Declaration, as well as the International Treaty.
11. The consultation reviewed the Introduction section of the current GPA (paragraphs 1-6), and provided a number of suggestions for consideration in updating the GPA. Participants suggested that:
  - Most of the current text could be retained.
  - Sentence 4 be revised in paragraph 1, to indicate a positive relationship between conservation and use. The current formulation implies a potential negative incompatibility.
  - Update paragraph 2 to reflect the current status of the International Undertaking in relation to Global System.
  - Add text somewhere in the Introduction to indicate the coming into force of International Treaty and its relationship with the GPA.
  - Include at the end of paragraph 6 additional elements as follows: *A global plan of action will make significant and increasingly important contributions to promote food security, (livelihood improvement, rural development, sustainable agriculture and conservation of agriculture biodiversity).*

- Add to the Introduction additional messages on gaps and needs as identified in SOW-2, such as, but not limited, to climate change.
  - Add to the Introduction the importance of support for developing countries – i.e. the importance of further support for implementation and that past support has been beneficial.
12. The consultation indicated the importance of revising the introduction to clearly indicate major changes since the first GPA, as indicated in the SOW-2 - gaps and needs. They noted the introduction should be motivational and interesting, in addition to providing the historic process. It should make clear the importance of PGR and the need for a GPA. The introduction should stress the many challenges that lie ahead that must be met to feed a growing human population, and make clear that the GPA even more important today, than it was in past given food insecurity, and pressures from climate change and other challenges.
13. Participant stressed the importance of linking the GPA implementation with implementation of the International Treaty, and it should be indicated that the Treaty should support and facilitate implementation of GPA. In this regard, the Governing Body's role in implementation of GPA should also be clear, as well as relationships with the Convention on Biological Diversity (CBD) and other relevant instruments.

### **Review of the Rationale section of the *Global Plan of Action***

14. The consultation reviewed the Rationale section of the current GPA (paragraphs 7(a) – 7(g)) and provided the following suggestions for consideration in updating:
- 7a: retain
  - 7b: retain/ add to last sentence *these so-called centres of diversity are nevertheless still largely located in developing countries (and will benefit from having a plan of action).*
  - 7c: retain
  - 7d: retain first sentence and notion of interdependence (add interdependence of regions). Delete or change second sentence relating to benefit sharing as not relevant here.
  - 7e: retain
  - 7f: retain
  - 7g: retain move the last sentence of the paragraph to begin the paragraph i.e. it will be the first sentence rather than the last.

### **Review of the Aims and Strategies of the *Global Plan of Action***

15. The consultation reviewed the main Aims of the GPA (paragraph 9), and made the following suggestions:
- Some participants suggested that the title could indicate Aims only and reference to Strategies be deleted. Others indicated if paragraph 10 was made clearer, than Strategies should be retained in the section heading.
  - Participants suggested adding text to aim one indicated in bold: to ensure the conservation of PRFRA as a basis for food security (**as well as a basis for sustainable agriculture**).
  - Participants suggested to change aim two: to promote sustainable (**use**) (**rather than utilization**) of plant genetic resources for food and agriculture, in order to foster development and to reduce hunger and poverty particularly in developing countries.

- Participants suggested replacing aim three with text from International Treaty.
  - Participants suggested retaining, as is aim four: to assist countries and institutions responsible for conserving and using PGRFA to identify priorities for action.
  - Participants suggested to retain, as is aim five: to strengthen, in particular, national programmes, as well as regional and international programmes, including education and training, for the conservation and utilization of PGRFA and to enhance institutional capacity.
  - Participants suggested an additional aim: **to promote information sharing on PGR among and within countries.**
16. The consultation reviewed the strategies of the GPA (paragraph 10) and suggested two options:
- One option would be to delete most of paragraph 10, except the last part of the last sentence, such that the paragraph would begin: The GPA was developed within broad strategic framework comprised of six basic and inter-related aspects.
  - The second option would be to retain most of paragraph 10, but improve its clarity, in particular, improve the first sentence and remove repetition.
17. Participant made the following suggestions with respect to the sub-paragraphs of paragraph 10:
- 10a: retain and update
  - 10b: retain
  - 10c: retain
  - 10d: retain
  - 10e: retain
  - 10f: retain most of text, but in the last sentence replace the word **mix** – with the word **complementary** (complementary interrelated approaches).
  - Participants observed that in paragraph 10(f) national, regional and international levels is specified; and indicated that all three levels should be more consistently applied in the updated GPA.

#### **D. Review of the Structure and Organization of the *Global Plan of Action***

18. The consultation reviewed the Structure and Organization of the GPA and provided the following suggestions for consideration in updating:

#### **The 20 Priority Activities**

- Overall, most of the current structure should be retained.
- Consideration should be given to merging some of the 20 Priority Activities Areas (PAA).
- Some participants indicated consideration be given to adding **plant breeding to PAA 13**, and to consider biotechnology – modern technologies under the PAA.
- Some participants proposed adding a PAA on **Farmers Rights and ABS**. Others did not support this. Some participant suggested a PAA only on **Farmers Rights**.
- Participant noted that paragraph 11 would need to be revised to reflect any re-structuring.

#### **The Long-term and Intermediate Objectives:**

- Overall, participant recommended keeping both the long-term and intermediate objectives, but noted they should be distinctive.
- Participants generally agreed that the long-term objectives should be an inspiration, a long-term goal – or outcomes to be achieved under the PAA. Intermediate objectives should be written as actions or steps necessary to achieve the long-term objectives or long-term goal.
- Some participants favoured using the terms: **long-term goals and intermediate objectives**.

### **E. Review of the Priority Activity Areas of the *Global Plan of Action***

19. The consultation undertook a review of the 20 Priority Activities and provided suggestions to be considered in updating the GPA, as indicated below.

### ***In situ* Conservation and Development**

#### **PAA 1. Surveying and inventorying plant genetic resources for food and agriculture**

20. Some participants suggested changing the title of PAA-1 to **Surveying and inventorying plant genetic resources for food and agriculture and development**.
21. In reviewing the objectives, participants felt that the objectives remained valid, but needed to add new and immediate concerns in relation to new threats (climate change). Other suggestions included:
  - In the Long-term objective: ecosystems should be included in paragraph 16.
  - In the Long-term objective: some participants felt the long-term objective should be expanded to include a scope beyond the time frame of the GPA.
  - In the Intermediate objective: some participants suggested adding to the development of methodologies, assessment of threats, and in particular, climate change. **“Development of methodologies and assessment of threats including climate change”**.
  - Greater attention needed to be given to anticipated uses.
22. To the **Assessment** section, participants suggested:
  - The GPA should be updated to acknowledge that the International Treaty now exists.
  - The importance of sharing surveys and inventories between countries should be added.
  - There should be emphasis given to SOW-2 p.28 paragraphs:  

Most surveys, however, have been limited to single crops, small groups of species or to limited areas within the national territory. (SOW-2 p.28)

Very little survey or inventory work has been carried out on PGRFA in protected areas compared to other components of biodiversity in these areas. (SOW-2 p.28)
23. In the **Policy/strategy** section, participants indicated that there should be greater focus on wild relatives and emphasis on regulations and policies of on-farm conservation. The **Capacity**, accepted as currently written. Some felt, capacity should be closely linked with **Policy/strategy** and **Research/Technology** sections. Some felt, that capacity needed stronger links with the intermediate objectives, and focus on threats and technology development. Participants suggested adding to **Capacity: the need to develop capacity to promote standard definitions and means of assessing genetic vulnerability and genetic erosion** (SOW-2 need reported under Policy/Strategy section - 1<sup>st</sup> bullet).

24. In the **Research/technology** section, participants suggested to extend research to new areas beyond molecular techniques of inventorying and assessing diversity; and link research-technology to intermediate objectives, focus on threats and technology development. In the review of the changes, gaps and needs, some participants felt that bullets in the grey box should not be included in this PAA.
25. In the **Coordination/administration** section, participants suggested the need to share information on the work in relation to the inventories carried out so far (protected areas). There should be greater cooperation between relevant agencies and ministries engaged in *in situ* and *ex situ* activities. Some felt: sharing of information on successful stories would be beneficial.

## **PAA 2. Supporting on-farm management and improvement of plant genetic resources for food and agriculture**

26. Some participants suggested to modify the title to add sustainability to the end, "...for food and **agricultural sustainability**". Specific wording change options were proposed to the objectives: the Long-term objective should be updated in light of the international treaty; *Support* of on-farm management and improvement should be added to objectives. Some felt **gender** should be used instead of women in last sentence of paragraph 33. Some felt the long-term objectives should be narrowed as it now appears beyond the title of the PAA. Objectives should include a focus on climate change; and some felt that a focus on ecosystems should be added.
27. Participants supported a Priority Area for breeding to be added.
28. Participants made the following additional suggestions. The **Assessment** section, remains as it is. In the **Policy/strategy** section, update paragraph 34 "no single plan or recipe...." to reflect Indian law. Participants indicated emphasis be given to the following SOW-2 gaps and needs:

- There is a need for more effective policies, legislation and regulations governing the *in situ* and on farm management of PGRFA, both inside and outside of protected areas (SOW-2 p.44 b.3); ALSO PAA-4 & PAA-15
- A better understanding of, and support for, farmers' management of diversity is still needed, in spite of significant advances in this area. Opportunities exist for improving the livelihoods of rural communities through an improved management of diversity (SOW-2 p.17 b.2); ALSO PAA-11 & PAA-12 & PAA-20
- In order to capture the potential market value of native crops, local varieties, underutilized crops and the like, there is a need for greater integration of the efforts of individuals and institutions having a stake in different parts of the production chain, from the development and testing of new varieties, through value added activities, to the opening up of new markets (SOW-2 p.116 b.7); ALSO PAA-4 & PAA-9 & PAA-14 & PAA-12
- There is a need for countries to adopt appropriate and effective strategies, policies, legal frameworks and regulations that promote the use of PGRFA, including appropriate seed legislation (SOW-2 p.116 b.3); ALSO PAA-11 & PAA-12 & PAA-13 & PAA-15

29. In the **Capacity** section, participants put emphasis on the following SOW-2 gaps and needs:

- There is an urgent need to increase plant breeding capacity worldwide in order to be able to adapt agriculture to meet the rapidly expanding demand for more and different food, as well as non-food products, under substantially different climatic conditions

from those prevailing today. The training of more breeders, technicians and field workers, and the provision of better facilities and adequate funds are all essential (SOW-2 p.115 b.1); ALSO PAA-4 & PAA-10 & PAA-11 & PAA-12 & PAA-15 & PAA-19

- More investment is needed in the improvement of under-utilized crops as well as of traits in major crops that are likely to assume greater importance in the future as increased attention is paid to health and dietary concerns and as the effects of climate change intensify (SOW-2 p.116 b.6); ALSO PAA-4 & PAA-10 & PAA-11 & PAA-12 & PAA-14 & PAA-20

30. In the **Research/Technology** section, Research and taxonomy should be added. The research agenda should be more clearly linked to the objectives. paragraph 45 should be updated to reflect that some of this is taking place. There should be more emphasis on on-farm management, and emphasis was placed on the following sub-bullets of the SOW-2 highlighted need.

- Specific research needs relating to on farm management or *in situ* conservation of PGRFA include (SOW-2 p.44 b.10):
  - Studies on the extent and nature of possible threats to existing diversity on farm and *in situ*; ALSO PAA-3 & PAA-4 & PAA-7 & PAA-8 & PAA-11 & 15 & PAA-18
  - Ethno botanical and socio-economic studies, including the study of indigenous and local knowledge, to better understand the role and limits of farming communities in the management of PGRFA; ALSO PAA-11 & PAA-12

31. In the **Coordination/administration** section, paragraph 48, “IPGRI” should be changed to **Bioversity**, and also add “**between different ministries (*ex situ* and *in situ*) and between different levels of PGRFA organisations**”.

### **PAA 3. Assisting farmers in disaster situations to restore agricultural systems**

32. Some participants accepted the title as it is. Others suggested that the title should be changed to “Assisting farmers in disaster situations to restore *agrobiodiversity*” or “... restore *on-farm agrobiodiversity*”.
33. Some participants suggested that this PAA be linked with PAA-18 (early warning system) when the title is changed as above, but some did not agree with this change. Another suggestion was that the objective should be to restore previous systems, instead of having adaptive varieties for new conditions.
34. Participants suggested changes to the **Objective**, with paragraph 52 changed to include propagation material....”**To establish capacity to deliver seed and vegetatively propagated material.....”**.
35. In the **Assessment** section, some felt that special emphasis should be put on the importance of adapted material. In the **Policy/Strategy**, some felt that the role of these activities in obtaining post-disaster food security should be addressed. Some felt that special emphasis should be placed on the first two needs from the SOW-2 (first two bullets below), while some thought all three SOW-2 identified gaps below not to be appropriate in the current context.

