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AGRICULTURAL BIODIVERSITY

Progress report on the implementation of the programme of work, including development of the International Pollinators Initiative

Note by the Executive Secretary

Executive summary

The present note reviews progress in implementing the programme of work and recommends action to enhance implementation.

In terms of the four programme elements, much progress has been made related to assessments (element 1) and case-studies for adaptive management (element 2), although lessons learned have not yet been fully analysed, nor applied in support of sustainable agriculture. Less progress is apparent on capacity-building (element 3) and mainstreaming (element 4). A proposal for a plan of action for the International Pollinators Initiative is presented in document UNEP/CBD/SBSTTA7/9/Add.1. In respect of the cross-cutting issues, initial progress in studying the potential implications of genetic use restriction technologies (GURTS) is reported, and proposals for completing this work outlined. Progress in seeking observer status at World Trade Organisation is reported. A study on the impact of trade liberalization is under preparation. The International Undertaking on Plant Genetic Resources for Food and Agriculture has been revised to harmonize with the Convention on Biological Diversity, for consideration by the Conference of the Food and Agriculture Organization of the United Nations (FAO) in November 2001. Reference is made to the outstanding issues in the text of the Undertaking.

Further implementation of the programme of work is largely contingent on the progress that will be achieved in countries, especially with regard to programme elements 3 and 4, and activity 2.3. Table 1 proposes steps for the further implementation of the programme of work by the Executive Secretary and

* UNEP/CBD/SBSTTA/7/1.

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partner organizations. Development of the formats for the third national reports will provide an opportunity to gather pertinent information in this respect, and of developing more precise targets for implementation by Parties. SBSTTA is invited to consider whether there is a need for an interim report on agricultural biodiversity prior to the seventh meeting of the Conference of the Parties. .

Suggested recommendations

SBSTTA may wish to recommend that the Conference of the Parties, at its sixth meeting:

(a) Notes the progress made in the implementation of the programme of work and the need for emphasis and further action on:

(i) The promotion of methods of sustainable agriculture that employ management practices, technologies and policies that promote the positive and mitigate the negative impacts of agriculture on biodiversity, with particular focus on the needs of farmers and indigenous and local communities;

(ii) Capacity-building; and

(iii) Mainstreaming;

(b) Adopt proposals for the further implementation of the programme of work and elements on agricultural biodiversity for incorporation into the format for the third national reports, and, also, consider the need for a thematic report prior to the seventh meeting of the Conference of the Parties;

(c) Adopt a plan of action for the International Pollinators Initiative (see UNEP/CBD/SBSTTA/7/9/Add.1) and urge Parties and other Governments, and relevant organizations to contribute to its implementation.

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I. INTRODUCTION

1. The Conference of Parties considered agricultural biological diversity in depth at its third meeting, held in Buenos Aires in 1996, and through decision III/11, established a work programme on agricultural biodiversity. It encouraged Parties to develop national strategies, programmes and plans related to agricultural biodiversity, and provided policy guidance on their purpose. At its fourth meeting, the Conference of the Parties provided additional guidance, through decision IV/6. At its fifth meeting, held in Nairobi in 2000, the Conference of the Parties, through decision V/5, reviewed the implementation of decisions III/11 and IV/6 and further elaborated the programme of work, taking into account the assessment of ongoing activities and instruments (UNEP/CBD/SBSTTA/5/INF/10).

2. The programme of work, as endorsed by the Conference of the Parties contains four programme elements: (i) assessments; (ii) adaptive management; (iii) capacity-building; and (iv) mainstreaming. The Conference of the Parties also established an International Initiative for the Conservation and Sustainable Use of Pollinators, and decided to continue the work on genetic use restriction technologies under the umbrella of the programme of work.