- There is a need in all countries to develop and put in place early warning systems for genetic erosion (SOW-2 p.44 b.7); ALSO PAA-18
- There is a need to promote standard definitions and means of assessing genetic vulnerability and genetic erosion, as well as to agree on more and better indicators, in order to be able to establish national, regional and global baselines for monitoring diversity and changes in it, and for establishing effective early warning systems (SOW-2 p.20 b.5); ALSO PAA-2 & PAA-7 & PAA-18
- There is still an ongoing need to improve the coverage of diversity in *ex situ* collections, including CWR and farmers' varieties, coupled with better characterization, evaluation and documentation of the collections (SOW-2 p.17 b.1); ALSO PAA-5 & PAA-7 & PAA-9 (WG2)

36. In the **Capacity** section, Capacity and research/technology should be linked and emphasis should be placed on international and regional partners. The **Research/Technology** is valid as is. In the **Coordination/Administration**, additional emphasis should be placed on international and regional partners.

#### **PAA 4. Promoting *in situ* conservation of wild crop relatives and wild plants for food production**

37. Participants accepted the title as it is. Some felt **gender** should be used instead of **women** in last sentence of paragraph 67. In paragraph 68: some felt that **Plant genetic resources** should be replaced with **CWR and Wild Plants** to more closely match the title. Participants indicated that paragraph 69 was particularly important.

38. In the **Assessment** section, participants proposed underlining that during the past years CWR had received more attention though this should be further increased in the future.

39. In the **Policy/Strategy**, some felt that point “f” in paragraph 70, is important, and also indicated special emphasis be given to the following SOW-2 reported gaps and needs:

- There is a need for specific strategies to be developed for conserving PGRFA in situ and for managing crop diversity on farm. Special attention needs to be given to conservation of CWR in their centres of origin, major centres of diversity and biodiversity hotspot areas (SOW-2 p.44 b.5); ALSO PAA-2 & PAA-11 & PAA-15
- Greater measures are needed in many countries to counter the threat of alien invasive species (SOW-2 p.44 b.8); ALSO PAA-15 & PAA-18

40. Participants suggested that the SOW-2 gap should include CWR after “PGRFA”:

- There is a need for countries to adopt appropriate and effective strategies, policies, legal frameworks and regulations that promote the use of PGRFA, including appropriate seed legislation (SOW-2 p.116 b.3); ALSO PAA-2 & PAA-11 & PAA-13 & PAA-15

41. In the **Capacity** section, some participants stressed that the updated GPA be sent **DIRECTLY to decision makers**, not via focal point/secretary. Some felt that the text should better link capacity building to current and emerging threats, opportunities, and use. Participants indicated that there was no **Research/Technology** section in this PA, and that research is needed on geographic distribution of specific CWR, research taxonomy and reproductive behaviour, and research could be needed on nutritional values of wild plants for food production. Emphasis should be placed on the monitoring aspect of research and extend research to new areas beyond molecular techniques or

monitoring. In the **Coordination/Administration** section, coordination between in situ and ex situ activities was stressed by participants.

42. Participant suggested that under **Capacity** the following gaps and needs extracted from the SOW-2 are not relevant to the current context:

- In the effort to mobilize additional resources for ex situ conservation, greater efforts are needed in raising awareness among policy makers and the general public, of the importance of PGRFA and the need to safeguard it (SOW-2 p.87 b.9). ALSO PAA-5 & PAA-6 & PAA-7 & PAA-8 & PAA-20
- More investment is needed in the improvement of under-utilized crops as well as of traits in major crops that are likely to assume greater importance in the future as increased attention is paid to health and dietary concerns and as the effects of climate change intensify (SOW-2 p.116 b.6); ALSO PAA-2 & PAA-10 & PAA-11 & PAA-12 & PAA-14 & PAA-20

### ***Ex situ Conservation***

#### **PAA 5. Sustaining existing *ex situ* collections**

43. Participants made the following general comments regarding this section.

- There was near consensus on merging PAA-5 with PAA-8 because of their close relationship.
- There were recommendations for combining PAA-5 and PAA-8:
  - i. Retain paragraph 132 “To conserve PGR for food and agriculture so they are available for use”
  - ii. Add paragraphs for:
    1. Safeguarding
    2. Developing system
    3. Developing cooperation
- Paragraphs related to *in-situ* and on-farm conservation could be removed.

44. Participants suggested changing the **title**: it was felt that the word “**existing**” should be deleted from the title. New Title: ‘**Sustaining *ex-situ* collections**’.

45. Participants suggested the following changes to the **Objectives**, Combine paragraphs 80, 81 and 132 or reformulate as appropriate and highlight/add the development of capacity, methods and tools. Some indicated that the International Treaty should explicitly be mentioned as a legal international agreement here.

46. Suggestions were also provided to improve the **Assessment** section. The importance of CWR should be emphasized in this section. The **Policy/Strategy** is valid as it stands. In the **Capacity** section, emphasis should be placed on supporting NARS to develop their capacity to safeguard their own genetic research. The **Research/Technology** remains valid as it stands, as does the section on **Coordination/Administration**.

#### **PAA 6. Regenerating threatened *ex situ* accessions**

47. Participant suggested to change the title by deleting the word **threatened** and adding ‘**multiplication**’ to the title and to the Objectives: **New title: ‘Regenerating and multiplying *ex-situ* accessions’**, the expressed was that the processes are very similar, and the aim is to assure availability for use.



48. Participant proposed changes to the **Objectives**: to add additional consideration to both long-term (base) and shorter-term (active) conservation. In paragraph 96: Long-term objectives: Change to: **Have the material viable and ready for distribution; and the Infrastructure needed to process for periodic regeneration.**
49. Participants suggested changes to other sections. In the **Assessment** section, delete the following sentence extracted from the SOW-2:

Given the money and resources that less frequent regeneration would save, it is probably time to apply the innovation of the genomics age to the mundane concern of seed storage containers and temperature/humidity regimes. (SOW-2 p.265 Sec. A 3.6)

50. In the **Policy/Strategy** section, paragraph 98: Highlight CWR as a priority; and provide information on regenerated material with international support being made public. In the SOW-2 insertion under the **Capacity** section, replace ‘**Many countries**’ with “**Many institutes/genebanks**”. In the **Research/Technology** section, paragraph 110: add **cryo-preservation methods** “...reinforce research to improve conservation technologies.....”; in paragraph 111: highlight **cross-pollinated species**; and in paragraph 112: participants questioned who will assemble the data. The **Coordination/Administration** section remains as it is.

#### **PAA 7. Supporting planned and targeted collecting of plant genetic resources for food and agriculture**

51. Participants proposed a new title: delete the word ‘**planned**, as ’all collecting should be ‘planned’. **New title: Supporting targeted collecting of PGRFA**
52. No wording changes were proposed to the objectives.
53. In the **Policy/Strategy**, add reference to the **International Treaty** in addition to CBD. In the **Assessment** section, delete last insertion concerning problems of unplanned duplication due to exchange – not relevant here. In the **Capacity** section, in paragraph 121: delete words ‘, **where desired**’; change to ‘**preferably in country where collected** (country of origin)’. paragraphs 121 and 122 appear to be as contradictory. Delete paragraph 122.
54. With respect to the insertions from the SOW-2, the second gap and need (one bullet and two sub-bullets reported below), was considered out of context.

- Specific research needs relating to on farm management or *in situ* conservation of PGRFA include (SOW-2 p.44 b.10):
- Studies on the extent and nature of possible threats to existing diversity on farm and *in situ*; PAA-3 & PAA-4 & PAA-8 & PAA-11 & PAA-15 & PAA-18
  - The need for better inventories and characterization data on land races, CWR and other useful wild species, including forages, in order to better target *in situ* conservation action; PAA-1 & PAA-4 & PAA-8 & PAA-9 & PAA-18

55. The **Research/technology** section remains valid according to the consultation. In the **Coordination/administration** section, paragraph 127, change ‘**may**’ to ‘**should** designate a focal point .....’.

#### **PAA 8. Expanding *ex situ* conservation activities**

56. Participants suggested to **combine PAA-8 with PAA-5** and reformulate accordingly. In paragraph 136: add “balance support to local communities”.

### Utilization of Plant Genetic Resources

#### PAA 9. Expanding the Characterization, Evaluation and Number of Core Collections to Facilitate Use

57. General agreement among participants that **PAA-12 and PAA-14 have similar aims and should be merged**; and that core collections have had their day and the focus in this section should be on methodologies that can identify specific traits as defined by the user.
58. With respect to the title, the consultation suggested the following options:
- **Expanding the characterization and evaluation of accession to facilitate use.**
  - **Expanding the characterization and evaluation of accession and the development of methodologies for trait specific sub-sets to facilitate use**
59. Participants suggested the following additional changes. In the **Assessment** section, in paragraph 146 and 147, **remove reference to core collections** and talk about trait specific collections. The following gap and change from the SOW-2 need to be addressed in the GPA.

➤ A lack of adequate characterization and evaluation data and the capacity to generate and manage it, remain a serious constraint to the use of many germplasm collections, especially of under-utilized crops and wild relatives (SOW-2 p.116 b.8); ALSO PAA-2 & PAA-4 & PAA-19

➤ Documentation and characterization data on collections have progressed somewhat, although there are still large data gaps and much of the existing data is not accessible electronically (SOW-2 p.86 b.7); ALSO PAA-6 & PAA-9 & PAA-17

60. With respect to the **Objectives**, participants suggested, in paragraph 148, last sentence, rehabilitation of degraded ecosystems and farming systems could also be mentioned. In paragraph 149, gene mining needs to be focussed. References to climate change should be added in paragraphs 150 and 152 where the focus should shift from core collections to trait specific sets. Inclusion of extension services and farmers’ involvement in the characterization/evaluation efforts was highlighted.
61. In the **Policy/Strategy** section, in paragraph 153, section *e*, the importance of a **funding mechanisms** need to be emphasized. In paragraph 154, focus should be shifted from core collections to tools to identify useful traits. The following gaps/needs from SOW-2 were proposed to be highlighted.

- There is still an ongoing need to improve the coverage of diversity in *ex situ* collections, including CWR and farmers’ varieties, coupled with better characterization, evaluation and documentation of the collections (SOW-2 p.17 b.1); ALSO PAA-3 & PAA-5 & PAA-6 & PAA-7 & PAA-9 (emphasize in GPA)
- The need for better inventories and characterization data on land races, CWR and other useful wild species, including forages, in order to better target *in situ* conservation action; (SOW-2 p.44 b.10) ALSO PAA-1 & PAA-4 & PAA-7 & PAA-8 & PAA-18 (supported in GPA)
- To better serve the management of collections and encourage an increased use of the germplasm, documentation, characterization and evaluation all need to be strengthened and harmonized and the data need to be made more accessible. Greater standardization

of data and information management systems is needed (SOW-2 p.87 b.6); ALSO PAA-6 & PAA-16 & PAA-17 (emphasize in GPA)

62. With respect to **Research/Technology**, participants indicated the importance of bridging the data available through the documentation systems. This is important element for the research infrastructure and should be highlighted.

#### **PAA 10. Increasing Genetic Enhancement and Base-Broadening Efforts**

63. With respect to the title, the some participants suggested the following alternative: **Genetic enhancement and base-broadening efforts.**
64. With respect to the **Objectives**, the following suggestions were provided: In paragraph 170, to reduce genetic uniformity (**replace with vulnerability**) in crop varieties through the utilization of wild relatives, local materials and/or modern varieties. In paragraph 171, Alternative Proposed: **To provide tools and resources necessary to increase genetic diversity available in breeders' populations through appropriate strategies of introgression (base-broadening).**
65. With regard to the **Assessment** section, participants suggested, in paragraph 168, the need for strong **pre-breeding programs**, and in paragraph 169, an emphasis on the need to **train new plant breeders**. Both the following changes from SOW-2 were suggested to be incorporated into the updated GPA.

- Concerns about the potential impact of climate change have grown substantially over the past decade. Agriculture is both a source and a sink for atmospheric carbon. PGFRA are becoming recognised as being critically important for the development of farming systems that capture more carbon and emit fewer greenhouse gasses, and for underpinning the breeding of the new varieties that will be needed for agriculture to adapt to the anticipated future environmental conditions (SOW-2 p.198 b.3); ALSO PAA-2 & PAA-11 (address in GPA)
- There has been a substantial increase in awareness over the past decade of the extent and nature of the threats posed by climate change, and of the importance and potential of PGFRA in helping agriculture to remain productive under the new conditions through their underpinning of efforts to breed new, adapted crop varieties (SOW-2 p.115 b.8); ALSO PAA-3 & PAA-9 & PAA-11 & PAA-18 & PAA-20 (address in GPA)

66. In the **Policy/Strategy** section, retain from the SOW-2 the following gaps and needs:

- Greater efforts are needed in order to mainstream new biotechnological and other tools within plant breeding programmes (SOW-2 p.116 b.5); ALSO PAA-2 & PAA-11 (address in GPA)
- More investment is needed in the improvement of under-utilized crops as well as of traits in major crops that are likely to assume greater importance in the future as increased attention is paid to health and dietary concerns and as the effects of climate change intensify (SOW-2 p.116 b.6); ALSO PAA-2 & PAA-4 PAA-11 & PAA-12 & PAA-14 & PAA-20 (address in GPA)
- The growing consensus on the nature, extent and rate of climate change makes it imperative that far greater attention be paid to anticipating and preparing for its effects. Given the time needed to breed a new crop variety (around ten years), it is essential that additional plant breeding capacity be built now, especially in developing countries, and that breeding programmes expand their efforts to develop the traits and varieties needed to meet the challenge (SOW-2 p.199 b.1); (address in GPA)

67. **In the Capacity** section, in paragraph 173, need to also include **capacity development of bioinformatics** – which underpin characterization and utilization issues; and need to increase capacity in traditional fields of plant science – **phenomics including taxonomy, physiology, field and lab evaluation** – without over-emphasizing molecular biology.
68. The **Research/Technology** and the **Coordination/Administration** are valid as they are.