3. Through decision V/5, the Conference of the Parties requested the Executive Secretary to undertake the necessary steps for the full implementation of the programme of work, and to prepare a progress report and proposals for the further implementation of this programme of work for consideration by the Subsidiary Body on Scientific, Technical and Technological Advice prior to the sixth meeting of the Conference of the Parties on the basis of which the Conference of the Parties may provide further guidance, for example, in the form of:

(a) Timetable for implementation of activities, including milestones;

(b) Schedule for reporting on further progress;

(c) Resource requirements; and

(d) Responsibilities of partners and collaborators.

4. The Food and Agriculture Organization of the United Nations (FAO) and other relevant organizations were invited to support the development and implementation of the programme of work. Specifically, FAO was invited to facilitate and coordinate the International Pollinators Initiative, and to report on work related to genetic use restriction technologies.

5. The present note has been prepared by the Executive Secretary in response to the request referred to above.

6. This progress report is based on:

(a) Information from second national reports. At the time of preparing this note (July 22), second national reports had been received from 46 countries. 1/ These are available at: http://www.biodiv.org/world/reports.asp?lg=0. The conclusions derived from this relatively small sample of

1/ These are Argentina, Armenia, Botswana, Bulgaria, Burkina Faso, Burundi, Central African Rep., Congo, Democratic Republic of the Congo, Denmark, Fiji, Finland, France, Guinea-Bissau, Iran, Madagascar, Malawi, Mali, Marshall Islands, Mexico, Monaco, New Zealand, Niger, Norway, Peru, Poland, Republic of Korea, Romania, Saint Lucia, Samoa, Slovakia, Slovenia, Senegal, Solomon Island, Sri Lanka, Sweden, Thailand, Uganda, United Kingdom, and Uruguay.

countries should be regarded as provisional, therefore. It is envisaged that many more reports will have been received by the seventh meeting of SBSTTA and, therefore, a more complete and detailed synthesis of information from national reports will be provided at that time in an information note which will also include information from National Biodiversity Strategies and Action Plans;

(b) Information from case-studies. A large number of case-studies have been made available. Relatively few have been provided directly by Parties. Most have been made available through international organizations and programmes, and as submissions to a Symposium on "Managing genetic resources in agricultural ecosystems" co-sponsored by the United Nations University, the International Plant Genetic Resources Institute and the Secretariat, to be held in Montreal immediately prior to the seventh meeting of SBSTTA. Further details are available at http://www.unu.edu/env/plec/cbd/bio-mtg.html;

(c) Information from international and other relevant organizations, including, primarily those that participated in a meeting of a liaison group organized in collaboration with FAO and held in Rome from 24 to 26 January 2001. 2/

7. Section II of the note reviews progress in the four elements of the programme of work. Section III reviews progress in the cross-cutting issues of the programme of work and in other matters arising from decisions III/11, IV/6 and V/5, and section IV provides some conclusions. Draft proposals for the further implementation of the programme of work, as requested by the Conference of the Parties, are provided in Part IV. An addendum to the present note (UNEP/CBD/SBSTTA/7/9/Add.1) provides a draft plan of action for the International Pollinators Initiative, prepared by FAO. Supporting documentation, including further information of case-studies and related initiatives, is provided through information notes and the Convention's web site (http://www.biodiv.org/themes/agro).

II. IMPLEMENTATION OF THE ELEMENTS OF THE PROGRAMME OF WORK

A. General aspects

8. The overall aim of the programme of work is to promote the objectives of the Convention in the area of agricultural biodiversity, in line with relevant decisions of the Conference of Parties, notably decisions II/15, III/11 and IV/6. More specifically, the objectives are:

(a) To promote the positive effects and mitigate the negative impacts of agricultural systems and practices on biological diversity in agro-ecosystems and their interface with other ecosystems;

(b) To promote the conservation and sustainable use of genetic resources of actual and potential value for food and agriculture;

2/ Representatives of the following organizations were present: CABI; GEF secretariat, Secretariat of the Convention on Biological Diversity, International Plant Genetic Resources Institute (IPGRI) (also on behalf of the Consultative Group on International Agricultural Research (CGIAR), International Livestock Research Institute (ILRI), IUCN, Tropical Soil Biology and Fertility Programme (TSBF); United Nations Development Programme/Global Environment Facility (UNDP/GEF), United Nations Environment Programme (UNEP), People, Land Management and Environmental Change programme of the United Nations University (UNU/PLEC); World Bank. Additionally resource persons were present from the Center for the Application of Molecular Biology to International Agriculture (CAMBIA), the Organisation for Economic Co-operation and Development (OECD), and from organizations involved with farmers, indigenous and local communities.