**PAA 11. Promoting Sustainable Agriculture through Diversification of Crop Production and Broader Diversity in Crops**

69. Some participants proposed changing the title as follows: **Promoting sustainable agriculture through diversification of *plant* production and broader diversity in agricultural system.**
70. With respect to the **Objective**, participants suggested in paragraph 179, to consider “degradation” as an alternative word to “erosion”..... **“To promote sustainable agriculture and reduce genetic erosion (*degradation*) and possible genetic vulnerability by diversifying crop production and increasing genetic diversity in crops.”**
71. With regard to the **Assessment** section, participants suggested, in paragraph 177, to emphasize the importance to put food as number one priority when considering the food/fuel competition for arable land. Retain from the SOW-2 and elaborate in the updated GPA the following bullets:

- ✦ There have been growing efforts to strengthen the relationship between agriculture and the provision of ecosystem services. Schemes that promote PES - such as the *in situ* or on farm conservation of PGRFA - are being set up in an attempt to encourage and reward farmers and rural communities for their stewardship of the environment. However, the fair and effective implementation of such schemes remains a major challenge (SOW-2 p.198 b.2); ALSO PAA-2 This was strongly stressed as important to address in GPA
- Many countries still lack national strategies and/or action plans for the management of diversity - or if they have them, they do not fully implement them. Areas that require particular attention include setting priorities, enhancing national and international cooperation, the further development of information systems and identifying gaps in the conservation of PGRFA, including CWR (SOW-2 p.20 b.6); ALSO PAA-2 & PAA-15 & PAA-17 address in GPA
- Many countries lack nationally endorsed strategies and plans for the conservation and use of PGRFA. These are important for setting priorities, distributing roles and responsibilities, and allocating resources (SOW-2 p.137 b.3); ALSO PAA-12 & PAA-15 address in GPA
- ✦ Concerns about the potential impact of climate change have grown substantially over the past decade. Agriculture is both a source and a sink for atmospheric carbon. PGFRA are becoming recognised as being critically important for the development of farming systems that capture more carbon and emit fewer greenhouse gasses, and for underpinning the breeding of the new varieties that will be needed for agriculture to adapt to the anticipated future environmental conditions (SOW-2 p.198 b.3); ALSO PAA-2 address in GPA

72. In the **Policy/Strategy** section, in paragraph 182, caution is needed in handling GMOs in the centers of diversity of the transformed crops; need to base the diversification on land suitability and sustainability of natural resources. From the SOW-2, participants

felt it was important to **address all the gaps identified in the GPA** as shown in this section.

73. In the **Capacity** section, in paragraph 184, need to include **plant breeding** capacity. Participants felt it was important to address in the GPA **all gaps** identified from the SOW-2, in this section. In the **Research/technology** section, in paragraph 185, need to promote the use of **under-utilized crops and to work on domestication of other species** to cope with the challenges of climate change as included in one of the recommendations of the SOW-2.
74. In the **Coordination/Administration** section, participants felt it was important to address **all the gaps** identified in the GPA as shown in this section. In paragraph 188, need for **GEF, ITPGRFA and other funding agencies** to promote actions for in situ/on-farm conservation of agrobiodiversity. In addition, development projects should also encourage **in situ and on-farm conservation** of agrobiodiversity in biodiversity rich areas and the centers of diversity. The following gap/need from the SOW-2 need to be addressed in the updated GPA.

➤ The involvement of local communities is essential in any *in situ* conservation or on farm management, effort and traditional knowledge systems and practices need to be fully taken into account. Collaboration between all stakeholders needs to be strengthened in many countries (SOW-2 p.44 b.6); ALSO PAA-2 & PAA-4 & PAA-15 & PAA-18 & PAA-20

#### **PAA 12 Promoting Development and Commercialization of Under-utilized Crops and Species**

75. With respect to the title, participant suggested that PAA-12 be merged with PAA-14. A possible new title would be: **Promoting development, commercialization and marketing of underutilized crops, species, local varieties and diversity rich products**. It was also suggested to change the title to include both **seed production and multiplication** of plant propagation material as in case of fruit trees
76. With respect to the **Objectives** participant agreed, they remain valid.
77. In the **Assessment** section, the following change from the SOW-2 need to be reflected in the GPA.

↗ There is growing interest in hitherto 'neglected' and under-utilised species such as traditional vegetables and fruits (SOW-2 p.17 b.4); ALSO PAA-4 & PAA-14

78. With regards to the **Policy/Strategy** section, participants indicated that in paragraph 192, the World Trade Organization should consider the value of agrobiodiversity in accessing the markets. If underutilized crops are developed and commercialized – there is need for a policy for benefit sharing that targets farmers and traditional custodians.
79. In the **Capacity** section, participants emphasized that the **two gaps from the SOW-2** need to be addressed in the updated GPA. In the **Research/technology** section, participant indicated in paragraph 194, the need for **research on domestication of some species**. Participants suggested that the identified gaps and needs from the SOW-2 should be addressed in GPA. In the **Coordination/Administration** section, in paragraph 195, while regional networks are potentially useful they do not often work or are effective without a commitment of ongoing funding and clear objectives. Strengthen linkages between PGRFA conservation and users.

### PAA 13. Supporting Seed Production and Distribution

80. With respect to the title, there was discussion about if “**seed**” is explicit enough in the meaning – i.e. seed is a multiple use word. Perhaps change the title to include both **seed production and multiplication of plant propagated material**, as in case of fruit trees.
81. With respect to the **Objectives**, participants suggested, in paragraph 198, to add “including **farmer varieties**”; and add **plant-propagated material along with seeds**. In paragraph 200, include **farmer varieties** – not just commercialized seed; and include **plant-propagated material** along with seeds. In paragraphs 201 and 202, include **plant-propagated material along with seeds**.
82. In the **Assessment** section, in paragraph 197, include **plant-propagated material** along with seeds. Also, some felt that GPA should support and encourage the positive trends outlined in this section. In the **Policy/strategy** section, in paragraph 203, add “**and seed producers**” to first sentence – “Governments and their national agricultural research systems, *and seed producers* .....”; international organizations to render support in this area in particular; and need a legal framework to cope with farmer varieties/landraces in seed sector, as at present most legislation deals with varieties of a uniform nature as defined by UPOV etc.
83. Participants agreed that **all gaps** from the SOW-2 in this section needed to be addressed in GPA. In the **Capacity** section, in paragraph 204, include **plant-propagated material** along with seeds. In paragraph 201, part (a) Encourage existing seed enterprises (consider replacing with seed production systems) to improve the range and quality (to international standards) of planting materials they offer. Participants agreed that changes in this section from the SOW-2 needed to be addressed in GPA. In the **Research/Technology** section, in paragraph 205, include **plant-propagated material** along with seeds; and in paragraph 205(a) Assess current incentives and disincentives as well as needs for support to seed production and distribution enterprises (**replace with “systems”**), including small-scale, farmer-level efforts. In the **Coordination/administration** section, in paragraphs 206 and 207, include **plant-propagated material** along with seeds.

### PAA 14. Developing New Markets for Local Varieties and Diversity-Rich Products

84. In reviewing the title, participants suggested that this PAA be merged with PAA-12.
85. With respect to the **Objectives**, participants suggested, in paragraph 210, the need to use uniform terminology was identified: “Stimulate stronger demand and more reliable market mechanisms for landraces/farmers’ varieties and related agricultural products.”
86. With regards to the **Assessment** section, participants supported **all of the changes** from the SOW-2 to be considered in the update of the GPA. With regards to the **Policy/Strategy** section, participants agreed with the **gaps identified in the SOW-2** and the need to add them to the GPA. In the **Capacity** section, in paragraph 215, training of extension workers to be effective in this field – **underutilized species**. The **Research/Technology** section is missing from this PAA. Under **Coordination/Administration**, paragraph 216, is very general – should include what is, and how to be more effective.

### Institutions and Capacity Building

### PAA 15. Building Strong National Programs

87. In reviewing the title participants suggested a change of wording: “**strong**” to be changed to “**effective**”; and to add “**establish and strengthen existing national programmes**”.
88. With respect to the **Objectives**, participants provided the following suggestions: In paragraph 222, wording “**to identify** and meet national needs” to be changed (the identification of needs is a step towards the ultimate objective, not a long-term objective as such). In paragraph 225: need to specify that the improvement of institutional and sectoral linkages should also lead to the prevention of parallel collection of genetic resources /avoid redundant collections within the same country. In paragraph 226, should also mention the need to **develop national capacities in legislation**. In paragraph 226, need to specify that national capacities should be developed for both technical staff and policy makers.
89. With respect to **Assessment** section, participants supported **inserts from SOW-2 valid, but need to avoid repetition**. Participants highlighted: Bullet 1 (“many countries still lack national strategies and/or action plans...or if they have them, they do not fully implement them...”; Issue of funding of national programmes; and Bullet 12: “the importance of farmers as custodians and developers of genetic diversity”.
90. With respect to the **Policy/Strategy** section, participants highlighted paragraph 227: need to highlight the importance of raising awareness among policy makers to get access to funds for supporting national programmes; Bullet 1: national strategies are needed not only for in situ and on farm conservation but also for ex situ conservation taking into account the complementary approach; Bullet 5 (on farmers’ rights) and suggested to mention **Plant Breeders’ Rights**; Bullet 6 (on awareness among policy-makers, donors and the general public); and Bullet 7: the need to adopt appropriate and effective strategies, policies, legal frameworks and regulation should not focus only on the use of PGRFA (as written) but also on **conservation of PGRFA** - plus need to specify that “**the appropriate seed legislation**” should be done for local farmers/local communities.
91. In the **Capacity** section, participants indicated repetition with policy/strategy and capacity sections. They highlighted: issues of funding national programmes in the context of weak economic conditions; and the importance of the need for technical support from international organizations.; In Bullet 1: need to mention the **ITPGRFA** with regard to the assistance in developing policies and legislation; in Bullet 7 (**plant breeding capacity**); and Bullet 10 (**role of agricultural markets** in helping achieve food security and sustainable agricultural development).
92. With respect to the **Coordination/Administration** section, participants highlighted in paragraph 239: the need to mention the **ITPGRFA**, Bullet 1 (on Traditional Knowledge); Bullet 6 (on the need for greater internal coordination among different ministries and institutions and between the public and private sectors); Bullet 7 (on closer collaboration and coordination, nationally and internationally, especially between the **agriculture and environment sectors**); Bullet 8 (on the need for greater coordination and cooperation among agencies and institutions concerned with international aspects of conservation and use of PGRFA...); Coordination among international networks/fora supported by ICARDA, CYMMIT, FAO, BI, etc.) Should be strengthened; and Issues of funding strategies.
- PAA 16. Promoting networks for plant genetic resources for food and agriculture**
93. In reviewing the title, some participants suggested to change the wording “**promoting**” into “**strengthening**”.

94. With respect to the **Objectives**, participants suggested in paragraph 243: “crop-based, thematic and in situ oriented networks”: **no need to specify or add “and on farm”** but if added “on farm” it should be **relocated under intermediate objectives** (long-term objectives need to be general). In paragraph 246, the sentence should either be very general and stick to PGRFA or **add neglected and underutilized crops**. In paragraphs 247 and 248: networks should be established not only at the regional level but also at the **national level - drop the word “regional”**. In paragraph 248, the sentence is too specific, it **should target the establishment of new networks** at regional and national levels in general - or specify what crops and thematic networks are targeted here to make it more concrete.
95. With respect to the **Assessment** section, participants suggested to highlight Bullet 1 (on wide access to materials); Bullet 2: all regional networks should be indicated, the list should be made comprehensive. - avoid mentioning examples; and Bullet 5 (on new crop specific networks that have been established). With respect to the **Policy/Strategy** section, participants suggested to highlight the importance of collaboration and coordination at national, regional, nationally and international levels, in particular between the agriculture and environment sectors; documentation, characterization and evaluation should be strengthened and standardized and data be made more accessible; and Bullet 5 on awareness among policy makers and the general public.
96. In the **Capacity** section, participants noted the need to review paragraph 254 regarding the **list of regions**; and highlighted the issue of funding capacity. In the **Coordination/Administration** section, participants noted in paragraph 256, the need to specify from **which organizations resources** should be made available both at the national and international levels; and recognized the need for **coordinating at the global level** networking efforts and their financial support.

**PAA 17. Constructing comprehensive information systems for plant genetic resources for food and agriculture**

97. In reviewing the title, some participants suggested to change the word “**constructing**” to “**developing**”. Others suggested changing the title into “**one comprehensive information system**” to highlight the need for standardization/harmonization of data.
98. With respect to the **Objectives**, participants suggested the need for harmonization, standardization as a means to achieve the overall objective. In paragraph 261, it was suggested to change the word “**establish**” to “**strengthening**”. Some participants suggested mentioning the issue of **ABS in paragraph 260**. In paragraph 261, strategies for the development of data and documentation systems should promote the adoption of uniform standards.
99. With respect to the **Assessment** section, participants highlighted a lack of comprehensive and integrated information management systems in many countries and the need to mention the usefulness of **bio-informatics tools** in a comprehensive information system.
100. With respect to the **Policy/Strategy** section, participants suggested to highlight the need for facilitating the exchange of information among countries through a globally integrated mechanism; and indicated that **all the gaps and needs from the SOW-2** reported under Policy/Strategy are relevant.



101. With respect to the **Capacity** section, participants suggested to highlight the importance of training in information exchange and use of the Internet. In the **Research/Technology** section, participants agreed that Points c) and d) (means for management an information system) are still relevant - but specifically at **national level** and the need to mention **bio-informatics tools**.

**PAA 18. Developing monitoring and early warning system for loss of plant genetic resources for food and agriculture**

102. With respect to the title, participants suggested to change “**loss**” to “**degradation**” or “**erosion**.” Some participants recognized the inter-relation between PAA-3 and PAA-18, though the majority considered it more appropriate to keep these separate.
103. With respect to the **Objectives**, participants suggested to focus not only on the establishment of mechanisms (3<sup>rd</sup> sentence) but also on the **implementation of existing mechanisms**. Some participants suggested adding some elements on the need to **expand the use of advanced technologies for monitoring degradation of most threatened species**.
104. Under **Assessment**, participants indicated this was still a good analysis of the situation, and emphasized the first two paragraphs in the grey box. With respect to the **Policy/Strategy** section, participants indicated the most relevant SOW-2 insertions as: Bullet 1 (on the need to promote standard definitions and means of assessing genetic vulnerability and genetic erosion, etc.); Bullet 2 (on the need to develop early warning systems for genetic erosion); Bullet 3 (on the need to step up efforts to conserve landraces, farmers’ varieties and CWR before they are lost as a result of changing climates), plus the need to add the context not only of changing climates but also **increasing populations**. Some suggested highlighting the need of linking national and international early warning systems. Some suggested recasting paragraph 284 (in the **French version**). In the **Capacity** section, participants suggested, in paragraph 285: to remove the word “**short**” for “short training”

**PAA 19. Expanding and improving education and training**

105. With respect to the title, participants accepted it as is. With respect to the **Objectives**, participants suggested to add the importance of training including in the **field of legislation**; and highlighted the need for **continuous updating of existing capacities**. They suggested that paragraph 298 come first – as it is very important, and that paragraph 296: the development of capacity is not only needed at regional level, but also at national and international levels. The same comment for paragraph 297 – short courses and educational modules not only regionally but also at national and international levels, plus delete “**short**” courses” and add “**primary and secondary education**”.
106. Under **Assessment**, participants indicated paragraphs 293 and 294 should be reformulated and made simpler. In the **Capacity** section, participants suggested that paragraph 302 is important but should be reformulated to include the national dimension and emphasize the need for scholarships for PhDs/doctoral training. Legislation and regulation topics should also be mentioned under paragraph 304. In Bullet 1: research capacity should also be strengthened in the field of biotechnology transfer; and in Bullet 2: the need to increase capacity should also cover *ex situ* **conservation**. In paragraph 307, change the word “**women**” with “**gender**”. In the **Research/Technology** section, participants suggested to rephrase paragraph 309 as follows “Institutions should endeavour to link training with ongoing research **and development**”.

**PAA 20. Promoting public awareness of the value of plant genetic resources for food and agriculture conservation and use**

107. With respect to the title, some participants suggested to change the title as follows: “**Promoting Public and Policy-Makers Awareness of the Value of Plant Genetic Resources for Food Security, Sustainable Agriculture and Livelihoods**”.
108. With respect to the **Objectives**, participants suggested to add “**decision-makers’ awareness**” and not only “public awareness” and to add awareness at **policy level/decision-makers levels**.
109. Under **Assessment**, participants highlighted Bullet 6 (on the interest that is growing in neglected and under-utilized crops); and Bullet 8 (on the need for greater awareness among policy-makers, donors and the public). With respect to the **Policy/Strategy** section, participants indicated that Bullet 5 is very important (on the need to raise awareness among policy-makers and the public). Some suggested including the role of **extension services** to be involved in public awareness activities to convey messages of PGRFA importance, and noted **Bullet 2 is out of context here**. In the **Capacity** section, participants suggested that both Bullets are very important. Some suggested highlighting the role of ambassadors of good will in raising awareness at high levels for policy makers.

**Implementation and Financing of the Global Plan of Action**

110. The need for an Implementation and Financing Section in the updated GPA was considered by participants. Participant agreed that a replacement section on Financing and Implementation is required. They indicated that this section should be prepared based on the current text – adding new agencies and sources of funding. Participants suggested that the updated section indicate that substantial progress has been made in both funding and in the implementation of the GPA, while stressing the need for significant additional investments to meet global food and agriculture goals, and other developmental goals and to address emerging challenges, including climate change.
111. Participants indicated the importance of **paragraph 6** of the current text, and suggested placing this early in the updated section. It was suggested that the section stress the importance of supporting **national programmes** and the need to **harmonize and coordinate activities under the International Treaty and GPA**, as well as relative activities under the CBD. Some participants noted the need to ensure funding is available beyond the International Treaty Annex I List of crops covered under the Multilateral System.

**General Comments**

112. In general, participants felt that the current GPA reflects to large extent, current priorities but some modifications are suggested to reflect the changes that have occurred since 1996 and the new challenges and gaps as identified in the SOW-2. Thus, retain much of current text and focus on gaps and needs and changes identified in the SOW-2.

113. Participants indicated that the “Coordination” sections need to separate between coordination at the national level and coordination at the regional/international levels (perhaps separate subsections).
114. In general, participants felt the text in the current GPA could be simplified, and there is need to avoid and reduce duplication. They also indicated that the intent of all priority activities should be retained; however, some merging could be appropriate.
115. Some suggested removal of all paragraphs concerning linkage, as the links are obvious or retain only ‘less obvious’ linkages.

## Regional Consultation for North Africa, Near East and Central Asia on the Updating of the Global Plan of Action on the Conservation and Sustainable Use of PGRFA

**2-3 November 2010, ICARDA Aleppo  
Syrian Arab Republic**

### Agenda

Day 1 – Tuesday 2 November 2010

8.00 – 8.30	Registration	
8.30 - 9.00	Welcome FAO ICARDA Commission on Genetic Resources for Food and Agriculture	Mr. Stefano Diulgheroff Dr. Maarten van Ginkel, DDG Mr. Dan Leskien
9.00 - 9.15	Introduction of participants	
9.15 - 9.25	Agenda and Objectives	S. Diulgheroff
9.25 - 9.40	GPA updating process	S. Diulgheroff
9.40 - 10.00	Coffee break	
10.00 - 10.40	Changes in PGRFA conservation and use: Challenges for the new GPA	S. Diulgheroff
10.40 – 11.00	Regional Summary	Ahmed Amri, ICARDA
11.00 - 11.15	Dynamics of working group discussion	Barbara Pick, FAO
11.15 - 13.00	Working Group session 1	
13.00 - 14.30	Lunch	
14.30 – 16.10	Working Group session 2	
16.10 – 16.30	Coffee break	
16.30 – 18.10	Working Group session 3	

Day 2 – Wednesday 3 November 2010

8.30 – 10.10	Working Group session 4	
10.10 – 10.30	Coffee break	
10.30 - 12.10	Working Group session 5	
12.10 – 14.30	Lunch	
14.30 – 15.00	Wrap up Sec.I (GPA introductory parts)	Richard Laing, FAO
15.00 – 15.30	Wrap up Sec.II ( <i>in situ</i> and on farm)	Gregory Sixt and Abdallah Bari, ICARDA
15.30 – 16.00	Wrap up Sec.III ( <i>ex situ</i> )	Jan Konopka, ICARDA
16.00 – 16.30	Wrap up Sec.IV (use)	Ahmend Amri and Kenneth Street, ICARDA
16.30 – 17.00	Coffee break	
17.00 – 17.30	Wrap up Sec.V (institutions and capacity building)	B. Pick
17.30 – 17.45	Closure	

**Regional Consultation for North Africa, Near East and Central Asia on the  
Updating of the Global Plan of Action on the Conservation and Sustainable Use of PGRFA  
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## **VII. REPORT OF THE REGIONAL CONSULTATION IN THE PACIFIC ISLAND COUNTRIES**

### **A. INTRODUCTION**

1. The Pacific Regional Consultation on Strengthening Conservation and Sustainable Use of Plant Genetic Resources for Food and Agriculture in the Pacific Island Countries was held in Suva, Fiji on 7-10 December 2010. The meeting was organized by the Food and Agriculture Organization of the United Nations (FAO) in collaboration with the Secretariat of the Pacific Community (SPC). It was attended by 28 participants from 14 Pacific Island countries and representatives from national, regional and international organizations.

2. The consultation included sessions on genetic resources activities at the regional level, covering both plants and animals with discussions at how best to integrate these two sectors and other components of agrobiodiversity. Further sessions followed which described PGRFA programmes and activities at the international level. Two days were devoted to the updating of the Global Plan of Action for the Conservation and Sustainable Utilization of Plant Genetic Resources for Food and Agriculture (GPA). The Commission on Genetic Resources for Food and Agriculture (Commission), at its 12<sup>th</sup> Regular Session, endorsed the Second Report on the State of the World's Plant Genetic Resources for Food and Agriculture (Second Report) and considered updating the GPA. The updated GPA will be considered at the Commission's Thirteenth Regular Session in 2011. The outcome of the regional consultation on the updating of the GPA is attached as Annex 1 and the list of participants is Annex 2.

### **B. WELCOME AND INTRODUCTORY PRESENTATIONS**

3. The Pacific consultation started with opening remarks by Dr Dan Leskien, Secretariat of the Commission, FAO, followed by brief addresses made by Mr Mason Smith, Permanent Secretary for Agriculture, Fiji; HE Judith Robinson, Acting High Commissioner for Australia in Fiji, and Dr Ken Cokanasiga, Officer-in-Charge, Land Resources Division, Secretariat of the Pacific Community.

4. Dr Dan Leskien, FAO, said that in 2007 the Commission decided the GPA should be updated for adoption at the Commission's 13<sup>th</sup> session in 2011. Dr Ken Cokanasiga, SPC, outlined some of the work on plant genetic resources (PGR) in the Pacific, including initiatives through SPC. Australian envoy H.E. Judith Robinson said Australia was pleased to support the Pacific consultation and it welcomed the efforts by Pacific countries to improve their food security. Mr Mason Smith, Fiji, said it was important to encourage cooperation on PGR to help countries adapt to changes in their environment, and indicated the importance that Fiji gives to PGR by announcing that the Ministry would be establishing a National PGR Committee.

### **C. SUMMARY OF MAIN PRESENTATIONS<sup>18</sup>**

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<sup>18</sup> The complete presentations are available from the Commission and SPC.

## **SESSION 1: Conservation And Sustainable Use Of Genetic Resources – Status, Trends and Networking In The Region.**

### **5. Vanuatu:**

The major *ex situ* collections are held on the island of Santo at the Vanuatu Agriculture Research and Training Centre (VARTC), and consist mainly of varieties from Vanuatu. The main objectives of VARTC with regards to PGRFA are collecting; characterization; selection of elite cultivars and breeding, followed by the distribution of elite cultivars and hybrids with a broad genetic base. There are active breeding Recent projects have included the collecting and establishment of field genebanks of banana and breadfruit, both supported by SPC. VARTC holds a significant collection of yams – 10 species of over 600 accessions. Some of this yam diversity is duplicated at the SPC Centre for Pacific Crops and Trees (CePaCT). A Root Crops Agro-biodiversity project (2005-2010) surveyed all cultivated varieties and studied their genetic diversity. In an effort to broaden the existing genetic base, new varieties were identified. These have been promoted to producers and users, taking into account their needs and preferences. The same project elaborated a methodology for on-farm assessment of root crops.