(c) To promote the fair and equitable sharing of benefits arising out of the use of genetic resources.

9. According to the second national reports received to date, about 60 per cent of countries have reviewed the programme of work and identified how to collaborate in its implementation, and most of these are promoting thematic and regional cooperation within this framework. About half are providing financial support, though very few are providing significant additional funds. About two-thirds of developed country Parties are providing financial support to developing countries or countries with economies in transition. However, this is mostly within existing cooperative programmes and with limited additional funds.

10. The GEF has approved a new operational programme on the conservation and sustainable use of biological diversity important to agriculture (operational programme 13: http://www.gefweb.org/Operational_Policies/Operational_Programs/OP_13_English.pdf). A number of new projects are under way or in the pipeline under this or already existing operational programmes on biological diversity.

B. Assessments

11. The operational objective of programme element 1 is to provide a comprehensive analysis of status and trends of the world's agricultural biodiversity and of their underlying causes (including a focus on the goods and services agricultural biodiversity provides), as well as of local knowledge of its management. The activities include:

(a) Planned assessments such as the FAO reports on the state of the world's plant and animal genetic resources for food and agriculture;

(b) Specific assessments of additional components of agricultural biodiversity that provide ecological services (for example, pollinators, pest management and nutrient cycling);

(c) An assessment of the relevant knowledge, innovations and practices of farmers and indigenous and local communities;

(d) Assessments of the interactions between agricultural practices and biodiversity, and

(e) Methods and techniques for the above, including indicators.

12. The FAO Commission on Genetic Resources for Food and Agriculture has decided that the first report on the state of the world's farm animal genetic resources should be prepared by 2005. The second report on the state of the world's plant genetic resources is proposed for 2007.

13. An assessment of the status and trends of the world's pollinators is planned as part of the International Pollinators Initiative (see section III A below and UNEP/CBD/SBSTTA/7/9/Add.1). It is expected that the assessments of components of agricultural biodiversity that provide ecological services and of the interactions between agricultural practices and biodiversity will be carried out as part of the Millennium Ecosystem Assessment. This may include studies of the impact of agriculture on biodiversity under various scenarios of agricultural production and resource use. A preliminary assessment of global ecosystems (PAGE) for agro-ecosystems has been completed (http://www.wri.org/wr2000/agroecosystems_page.html).

14. An assessment of the relevant knowledge, innovations and practices of farmers and indigenous and local communities is proposed to be included in the report on the status and trends of indigenous and technical knowledge carried out as part of the programme of work on Article 8(j) and related provisions. This will be considered by the Ad Hoc Open-ended Working Group on Article 8(j) and Related Issues at its second meeting, scheduled for February 2002.

15. The OECD has developed work on agri-environmental indicators including indicators for genetic diversity of crops and livestock, for pesticide and nutrient use, changes in the agricultural landscape and for impact of agriculture on wildlife and habitats (www.oecd.org/agr/env/indicators.htm). A workshop on developing indicators related to agricultural biodiversity, including the development of indicators for biodiversity within agricultural fields, is planned for early November 2001 and the results will be reported to SBSTTA at its seventh meeting.

16. Further work on developing indicators for genetic diversity/erosion and genetic vulnerability in crops is planned by FAO, in collaboration with IPGRI, in the context of preparation of the second report on the state of the world's plant genetic resources. Additionally, building on this work, and that of OECD, FAO is also planning to hold a technical workshop in 2002 to further develop indicators in line with activity 1.5 of the programme of work. This will be coordinated with the programme of work on indicators as per decision V/7.