### **6. Cook Islands**

Taro leaf blight (TLB) in Samoa in 1993, wiped out the countries taro industry. This disaster has prompted the Cook Islands and other countries in the Pacific to promote better conservation of genetic resources. Samoa has since bred taro varieties, resistant to TLB enabling the country to re-enter the NZ taro market after an 18-year break, showing the importance of breeding. More capacity building in plant breeding is a priority especially for the larger island countries, which within the regional framework would benefit the smaller island countries. Improved awareness of PGR is an urgent requirement for both the public and policymakers. With this in mind, countries should consider introducing agricultural studies at both the primary and secondary school levels. Improving the links between the public and private sector will strengthen PGR, as will expanding value-adding of products to promote local foods.

### **7. Atoll Islands**

Pacific atolls have poor soils, limited land and water, a narrow plant and animal genetic base and high cost of agricultural inputs. In addition, much of the traditional knowledge in the cultivation and uses of important crops has been lost. Threats to animal and plant genetic resources come from sea-level rise, seawater intrusion, drought, and competition for access to land due to population growth and urban drift. A way forward is to identify crops and animals that are suitable for atoll conditions and maintain them in central genebanks for active distribution. The exchange of genetic resources between atoll countries should also be encouraged. Capacity building (formal education or short term attachments) is needed to sustain the genebanks and to ensure effective documentation.

### **8. Animal Genetic Resources**

In 2001 and 2004 respectively, FAO invited contributions to the State of the World-AnGR Report and 12 Pacific countries submitted an AnGR country report. The smaller islands have mainly pigs and chickens with a wider variety of animals in larger countries. Several workshops and consultations have been held in the Pacific since 2002. In 2008, the AnGR Pilot Project was established, the aim of which was to improve awareness of farm animal genetic resources through the development of an inventory and characterization in six Pacific countries. A south-west Pacific AnGR network has been established. The final report was submitted to FAO in October 2010. The major threats to AnGR in the Pacific include climate change, unchecked breeding practices that threaten indigenous breeds, habitat destruction and exotic pests and diseases. Future activities aim to extend the inventory and characterization work to other countries, improve



awareness of the importance of AnGR, establish a niche market for AnGR to promote local resources, and develop a strategy for breeds at risk.

#### 9. **Status of Conservation & Sustainable Use of Pacific GR**

In 1996, Pacific Ministers of Agriculture resolved to conserve, protect and use their plant genetic resources effectively for development. The Regional Germplasm Centre, now the Centre for Pacific Crops and Trees (CePaCT), was opened in Suva, Fiji in September 1998. CePaCT has the world's biggest *in vitro* collection of taro (*Colocasia esculenta* var *esculenta*) with 841 accessions, and is expanding its collections of other aroids. The CePaCT is also establishing, in collaboration with Pacific Island countries and territories, Pacific collections of banana, breadfruit and yams. In 2001, the Pacific Agricultural Plant Genetic Resources Network (PAPGREN) was established, and to date, two phases have been implemented. The aim of PAPGREN is to support and strengthen national PGR programmes and raise awareness as to the importance of PGRFA at the national and regional levels. Through PAPGREN the regional strategy for the conservation and use of PGRFA was developed.

#### 10. **The Global Crop Diversity Trust**

The Trust is providing significant support to PGRFA conservation and use in the Pacific; this support includes a long-term grant for the aroid and yam collections at the CePaCT; support for the establishment of a Pacific banana collection and funding to countries for the regeneration of priority collections. In June 2009 the region placed its Annex 1 collections held in trust by CePaCT into the Multilateral System (MLS) of the International Treaty on Plant Genetic Resources for Food and Agriculture. Eight Pacific countries (Fiji, Cook Islands, Samoa, Kiribati, Palau, New Caledonia, French Polynesia and Vanuatu) have so far ratified the Treaty. At the Fourth Heads of Agriculture and Forestry Services (HOAFS) meeting (Nadi, Fiji, September 2010) a resolution was endorsed that SPC will act as an agent to support the implementation of the Treaty

11. Other genetic resources projects within SPC focus on tree species and livestock. A regional tree seed centre is being established to facilitate access to and exchange of tree seed germplasm in priority species. The Centre will also support capacity building in seed technology and seed storage. Within livestock, activities to support climate change adaptation are being implemented, such as the identification of plant and fodder species able to survive in harsh environments as possible feed sources. In 2010, the Pacific Heads of Agriculture and Forestry Services meeting chose Agro-biodiversity as their theme to highlight the International Year of Biodiversity.

12. There is room for more capacity building, particularly for crop improvement. Attachments between countries are a good option and have been successful in the past. Documentation is still lacking and there is an urgent need to capture information before it is lost. The focus with crop conservation to date has been on *ex situ* conservation with little attention on any other methodology; similarly little attention has been given to seed-propagated crops whose importance could increase with the challenge of climate change. More effort is required at the policy level; very few countries have any policy which relates to PGRFA conservation and use. Regional challenges include access to funding; capacity to provide services and ensuring that the influence of export markets does not have a negative impact on plant and animal diversity. The region's future food and nutritional security needs require ongoing evaluation - the updating of the GPA is an excellent opportunity to do this.

### **WORKING GROUPS**

#### **Reinvigorating conservation and sustainable use of agro-biodiversity for food security**

13. The meeting broke into two Working Groups to discuss improved conservation and the sustainable use of agro-biodiversity for food security. The groups agreed that the region was practising agro-biodiversity through traditional methods aimed at addressing food security, conservation, medicinal use, construction, social and commercial uses. However, more effort is required to integrate all aspects of agro-biodiversity at the project level, and to ensure policy-makers take on board the more holistic approach of agro-biodiversity, especially in relation to climate change

14. The groups further agreed it was important to promote the use of local foods for nutritional and food security. Another priority was to educate all age groups about the need to make good food choices, partly in response to the mass marketing of processed food. SPC would continue to provide information to support policy development and to help build stronger links between national priorities and regional action. Agro-biodiversity should also be promoted in the school curricula as well as through innovative approaches, such as exploring food sovereignty as a cultural connection. Wider public awareness of agro-biodiversity was necessary to ensure improved conservation and sustainable practices

**Key issues in conservation and use of genetic resources for food and agriculture: The Role of the FAO Commission of Genetic Resources for Food and Agriculture (CGRFA).**

15. The Commission on Genetic Resources for Food and Agriculture was established in 1983 to deal with issues related to plant genetic resources. In 1995, the FAO Conference broadened the Commission's mandate to cover all areas of biodiversity relevant to food and agriculture. The Commission is the only permanent forum for governments to discuss and negotiate matters specifically relevant to biological diversity for food and agriculture. The Commission aims to reach international consensus on policies for the sustainable use and conservation of genetic resources for food and agriculture and the fair and equitable sharing of benefits derived from their use. The Commission has overseen global assessments of the state of the world's plant and animal genetic resources for food and agriculture and negotiated major international instruments, including the Global Plan of Action and the International Treaty on Plant Genetic Resources for Food and Agriculture.

16. A Strategic Plan (2010-2017) was adopted in 2009 for the implementation of the multi-year plan. The Commission's main goals include:

- (i) A coordinating role in policy, sectoral and cross-sectoral matters.
- (ii) Monitoring the state of the world's genetic resources for food and agriculture.
- (iii) Negotiating forum for reaching international consensus on policies and action programmes.
- (iv) Strengthening regional and national policies, promoting cooperation and capacity building.
- (v) Cooperation and partnerships on biodiversity for food and agriculture.

**The International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA) and the Multilateral System for Access and Benefit-Sharing: Global Challenges and Future Directions.**

17. The International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA) was adopted in 2001 and came into force in 2004. The ITPGRFA promotes the conservation and sustainable use of PGRFA and the fair and equitable sharing of the benefits

through a Multilateral System. The Governing Body of the Treaty, which is composed of the countries that have ratified it, has set out the conditions for access and benefit-sharing in a Standard Material Transfer Agreement. The Treaty recognizes the contribution of farmers to the diversity of crops that feed the world; establishes a global system to provide farmers, plant breeders and scientists with access to plant genetic materials; and ensures that recipients share benefits from the use of these genetic materials with the countries where they originated.

### **Global Crop Diversity Trust activities to further the development of the global system for PGR conservation**

18. The Global Crop Diversity Trust was established in 2004 as an endowment fund to provide a permanent source of funds to support the long-term conservation of PGRFA. The Trust is a public-private partnership raising funds from individual, corporate and government donors to establish an endowment fund for key crop collections. The goal is to advance an efficient and sustainable global system of *ex situ* conservation by promoting the long-term conservation of valuable plant genetic resources. The Svalbard Global Seed Vault was established in 2008 by Norway and the Trust. It operates as a drop-in centre and holds over 400,000 accessions collected from around the world. The Trust safeguards *ex-situ* collections of crop diversity of global importance and actively implements key Treaty articles. The Trust supports a number of Pacific projects including a regional regeneration grant covering over 2,400 accessions of staple crops.

## **WORKING GROUP SESSION**

### **Global Instruments and Expected Outputs for Pacific Island Countries**

19. The meeting broke into Working Groups, selected at random to discuss (i) what the region expected from three key Instruments, namely the CRGFA, the ITPGRFA, and the Global Crop Diversity Trust – and (ii) what the region could contribute. The key expectations for members included the need for capacity building, raising awareness and support for implementation. The key contributions offered by members included the strengthening of partnerships and exchanges of information and material. The main points are outlined in Annex 4:

### **SESSION 2: INFORMATION SHARING AND REPORTING MECHANISMS FOR GRFA IN THE REGION.**

20. Briefings were held on the web portals and online tools for PGR-related activities at the CGRFA ([www.fao.org/nr/cgrfa](http://www.fao.org/nr/cgrfa)), ITPGRFA ([www.planttreaty.org](http://www.planttreaty.org)), Global Crop Diversity Trust ([www.croptrust.org](http://www.croptrust.org)), GPA Facilitating Mechanism ([www.globalplanofaction.org](http://www.globalplanofaction.org)), World Information and Early Warning System on PGRFA (<http://apps3.fao.org/wiews/wiews/jsp>), GIPB (<http://km.fao.org/gipb>), World Information Sharing Mechanism- WISH-GPA ([www.pgrfa.org](http://www.pgrfa.org)), Crop Genebank Knowledge Base ([www.croptgenbank.sgrp.cgiar.org/](http://www.croptgenbank.sgrp.cgiar.org/)), Roots for Life ([www.rootsforlife.org](http://www.rootsforlife.org)), Plant Production and Protection Division - Seed and Plant Genetic Resources ([www.fao.org/agriculture/crops/core-theme/seeds-pgr/en/](http://www.fao.org/agriculture/crops/core-theme/seeds-pgr/en/)), and GENESYS ([www.genesys-pgr.org](http://www.genesys-pgr.org))

### **SESSION 3: PARTNERSHIPS AND ALLIANCES : OPPORTUNITIES FOR THE PACIFIC ISLAND REGION.**

#### **Global Partnership Initiative for Plant Breeding Capacity Building (GIPB): Towards Strategies and Plans for National Plant Breeding Capacity**

21. The GIPB is a partnership from the public, private and civil society sectors that aims to develop strong and effective plant breeding capacity globally. The five-point agenda covers policy, education and training, access to technology, the exchange of PGRFA and the sharing of information. The strategies adopted seek to establish a baseline through national surveys; define what works; and develop national plans and build capacity. Participatory plant breeding is important because the views of the end-users are vital. Plants can be bred for resistance to environmental factors and for improved productivity due to decreasing availability of arable land and water, and competition. PGRFA-related activities are usually in three parts - conservation of genetic resources; their use in crop improvement, and dissemination of planting materials. An overarching strategy should bring together a national programme on PGRFA that links conservation to use; involves a high-level coordinating body, and helps to build capacity.

#### **Taro participatory plant breeding in Samoa: a success story.**

22. In 1993 taro leaf blight wiped out taro production in Samoa. As all of the taro varieties in Samoa were susceptible to the fungus, varieties were introduced from overseas and a partnership involving farmers, extension officers and researchers led to the development of taro lines with both good resistance to TLB and good eating quality. The key to the success of the programme is the active participation by farmers. Participatory plant breeding makes taro improvement research more relevant to user-needs, compared to conventional breeding. The partnership led to faster selection, release and spread of improved varieties. It also encouraged farmers to conserve and maintain their own genetic resources. Farmers have equal access to exotic varieties and breeding lines, and they gain control over germplasm. New challenges are coming from the impacts of climate change, nutritional needs and value-adding potential, but the partnerships established in the fight against taro leaf blight will continue to work together to meet these new challenges

#### **Opportunities and challenges in use of PGRFA for trade in the Pacific region.**

23. New Zealand has a total reliance on imported PGR for major agricultural, horticultural and forestry – all strong primary industry sectors dependent on effective research and development. The NZ Institute for Plant and Food Research is a science company owned by the New Zealand Government providing research and development that adds value to fruit, vegetable, crop and food products. There is less emphasis upon a commercial bottom-line and a greater emphasis upon public – private contracting and research and development. Recent public funding for a ten-year period has been provided for kiwifruit, berry summer fruit, arable and vegetable crops, however significant crops are missing, for example, hops and pipfruit. Within the breeding and genomic portfolio the aim is “new cultivar development from smart breeding of elite germplasm”. Opportunities exist for new product development to address international consumer trends; to ensure adaptation to climate change and to have resistance to key pests and diseases. The challenges that the industry must address are evident from two recent biosecurity incursions, with significant cost implications. Support networks are essential for success and these involve government agencies, research and development providers and the private sector. Strong partnerships are needed at all levels both within the Pacific region and globally.