17. FAO has recently completed a Global Farming Systems study (http://www.fao.org/ag/magazine/0106sp.htm) and is also collating existing approaches for the categorisation of production environments and farming systems. Work on characterizing agro-ecosystems is also envisaged as part of the Millennium Ecosystem Assessment.

C. Adaptive management

18. The operational objective of programme element 2 is to identify management practices, technologies and policies that promote the positive and mitigate the negative impacts of agriculture on biodiversity, and enhance productivity and the capacity to sustain livelihoods, by expanding knowledge, understanding and awareness of the multiple goods and services provided by the different levels and functions of agricultural biodiversity. The activities include:

(a) Case-studies;

(b) Identification of best practices, technologies, and related policy and incentive measures, *inter alia*, through analyses of case-studies;

(c) Promotion of methods of sustainable agriculture that employ management practices, technologies and policies that promote the positive and mitigate the negative impacts of agriculture on biodiversity, with particular focus on the needs of farmers and indigenous and local communities.

19. According to the second national reports received, about two thirds of countries have conducted case-studies (on pollinators, soil biota, and/or integrated landscape management/farming systems), though few of these have made such reports available to the Secretariat. However a large number of case-studies have been made available from international organizations and non-governmental organizations and as submissions to the symposium on managing diversity in agricultural ecosystems. Wide use has been made of the outline for case-studies, contained in the summaries of case-studies related to various aspects of agricultural biodiversity prepared for the fifth meeting of the Conference of the Parties (UNEP/CBD/COP/5/INF/10).

20. At its meeting in January 2001, the liaison group reviewed progress in the provision of case-studies, in line with activity 2.1, and recommended that in soliciting additional case-studies, priority should be given to those that address subjects such as:

(a) Various aspects of landscapes;

(b) Involvement of the private sector;

(c) Functionality of biodiversity in agro-ecosystems and integration between the various dimensions of agricultural biodiversity, (for example between crops and crop-associated diversity);

(d) Ecosystems under change (for example, through intensification); and

(e) Restoration of degraded ecosystems.

21. Syntheses of case-studies and analysis of lessons learned from that might lead to recommendations for capacity-building and policy, in line with activity 2.2, are under preparation for various dimensions of agricultural biodiversity as follows,:

(a) Pollinators (coordinated through the International Pollinators Initiative);

(b) Below-ground biodiversity (coordinated by the Tropical Soil Biology and Fertility Programme and FAO);

(c) Crop-associated biodiversity, including crop pests and their natural enemies (coordinated by ICIPE);

(d) On-farm management of crop genetic diversity (coordinated by IPGRI);

(e) Animal genetic resources (coordinated by FAO's programme on animal genetic resources);

(f) Diversity in agricultural landscapes (coordinated by UNU/PLEC);

(g) Relationship between agriculture and wild biodiversity (coordinated by IUCN);

(h) Management of agricultural biodiversity in biosphere reserves (coordinated by the Man and the Biosphere programme of the United Nations Educational, Scientific and Cultural Organization (UNESCO)).

22. Additionally, FAO, in collaboration with other members of the liaison group, is preparing a conceptual framework on agricultural ecosystem management. This paper will address, *inter alia*: the complexity of agricultural ecosystems and the interdependency of various dimensions of agricultural biodiversity at multiple spatial and temporal scales, including consideration of human uses and challenges for adaptive management.

23. The following stage would be to apply the lessons learnt in order to promote sustainable agriculture in line with activity 2.3. SBSTTA may wish to consider this matter in more depth at a subsequent meeting.

24. Other matters identified by the liaison group as requiring further attention in future include:

(a) Developing a wider understanding of functionality of biodiversity in agro-ecosystems;

(b) Identification of issues related to agricultural biodiversity that are likely to arise in future scenarios, such as under further intensification, under minimum tillage systems, under LMO-based crops;

(c) The role of certification regimes (for organic agriculture, conservation agriculture etc) in promoting the sustainability of agricultural biodiversity: opportunities, limitations and challenges;

(d) The need for understanding of terminology used with respect both for differing needs by different stakeholders and for necessary rigour); and

(e) Approaches to education and marketing in support of the conservation and sustainable use of agricultural biodiversity.