#### **Regional partnerships and networks for agro-biodiversity in the Asia-Pacific region**

24. Networking has been an effective strategy in strengthening collaboration in PGR conservation and use within Asia, the Pacific and Oceania however the challenge is how to make the networks more self-sustaining. New alliances are needed among scientists working in plant and animal genetic resource-related fields. Better integration of work programmes into national plans and regional and global frameworks will help to avoid gaps and overlaps. Across the

region, research and development priorities are similar, such as studies to enhance the use of genetic resources; pre-breeding and participatory breeding work and information systems and tools for data exchange. Stronger crop improvement networks will enhance the exchange of materials and their use, and would also be supportive of south-south collaboration. Stronger partnerships with civil society, the private sector, farmers and other stakeholders are also important to ensure sustainability

### **Funding opportunities for plant genetic resources to address climate change under the Benefit Sharing Fund**

25. The Treaty is committed to a rigorous, objective and efficient grant-making process. The Treaty Bureau announces a call for proposals every two years. The Call for Proposals 2010 with a thematic focus to help ensure sustainable food security by assisting farmers to adapt to climate change through a targeted set of high impact activities on the conservation and sustainable use of PGRFA was closed by 20<sup>th</sup> September 2010. 136 pre-proposals have now been invited to develop full project proposals. Approval is based on technical merit, ranking and availability of funds. Review and assessment information is made available to grant seekers.

### **Partnerships in the Region for plant genetic resources under the Global Crop Diversity Trust**

26. The Global Crop Diversity Trust supports several initiatives in the region, which have been discussed. A new initiative (to be announced later in December 2010) will enable the Trust to find, gather, catalogue and conserve the wild relatives of our most important food crops, and to put diversity into the crop breeding pipeline. This project will greatly support work on agricultural adaptation for climate change. Disbursement guidelines are on [www.croptrust.org](http://www.croptrust.org).

## **SESSION 4: UPDATING THE GLOBAL PLAN OF ACTION FOR THE CONSERVATION AND SUSTAINABLE UTILISATION OF PGRFA (GPA).**

### **Overview of the GPA and its updating process**

27. The Commission agreed to update the GPA in line with the Strategic Plan 2010-2017 for the implementation of the Multi Year Programme of Work. The updated GPA will identify gaps and needs with inputs from governments, regional meetings and consultations. In March 2011 the Joint Bureaux of the Commission and of the International Treaty will review the first draft of the updated GPA. There are 20 priority areas in four sections – *In Situ* Conservation and Development; *Ex Situ* Conservation; Utilization of PGR, and Institutions and Capacity Building.

### **Regional Summary of PGRFA Conservation and Use**

28. In the Pacific there is limited capacity to use PGRFA to generate varieties better suited to climatic extremes. Genetic diversity is inadequately documented in farmers' fields and there is limited understanding of *in situ* conservation. The Second Report (SOW-2) highlighted the importance of under-utilised species for food and nutritional security. This was recognized by the Pacific at the September 2009 Pacific Crops for the Future meeting. PGRFA conservation and utilization needs to be better integrated into national policy.

- i. *In situ* conservation and development lack supportive policies and technical capacity; there is a need for more incentives for farmers to maintain PGRFA, and the

- development of improved management systems.
- ii. *Ex situ* conservation enjoys significant capacity at national and regional level. However, the lack of supportive policies means national budgets are limited. Investment in cryo-preservation is required to support rationalization of collections.
- iii. Utilization of PGR is a high priority for the Pacific due to increasing demands for food and nutritional security, climate change and trade. Documentation of PGRFA urgently requires attention. Strengthening of crop improvement skills are much needed, in particular the use of participatory approaches
- iv. Institutions and capacity building need stronger networks and national programmes. Other priorities include training and education as well as more public awareness of the value of PGRFA for conservation and use.

## **SESSION 5: WORKING GROUPS ON THE UPDATING OF THE GLOBAL PLAN OF ACTION**

29. The Pacific consultation met for two days in Working Group sessions to discuss updates to the GPA. The five groups covered the GPA Introductory parts; *In Situ* Conservation and Development; *Ex Situ* Conservation; Utilization of PGRFA, and Institutions and Capacity Building. The outcome of the Working Group discussions is attached to this report as Annex 1.

## ANNEX 1

### UPDATING OF THE GLOBAL PLAN OF ACTION FOR THE CONSERVATION AND SUSTAINABLE USE OF PLANT GENETIC RESOURCES FOR FOOD AND AGRICULTURE

#### INTRODUCTION

1. The Commission on Genetic Resources for Food and Agriculture (Commission), at its Twelfth Regular Session, in October 2009, agreed to update the Global Plan of Action for the Conservation and Sustainable Utilization of Plant Genetic Resources for Food and Agriculture (GPA), in accordance with its Strategic Plan 2010-2017 for the implementation of the Multi-Year Programme of Work. It requested the Food and Agriculture Organization of the United Nations (FAO) to prepare the updated GPA based primarily on the Second Report and, in particular, on the identified gaps and needs; taking into account further contributions from Governments and inputs received from regional meetings and consultations. The Commission decided that the updated GPA will be considered at its Thirteenth Regular Session in 2011.
2. The Pacific consultation on the updating of the Global Plan of Action for the Conservation and Sustainable Utilization of Plant Genetic Resources for Food and Agriculture (GPA) was held in Suva, Fiji on 9-10 December 2010 as part of the broader regional consultation on Strengthening Conservation and Sustainable Use of Plant Genetic Resources for Food and Agriculture in the Pacific Island Countries. It was organized by FAO in collaboration with the Secretariat of the Pacific Community and the financial support of the Australian Government. Representatives from 14 countries participated and contributed to the discussions.
3. Introductory presentations were delivered by Mr. Diulgheroff, FAO, on the GPA and its updating process, as well as on relevant changes highlighted in the SOW-2 and challenges for the new GPA; by Dr. Taylor, SPC, on the regional status of PGRFA's conservation and use; and by Dr. Pick, FAO, who described the expected outputs and the dynamics of the working groups ahead. Country representatives were divided in five working groups; each group had the opportunity to review and make contributions over the GPA introductory parts and the main four thematic groups of the GPA, namely, *In Situ* Conservation and Development; *Ex Situ* Conservation; Utilization of Plant Genetic Resources; and Institutions and Capacity Building.

#### SUMMARY OF RESULTS

#### **PART ONE: INTRODUCTORY PARTS AND IMPLEMENTATION AND FINANCING OF THE GLOBAL PLAN OF ACTION**

4. The Pacific group suggested the Leipzig Declaration become an Annex to the updated GPA. An additional short section is proposed to describe the progress made in the implementation of the GPA.
5. A new Declaration is proposed to reflect new challenges such as the impacts of climate change (including the special vulnerabilities for small island states); food and nutritional security needs; population growth; the changing policy environment including the MDGs and other instruments; development and access to markets; under-utilized crops and wild species; transfer of new technologies; genetic erosion and habitat loss, and the need for capacity-building. The proposed new Declaration could be considered for adoption by the governing bodies of the

ITPGRFA (March 2011) and CGRFA (July 2011) before being recommended by the CRGFA to the FAO Council.

6. The Introduction should explain the role of the GPA and the reason it was updated. Para 1 needs a message of urgency that is focused on small island states at risk from climate change. The Pacific group suggested using the language of the ITPGRFA where appropriate, such as in Para 2, for the 'International Undertaking on PGR'.

7. The Rationale section should be sharpened for more impact. The title could omit the word 'specifically', or, be reduced to 'Rationale'. Para 1 should be amended to include new global issues and the role of the GPA in the implementation of the ITPGRFA.

8. Para 7(b) should highlight the lack of technologies and human resources in developing countries. The last sentence in 7(c) needs to be more specific while 7(d) should mention the ITPGRFA and the CBD when it refers to 'sharing of benefits'. Para 7(f) could shift higher up and include a reference to progress made since 1996. New funding sources e.g. Global Crop Diversity Trust and the Benefit-Sharing Fund of the ITPGRFA should be referred to in 7(g).

9. A new section is proposed to explain the updating of the GPA; the urgency to address new challenges and the contribution of PGRFA to solutions.

10. Para 8 should refer to the SOW-2 and the updating of the GPA, while the first mention of strategy should be pluralized to 'strategies'. The bullets in Para 9 will need updating in line with the priority activity areas of the updated GPA. The 1<sup>st</sup> bullet point to add the issue of climate change; 2<sup>nd</sup> bullet point to highlight PGRFA for 'nutrition and food', and the 3<sup>rd</sup> bullet point on benefit sharing should be in line with the ITPGRFA's provisions on this subject.

11. The Strategies section (Para 10) needs to refer to the ITPGRFA and GCDT and also explain the updating of the GPA. The reference to substantial international cooperation in this paragraph should be strengthened. In general, the bullet points should refer to new global issues, e.g. climate change, and note the progress made since 1996.

12. Para 10(a) should refer specifically to the loss of materials due to the lack of funding. Para 10(b) and 10(d) can be merged while also adding 'crop improvement', and highlighting the need for participatory plant breeding and capacity building for plant breeding. Add "Establishing and" to 'strengthening the selection efforts ...'. The wording for 'on-farm and in nature' need to be clarified. The sixth line should add 'research' to the linkages.

13. An additional section is proposed on building awareness.

14. Priority Activity Areas (PAA) 12 and 14 can be merged. All PAA's should be updated with key achievements since 1996. Some suggested changing 12(a) 'Assessment' to 'Background'; and, in 12(b), changing 'Long-term' and 'Intermediate' (Objectives), to 'General' and 'Specific' respectively.

15. The Policy/Strategy section should include 'regional' and not only national and international, as the Pacific often takes a regional approach to issues of common concern.

16. The Capacity section to include 'infrastructure' along with the current reference to human and institutional capacities. This section to be strengthened to highlight the urgency for building capacity and the value of using partnerships.



17. The text on Implementation and Financing of the GPA should be updated as necessary (e.g. text refers to an upcoming World Food Summit in 1996) and also include new financing mechanisms such as the GCDT and Benefit-Sharing fund in the ITPGRFA. There is a need to highlight the importance of securing funds for implementation of the GPA and provide more details on the arrangements for implementation, such as monitoring and review.

18. Para 8 in this section should emphasise the commitments by members in terms of funding and policy support for national programmes. The consultation also suggested to consider the establishment of an endowment fund to address GPA priorities and plant genetic resources that are not currently covered by the Global Crop Diversity Trust and the Benefit-Sharing Fund of the ITPGRFA.

19. A general comment was to ensure that the Introductory parts refer not only to crops but also to crop wild relatives.

## **PART TWO: *IN SITU* CONSERVATION AND DEVELOPMENT**

20. General comments from the Pacific group were that the ‘regional’ dimension should be added when national and international action is mentioned. Long-term and Intermediate Objectives could be simplified to Goals and Objectives, respectively. The text should also be specific on what is meant by “seeds”, whether or not it refers to planting material in general, thereby including vegetative propagules.

### **PAA 1. Surveying and inventorying plant genetic resources for food and agriculture**

21. The title for PAA 1 should be strengthened by including ‘monitoring’ and ‘knowledge on PGRFA’.

22. As per the Long-term objectives, Para 15 should mention ‘crop wild relatives’ after the reference to ‘populations of plants’. The words ‘monitoring or documentation’ could be added so that Para 15 is more than an inventory. It was also suggested that the words ‘especially those that are of anticipated use’ after ‘agriculture’ be deleted. In Para 16 the words ‘and monitoring’ should be added after ‘sustainable use’.

23. The Intermediate objective in Para 17 should be strengthened by adding words to improve existing methods and develop new ones where needed. Other suggestions are to mention traditional knowledge, monitoring and the importance of implementation.

24. Under Capacity, the gap from the SOW-2 inserted in Para 22 should add ‘and ethnobotany’ after the reference to crop wild relatives. The Pacific consultation also felt that the need for training in the use of descriptor lists for PGR should also be mentioned.

### **PAA 2. Supporting on-farm management and improvement of plant genetic resources for food and agriculture**

25. The title for PAA 2 should reflect the range of traditional food production systems from home gardens to forest farming.

26. The 5<sup>th</sup> Long-term objectives “To foster the future emergence of public or private seed companies and cooperative enterprises as an outgrowth of successful on-farm selection and

breeding.” in Para 32 could be reworded to read ‘To foster successful traditional and innovative selection and breeding particularly in the light of climate change’.

27. Under Intermediate objectives, in the 4<sup>th</sup> sentence of Para 33, a distinction is made between on-farm and garden programmes which may require clarification. In the same objective/sentence the reference to systems of knowledge could replace the word ‘local’ with ‘traditional’. The reference to women in the final sentence should be clarified, or, reworded to replace ‘women’ with ‘gender and age’ or ‘different farmers’. Another suggestion is to reword the final sentence to read ‘Understanding production and resource management in rural households should be gender sensitive’. The importance of participatory approaches in the Pacific needs to be reflected in the updated GPA.

28. Under Policy/strategy in Para 37, the 8<sup>th</sup> and 9<sup>th</sup> bullet points (identified gaps from SOW-2) dealing with participatory plant breeding can be merged. The Pacific group felt that it was important to understand the role of consumers within food systems and this should be written into the text. The final bullet point in Para 43 should be expanded to include help with marketing.

### **PAA 3. Assisting farmers in disaster situations to restore agricultural systems**

29. The title of PAA 3 could be made more proactive such that ‘Assisting in advance of disaster situations to restore agricultural systems’.

30. In Long-term objectives, Para 51, it was suggested that farmers and rural peoples could be replaced with ‘communities’. The objective could also benefit by including ‘diversifying agricultural systems’. The Pacific group felt that the word ‘seed’ under Intermediate objectives, in Para 52 should be replaced with the words ‘planting materials’, which is broader. The updated GPA needs to be sensitive to the potentially restricted understanding of the term “seeds”. In Para 53 the reference to ‘establish’ should be followed by the words ‘improve and maintain’ in order to reflect continuity of the process.

31. Under Policy/strategy after Para 55, in the 1<sup>st</sup> bullet point of the insertions from SOW-2 gaps and needs, the reference to genetic erosion could be replaced by ‘agro-biodiversity or genetic diversity loss’. In the 3<sup>rd</sup> bullet point, the sentence could be changed to read ‘There is a need for comprehensive collections of landraces, farmers’ varieties and CWR before they are lost as a result of changing climates’.

32. Other sectors could be added to the agriculture and the environment sectors in the reported need of the SOW-2 after Para 62 e.g. forestry, education and public works.

### **PAA 4. Promoting *in situ* conservation of wild crop relatives and wild plants for food production**

33. The title of PAA 4 could end with ‘and for traditional uses’. The first sentence in Para 65 should also refer to climate change. Another suggestion is to amend Para 66 of Long-term objectives to read ‘To promote conservation of genetic resources of wild crop relatives and wild plants for food production and other uses where they are grown’. The reference in Intermediate objectives, Para 68, to environmental health could be changed to ‘human health and environmental sustainability’.

34. After Para 73, in the gaps and needs reported from SOW\_2, some delegates questioned the relevance of the 1<sup>st</sup> and 3<sup>rd</sup> bullet points.

35. The importance of various awareness raising efforts was stressed by the group as CWR are often not recognized by local communities as potentially useful plant genetic resources.

### **PART THREE: *EX SITU* CONSERVATION**

36. The Pacific group suggested some changes to reflect a regional approach and to ensure that under-utilized species, traditional knowledge and capacity needs will be adequately covered in the updated GPA. Text should refer to the ITPGRFA where the CBD is mentioned, if appropriate. The titles Long-Term and Intermediate objectives could be changed to General objectives and Specific objectives, respectively.

#### **PAA 5. Sustaining existing *ex situ* collections**

37. The Long-term and Intermediate Objectives should be re-written to take into account the developments in the area of *ex situ* conservation since the mid-1990s. There should also be recognition of the contribution that regional programmes and institutions can make to a global system of *ex situ* conservation.

38. In small island states, diesel-based electricity is relatively expensive. The Pacific group proposed that in the Policy/Strategy section, Para 83 also highlights the need to explore cheaper and more reliable power supply options for crop collections that rely on expensive conservation methods.

#### **PAA 6. Regenerating threatened *ex situ* accessions**

39. Under Para 95, “highlighting the need for users of PGRFA to feedback information after evaluation of *ex situ* accessions” should be inserted after the 6<sup>th</sup> sentence, which reads “Lack of information...impeding rational regeneration”. The need for regenerating vegetatively propagated materials and recalcitrant seeded plants should be adequately referred to under this PAA. The Assessment part should be updated with information on progress made in the regeneration of collections including those supported by the Global Crop Diversity Trust.

40. Under Intermediate objectives last sentence of Para 97, which begins ‘To complete the first ...’, could be deleted.

41. Under Policy/strategy in Para 101, the sentence should include a reference to the genebank standards and regeneration guidelines developed by FAO and the Global Crop Diversity Trust, respectively. A similar addition is suggested for Para 104, where characterization should be developed in line with globally accepted crop descriptor lists.

42. Under Capacity, Para 105, the words ‘and other relevant stakeholders’ should be added to the list in the last line. In this same section, the Pacific group felt that for the small islands a priority was for training in basic conservation skills due to high staff turnover and the limited numbers of people who might qualify for tertiary level study. A new sentence is proposed to read ‘Training should also increase the number of people who are trained in basic conservation skills’.

### **7. Supporting planned and targeted collecting of plant genetic resources for food and agriculture**

43. The Pacific group felt that more weight should be given to crop wild relatives. In the

Assessment, Para 116, line 5 should add ‘crop wild relatives’ to the list. In Para 117, a new sentence is proposed to read ‘Priority be given to collecting the remaining under-utilized species and crop wild relatives, in particular, for those ecosystems at risk of climate change and land-use changes’.

44. In Long-term objectives, Para 118, the Pacific group felt the collections should be matched by the ease of retrieval. The suggestion is to add to the end of the sentence, the phrase ‘and ensure they are secure and safely conserved and made available’.

45. Under the Policy/strategy section, Para 120, it should be stressed the need for *in situ* and *ex situ* conservation strategies to be integrated and connected to access and use strategies.

## **8. Expanding *ex situ* conservation activities**

46. The Pacific group believes that a large knowledge base exists at the local level and this needs to be reflected in the Assessment (Para 131). A new sentence is proposed to read ‘The lack of using local knowledge and promotional activities is limiting access to new and under-utilised species’.

47. After Para 136, the 4<sup>th</sup> bullet point of the gaps and needs from the SOW-2 should add the words ‘urbanisation and adoption of developed cultivars’ at the end of the first sentence. The 5<sup>th</sup> bullet point should add ‘traditional knowledge’ to the list in line 1. The 7<sup>th</sup> bullet point could be made more inclusive by changing the phrase in line 1 to ‘educate managers, politicians and policy makers ...’

48. In the Capacity section, the Pacific group felt that training in new technologies was required to strengthen *ex situ* conservation. The existing sentence in Para 139 should be changed to read ‘Support should be given to training in *in vitro* orthodox seed conservation and utilization techniques, cryo-preservation and other new and appropriate technologies. Training in new information technologies and applications is also required’.

49. Para 140 in the Research/Technology section should be strengthened, and the word ‘must’ is suggested so that the sentence opens as ‘Protocols must be developed ...’. At the end of the same sentence, the proposal is to add the words ‘and optimised orthodox seed storage’.

## **PART FOUR: UTILIZATION OF PLANT GENETIC RESOURCES**

50. The Pacific group felt the title could be simplified to ‘Use of PGRFA in crop improvement’. In general, the text should highlight the role of plant breeding along with terms such as ‘plant breeding’, ‘pre-breeding’ and ‘participatory plant breeding’. These are at the core of the PAAs in this section, especially PAA 10.

51. The need to mainstream the participatory approaches involving farmers, community-based interventions and local knowledge in crop improvement must be articulated, including capacity building in plant breeding.

52. Reference should be made to the novel biotechnologies in characterization, improvement and selection within IPR regimes. The text should emphasize the development of policy frameworks for PGRFA to ensure sustainability and promote best practice. Highlighting the need for strong links between breeding, conservation and seed/planting material systems will help to support optimal outcomes.

53. The impacts of climate change, vulnerable environments and nutritional needs as drivers for crop improvement should be noted. The nutritional qualities of staple crops should also be highlighted. The text should also promote ecosystem-based crop production, including organic farming, that support balanced biological systems.

54. Long-term and Intermediate Objectives could be changed to 'Goals' and 'Specific Objectives' respectively, or similar, to be in line with conventional styles.

**PAA 9. Expanding the characterization, evaluation and number of core collections to facilitate use**

55. The title of PAA 9 could be changed to 'Strengthening and expanding the characterization and evaluation of germplasm'. References to "Core collections" in the title should be dropped.

56. In the Assessment, Para 146, as well as throughout the PAA when it applies the term 'core-collection' appears too restrictive and could be replaced with the term 'sub-set'. In Para 147, there is a need to emphasize the use of a minimum set of descriptors complemented by molecular marker systems in germplasm characterization and the identification of sub-sets.

57. In Para 161 (a), the text should highlight the efficiencies derivable from the use of modern biotechnologies and information technology tools in both managing PGRFA and using them to develop superior crop varieties.

**PAA 10. Increasing genetic enhancement and base-broadening efforts**

58. The title for PAA 10 should reflect the need to increase access to the widest possible genetic variation for breeding purposes and to expand improvement activities, e.g. 'Increasing exploitable genetic variation', or, 'Increasing pre-breeding and breeding efforts'. Breeding should be discussed throughout the PAA accordingly.

59. In Para 169 (b), this should include a reference to induced mutations, facilitated by molecular biology – including reverse genetics strategies - as a means to expand the genetic base of germplasm. This change is also suggested for the Intermediate objectives in Para 171.

60. Under the Long-term objectives, the 3<sup>rd</sup> sentence in Para 170 could be changed to read 'To increase genetic variability in crop varieties through the utilization of wild relatives, local materials and/or modern varieties'.

**PAA 11. Promoting sustainable agriculture through diversification of crop production and broader diversity in crops**

61. Para 178 should highlight the need to develop strategies that promote the use of nutritious local foods in diversified diets. Similarly, the Long-term objective in Para 179 should highlight the need to improve crop quality attributes through breeding as a means to improve the nutritional and health status of the population. The text could also emphasize product development and value-adding as stimuli for production.

**PAA 12. Promoting development and commercialization of underutilized crops and species and**

#### **PAA 14. Developing new markets for local varieties and “diversity-rich” products**

62. PAA 12 and 14 could be merged with the resulting PAA catering to boosting the production and commercialization of under-utilized crops and local varieties. This PAA should emphasize the importance of value-adding as a means to boost production and generate incomes; raise awareness of the benefits of a diversified food base, and promote under-utilized crops in enhancing the nutritional status of the population. In addition, the importance of increasing awareness and education on the benefits of a diversified food base should be promoted.

#### **PAA 13. Supporting seed production and distribution**

63. The title in PAA 13 could be changed to use the words ‘planting materials’ in place of, or in addition to, the word ‘seeds’.

64. Under Policy/strategy, Para 203 should highlight the need to promote smallholder farmer distribution channels; build capacity; raise awareness of the need to use high quality planting materials, and promote commercial distribution. There is also a need to promote the use of open pollinated cultivars to enable farmers to save seeds, and to facilitate seed distribution and production. The same Para should emphasize the need to facilitate access to PGRFA by streamlining plant quarantine requirements.

### **PART FIVE: INSTITUTIONS AND CAPACITY BUILDING**

#### **PAA 15. Building strong national programmes**

65. For PAA 15, ‘strengthening’ and ‘regional’ should be added to the title to read ‘Building and strengthening national and regional programmes’.

66. The first sentence of Para 219 should read “Many countries still lack national policies, strategies and/or action plans....”acknowledging the importance of having policies in place from which to develop strategies and action plans. The 2<sup>nd</sup> bullet point should clarify the three categories from the SOW-1 that are referred to so the reader does not have to read the report. The 5<sup>th</sup> and 6<sup>th</sup> bullet points can be combined as they both refer to the NISM.

67. Many of the bullet points in Para 219 are very general and fail to show that regional differences exist (e.g. the 3<sup>rd</sup>, 11<sup>th</sup> and 12<sup>th</sup> bullet points). Other sectors, such as education and health, should be acknowledged given the increasing recognition that PGRFA can contribute to nutrition and health, and the need to alert children and youth to the benefits of PGRFA. For example, Para 220 only mentions the agriculture, environment and development sectors.

68. In Para 221 the importance of ‘maintenance’ and ‘documentation’ is omitted from the third sentence, such that the sentence should read ‘The integration of conservation, maintenance, characterization, evaluation, documentation, dissemination and use will facilitate the valorization of plant genetic resources for food and agriculture.’

69. The Long-term objectives and the Intermediate objectives need to indicate a timeframe, or, be renamed as ‘General’ and ‘Specific’. Objectives should consider regional needs due to the role played by regional networks and programmes in strengthening national programmes.

70. Under Policy/strategy, Para 229, last sentence, highlights the need for biosecurity

regulations. The need for and importance of human resource capacity in implementing biosecurity regulations must be recognized e.g. ‘Human resources capacity should be considered at the same time as any establishment of regulations’ to be added to the end of the paragraph. The term “broadly-comprised” in Para 230 (last sentence) should be more specific. The establishment of committees is not enough – they must also be effective. A revised sentence could read ‘Establishment of effective, multi-sectoral national committees will be an important means of organizing and coordinating efforts in most countries’.