25. Meanwhile, according to the second national reports, nearly all reporting countries claim to be promoting farming practices that not only increase productivity but also arrest degradation as well as reclaim, rehabilitate, restore and enhance biological diversity, and to be transforming unsustainable agricultural practices to sustainable ones, to some extent.

D. Capacity-building

26. The operational objective of programme element 3 is to strengthen the capacities of farmers, indigenous and local communities, and their organizations and other stakeholders, to manage agricultural biodiversity sustainably so as to increase their benefits, and to promote awareness and responsible action. The activities include:

(a) Promoting partnerships and local-level forums;

(b) Enhancing the capacity of indigenous and local communities;

(c) Providing opportunituies for the participation of farmers, indigenous and local communities in the development and implementation of national strategies, plans and programmes for agricultural biodiversity;

(d) Improving in the policy environment;

(e) Raising awareness amongst producer organizations and consumers, with a view to promoting responsible practices; and

(f) Promoting networks of farmers and farmers' organizations.

27. In their second national reports, nearly all reporting countries report that they are promoting the mobilization of farming communities for the development, maintenance and use of their knowledge and practices in the conservation of biological diversity to some extent.

28. Substantial progress has been made in promoting integrated pest management (IPM) through farmer field schools through the Global IPM Facility (sponsored by FAO, the United Nations Development Programme, the United Nations Environment Programme, and the World Bank), and the FAO Inter-Country Programme for Community IPM. To date over one million Indonesian rice farmers have graduated from farmer field schools, over 400,000 in Viet Nam, and over 170,000 in the Philippines. The programme has been extended to several other Asian countries, and now, through the Global IPM Facility

to many countries in Africa and elsewhere. It has also been extended to other crops such as vegetables, maize and cotton.

29. The farmer field school approach is also being used to promote integrated plant nutrient systems and other aspects of crop management that can facilitate sustainable intensification based on the management of agricultural biodiversity. Non-governmental organizations have used the approach to promote rice-fish culture with vegetable planting on the dikes. Others have used farmer field schools to improve the management and use of crop genetic resources, through farmer selection of off-types, participatory varietal selection of introduced varieties, and also true participatory plant breeding by selection from segregating populations. Integrated pest management can therefore be regarded as an entry point to a wider approach of integrated crop management based on ecological principles.

30. Other approaches to the mobilization of farmers that involve the conservation and sustainable use of agricultural biodiversity include many exercises in participatory plant breeding. However, these efforts are generally not well-linked to the Convention or its programme of work on agricultural biodiversity. While the target in the programme of work of 1,000 communities being covered by local-level forums and networks has already been exceeded, there is a potential for much more work in this area, involving, as indicated in the programme of work, "the widest possible range of civil-society organizations, including those not normally linked to biodiversity initiatives". Given the emphasis provided in decision V/5 on support for capacity-building and information exchange to benefit farmers, indigenous and local communities, more emphasis is required on this programme element.

E. Mainstreaming

31. The operational objective of programme element 3 is to support the development of national plans or strategies for the conservation and sustainable use of agricultural biodiversity and to promote their mainstreaming and integration in sectoral and cross-sectoral plans and programmes. The activities include:

(a) Institutional framework and policy and planning mechanisms and intergovernmental processes;

(b) Relevant systems of information, early warning and communication

(c) Public awareness;

(d) Conservation, of genetic resources for food and agriculture.

32. Most countries report in their second national reports that they have, or are developing, national strategies, programmes and plans for the sustainable use of agricultural biodiversity, though only about a quarter have mechanisms in place. Some 70 countries have completed their national biodiversity strategies and action plans. Most countries report that they are in the process of identifying issues and priorities on agricultural biodiversity that need to be addressed at national level.