71. In Para 233, the reference to *in situ* and on farm conservation in the 1<sup>st</sup> bullet point of the gaps and needs from the SOW-2 should reflect national and regional differences with regards to the need for strategies in these areas. In Para 237, some bullet points were similar and could be merged; the 6<sup>th</sup> bullet point could be changed to read ‘Further research to provide information to underpin the development of appropriate policies for the conservation and use of genetic diversity, in particular, the economic valuation of PGRFA’, to emphasize the importance of determining the value of PGRFA. More emphasis is needed on the importance of building and strengthening capacity in Participatory Plant Breeding (PPB) methodology in the 8<sup>th</sup> and 9<sup>th</sup> bullet points (Para 237). References to plant breeding should mention both conventional and participatory breeding.

72. In the Coordination/Administration section, after Para 238, the 8<sup>th</sup> bullet point from the gaps and needs of the SOW-2 discusses international linkages but there is little mention, if any, for effective linkages between international, regional and national levels. The Pacific group proposes a separate bullet point which reads ‘Effective linkages are essential between agencies and institutions at the international, regional and national levels’. The role of regional bodies (e.g. Secretariat of the Pacific Community) in facilitating communication at the national level be acknowledged.

#### **PAA 16. Promoting networks for plant genetic resources for food and agriculture**

73. For PAA 16, the title could be improved by adding the word ‘strengthening’, to read ‘Promoting and strengthening networks for PGRFA’.

74. Under the Assessment section in Para 241, the 3<sup>rd</sup> line which lists the activities that networks support and facilitate, omits the word ‘documentation’. The importance of documentation needs more emphasis generally in the document and appears to have been omitted in several lists of genebank activities.

75. The 4<sup>th</sup> bullet point of the gaps and needs reported from the SOW-2, after Para 242, should also mention the Pacific, where funding is also a constraint for the Pacific network PAPGREN. The Pacific group is unaware of the existence of the Pacific cassava network mentioned in the 5<sup>th</sup> bullet point.

76. As per the Intermediate objective in Para 248, reported figures (5 to 15 international crop and thematically-oriented networks) need updating. Under Policy/strategy after Para 252 the 3<sup>rd</sup> bullet point of the SOW-2 gaps and needs omits ‘regional’ and also ignores the importance of sectors outside of agriculture and the environment. The last bullet point refers to international germplasm exchange as ‘a key motivation’ rather than ‘one of the motivating factors behind many networks’. Given the importance of networks, a new bullet point is proposed to read ‘There is a need for studies to assess the benefits and impacts of networks to support policy development and funding’.

77. Under Capacity, Para 253 should note the importance of ‘coordination’ skills. The 1<sup>st</sup> bullet point of the SOW-2 gaps and needs after Para 253 discusses the need for new and innovative funding strategies. The need to strengthen the capacity of PGRFA staff to write successful proposals should be noted. Para 254 infers that new networks should be established in several regions including the Pacific. Prior to the establishment of any new networks, existing ones should be strengthened. The bullet point of the SOW-2 gaps and needs after Para 254, i.e. the importance of south-south cooperation, especially for capacity building, should be emphasized. Linkages between networks also need to be strengthened.

#### **PAA 17. Constructing comprehensive information systems for plant genetic resources for food and agriculture**

78. For PAA 17 strengthening should be inserted, to read ‘Constructing and strengthening comprehensive information systems for PGRFA’.

79. The ‘regional’ dimension should be mentioned in the Capacity section, Para 272, to read ‘Access by national and regional programmes to basic scientific, research and bibliographic information should be facilitated’. Regional programmes are vital in supplying information to national programmes in a region as fragmented as the Pacific. In the same section, the lead sentence in Para 273 (“Genebanks ... national goals”) should stand alone, or, be worded to carry more emphasis. Human resources in this area are often a low priority. The word ‘regional’ should be added so that the sentence reads ‘Genebanks should have sufficient personnel to manage information and make it easily and widely accessible to users according to national and regional goals’.

80. ‘Self-teaching manuals’ as mentioned in Para 274, are of key importance and as such it should be highlighted that these manuals should be in user-friendly language and, where relevant, translated into local languages. The use of the word ‘manual’ was queried and it was suggested that perhaps ‘tools’ would be a better word, thereby incorporating both hard copies and online.

#### **PAA 18. Developing monitoring and early warning systems for loss of plant genetic resources for food and agriculture**

81. For PAA 18, the sentence “loss of genetic resources in crops occurs mainly through adoption of new crops or new varieties of crops with the consequent abandonment of traditional ones without appropriate conservation measures” at the end of Para 279 is very important especially in the light of projects which focus on trade, as such this sentence could stand alone to highlight its importance. Several bullet points from the SOW-2 gaps and needs after Para 280, e.g. the 2<sup>nd</sup> and 3<sup>rd</sup>, are very similar and could be synthesized in the updated GPA.

82. The wording in the Long-term objective could be more concise. The Intermediate Objectives contain three points which could be separated to ensure clarity.

83. Under the Policy/strategy section in Para 284, the 4<sup>th</sup> bullet point from the gaps and needs of the SOW-2, has several points under it, which vary in their focus. The 4<sup>th</sup> bullet point (*Specific research needs relating to on farm management or in situ conservation of PGRFA*) provides sufficient detail for the GPA; the other sub-bullet points are not necessary.

84. After Para 291, the 2<sup>nd</sup> bullet point from the SOW-2 gaps and needs should read ‘There is a need for more efficient, strategic and integrated approaches to the management of PGRFA at the national and regional levels’; ‘genetic improvement seed production and distribution’ is



misleading and would better read ‘genetic crop improvement and plant material production and distribution’.

### **PAA 19. Expanding and improving education and training**

85. The title of PAA 19 could be improved through ‘Building and Strengthening Human Resource Capacity’. In general, PGRFA education and training should not just occur within agriculture and biological sciences but also be included in the health, economics and environment curricula. There is insufficient emphasis on the importance of primary and secondary education to achieve this priority activity. There should be a statement to reflect this, rather than ‘concerning PGRFA at all levels’ as in the Policy/strategy section, Para 300.

86. The importance of developing e-learning and distance education in the various aspects of PGRFA conservation, management and use should be mentioned. The Intermediate objective in Para 297 appears to suggest this but it needs to be clearer. There is also insufficient mention of the importance of on-going training so that skills can be updated. Overall the Intermediate Objectives ignore the importance of training in PGRFA aspects at all levels. Further, Para 299 is too restrictive and should be changed into ‘To encourage institutions to include PGRFA aspects in related courses and programmes in biological, agricultural and environmental sciences. The nutritional benefits of PGRFA should also be included in health courses.

87. Under the section on Capacity, there is insufficient recognition of the need for practical hands-on training. Further value would be added to this section if suggestions are made as to how this could be provided, for example, staff exchanges between countries or regions.

88. Para 309 under Research/technology is unclear as to what is meant. Suggested change reads as follows ‘Institutions should link to ongoing research both within educational institutions and also national programmes and other relevant agencies’. This change acknowledges the benefits that can be gained by placing students with NARS.

89. Para 310 under Coordination/administration should include international, such that the sentence would read ‘Training courses should be developed and offered in close collaboration with international, regional and national programmes’.

### **PAA 20. Promoting public awareness of the value of plant genetic resources for food and agriculture conservation and use**

90. For PAA 20, the title could be improved through ‘Promoting and strengthening public awareness of the importance of PGRFA for food and nutritional security and trade’.

91. The Assessment (Paras 312 and 313) would benefit from highlighting the relatively recent evidence concerning the nutritional benefits that can be gained from the diversity found within PGRFA.

92. Intermediate Objectives would benefit if changed to read ‘To support mechanisms particularly in developing countries, for coordinated public awareness activities ~~at all levels~~ targeting all stakeholders, in particular youth’.

93. The ‘Capacity’ section placed the emphasis on PGRFA staff to become good communicators. However, it should also highlight the need to build capacity within the media by strengthening linkages with the local media; encourage the local media to cover PGRFA issues on

a regular basis, and involve the media in PGRFA workshops and meetings so they gain a better understanding of the subject area.

94. Para 323 should include ‘the need to analyse the impact of promotional materials so that limited resources can be used for maximum impact’.

## ANNEX 2

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## ANNEX 3

**Strengthening Conservation and Sustainable Use of PGRFA in the Pacific Island Countries**  
**Suva, Fiji, 7-10 December 2010**

## AGENDA

**7 December**

<b>Time</b>	<b>Themes</b>	<b>Speakers</b>
08:30	Registration	
09:00	Welcome and opening remarks	FAO, Australia, SPC
09:15	Introduction of participants, Objectives and Agenda	FAO
<b>Session 1</b>	<b>Conservation and sustainable use of genetic resources – Status, trends and networking</b>	
10:10	Status of conservation and sustainable use of genetic resources in the Pacific Island Countries	Mary Taylor, SPX & country reps
11:00	Reinvigorating conservation and sustainable use of agro-biodiversity for food security	Working Groups
14:00	Key issues in conservation and use of genetic resources for food and agriculture: The Role of the Commission of Genetic Resources for Food and Agriculture (CGRFA)	Dan Leskien, FAO CGRFA Secretariat
14:30	ITPGRFA and the Multilateral System for Access and Benefit-Sharing: Global Challenges and Future Directions	Daniele Manzella, ITPGRFA-Secretariat
15:00	Trust activities to further the development of the global system for PGR conservation	Melissa Wood, Global Crop Diversity Trust
16:00	Global Instruments -Expected Outputs for PI Countries	Working Groups

**8 December**

<b>Session 2</b>	<b>Information Sharing and Reporting mechanisms for GRFA in the region</b>	
09:00	Web portals: CGRFA, ITPGRFA, GCDT, GPA Facilitating Mechanism, Information & reporting tools, NISMS, GENESYS.	Panel
<b>Session 3</b>	<b>Partnerships and Alliances : Opportunities for the Pacific Island region</b>	
11.15	Global Partnership Initiative for Plant Breeding Capacity Building – GIPB	Chikelu Mba, FAO
13:30	Towards strategies & plans for national plant breeding capacity	Chikelu Mba, FAO
13:55	Taro participatory plant breeding in Samoa: a success story	Tolo Iosefa, USP, Samoa
14:10	Opportunities and challenges in PGRFA for trade in the Pacific	Bill Griffin, NZIPFRL
14:40	Regional partnerships and networks for agro-biodiversity	Leocadio Sebastian, Bioversity International
15.30	Funding opportunities for plant genetic resources to address climate change under the Benefit Sharing Fund	Daniele Manzella, ITPGRFA-Secretariat
15:45	Partnerships in the Region for plant genetic resources under the Global Crop Diversity Trust	Global Crop Diversity Trust

**9 December**

<b>Session 4</b>	<b>Updating the GPA for the Conservation and Sustainable Utilisation of PGRFA</b>	
09.00	Changes in PGRFA conservation and use: Challenges for the new GPA	Stefano Diulgheroff, FAO
09:15	Regional Summary of PGRFA Conservation and Use	Mary Taylor, SPC
10:15	Expected Inputs and Dynamics of working group discussion	Barbara Pick, FAO
<b>Session 5</b>	<b>Working Groups on the updating of the GPA (Sections I-V)</b>	
11:00 – 17:40	Working Group session 6A, 6B, 6C	

**10 December**

<b>Session 5</b>	<b>Working Groups on the updating of the GPA (Sections I-V)</b>	
09:00	Working Group session 6D, 6E	
<b>Session 6</b>	<b>Proposals for updating the Global Plan of Action</b>	
14:00	Wrap up Section I, II, III, IV, V	
17.00	Closing Remarks	

**ANNEX 4**

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<b>Instrument</b>	<b>Expectations of members</b>	<b>Contributions by members</b>
<b>1. CGRFA</b>	Capacity building in negotiation skills	Strengthen CePaCT services through financial support in PGR
	Regular updates on reports	Revive PAGREN and strengthen other partnerships
	Recognize traditional and other programs	
	Recognize Pacific publications in global programs	
	Support for census, data collection and baseline surveys	
	Support for travel to CGRFA meetings	
<b>2. ITPGRFA</b>	Assist members to ratify Treaty	Ratify the Treaty
	Assist in documenting traditional knowledge.	Treaty members to contribute their GR with help from SPC
	Support capacity building in key areas	SPC acts as agent to assist members with the Treaty
	Promote benefit sharing through the MLS	
<b>3. GCDT</b>	Regular access to germplasm from SPC	Provision of germplasm for long term storage
	Conserve indigenous varieties and survey what varieties exist	Local specialist knowledge
	Promote agriculture in schools	Medicinal plants
	Backup system for cryo-preservation	SPC acts as agent to assist members with CropTrust
	Capacity building in key areas	Secure funding to revive PAPGREN and to support PESTNET
	Need equipment to preserve germplasm	
	Genebank for animals	
	Develop adapted breeds and varieties	
	Access to germplasm not available due to family or cultural ownership	