33. Best practice guidelines for the management of agricultural biodiversity are being prepared through the biodiversity planning support programme (BSBP) and will be made available to participants in the seventh meeting of SBSTTA and via the clearing-house mechanism (www.biodiv.org/themes/agro).

34. Most countries report that they are taking measures to promote public awareness on the importance of the sustainable use of agricultural biodiversity and/or in support of sustainable farming systems. Only about 10 per cent of countries have mechanisms in place to monitor the impacts of

agricultural development projects on biological diversity, though a large number are developing methods and indicators for this purpose.

35. Most countries (about 85 per cent) report that they are helping to implement the Global Plan of Action for the Conservation and Sustainable Utilization of Plant Genetic Resources for Food and Agriculture. Reports to FAO indicate that this is primarily through the use of domestic resources. Further information on implementation of the Global Plan of Action is available at http://www.fao.org/ag/cgrfa/PGR.htm.

III. IMPLEMENTATION OF THE CROSS-CUTTING ISSUES WITHIN THE PROGRAMME OF WORK AND OF OTHER MATTERS ARISING FROM DECISIONS III/11, IV/16 AND V/5

A. International Pollinators Initiative

36. In section II of its decision V/5, the Conference of the Parties established an International Initiative for the Conservation and Sustainable Use of Pollinators as a cross-cutting initiative within the programme of work on agricultural biodiversity. The aim of the initiative, hereafter referred to as the International Pollinators Initiative (IPI) is to promote coordinated action world-wide to:

(a) Monitor pollinator decline, its causes and its impact on pollination services;

(b) Address the lack of taxonomic information on pollinators;

(c) Assess the economic value of pollination and the economic impact of the decline of pollination services; and

(d) Promote the conservation and the restoration and sustainable use of pollinator diversity in agriculture and related ecosystems.

37. The Conference of the Parties requested the Executive Secretary to invite the Food and Agriculture Organization of the United Nations to facilitate and coordinate the Initiative in close cooperation with other relevant organizations and to consider establishing a coordination mechanism, with geographical balance and with leading relevant organizations, 3/ to prepare a proposal for a plan of action taking into account the recommendations in the Sao Paulo Declaration on Pollinators, as well as on contributions submitted by countries and relevant organizations, for submission to and review by the Subsidiary Body on Scientific, Technical and Technological Advice (SBSTTA) and consideration by the Conference of the Parties at its sixth meeting.

38. Accordingly, FAO has prepared a proposal for a plan of action (UNEP/CBD/SBSTTA/7/9/Add.1), as a cross-cutting initiative of the programme of work on agricultural biodiversity, following the same format as the programme of work itself. The proposed activities of the proposal are grouped according to the four elements of the programme of work: assessment, adaptive management, capacity-building and mainstreaming. The proposed activities are drawn from the proposals of the recommendations in the Sao Paulo Declaration on Pollinators

3/ Decision V/5 identified the following leading relevant organizations: IUCN, the International Bee Research Association (IBRA), the International Commission for Plant-Bee Relationships, the International Centre of Insect Physiology and Ecology (ICIPE), and the CGIAR international agriculture research centres.

(http://www.fao.org/biodiversity/docs/pdf/Pollinators.PDF), as well as the technical advice of experts from different geographical regions that FAO consulted during a technical meeting held in Rome from 14 to 16 November 2000.

39. In their second national reports, countries indicate only limited progress on this issue. Relatively few countries are collaborating with other parties on the conservation and sustainable use of Pollinators and less than 20% of countries have conducted case-studies or pilot projects on pollinators.

B. Further work on genetic use restriction technologies

40. A study on genetic use restriction technologies (GURTs) was reviewed by SBSTTA in 1999. 4/ In 2000, in section III of decision V/5, the Conference of the Parties recommended that, in the current absence of reliable data on GURTs, without which there was an inadequate basis on which to assess potential risks, "products incorporating such technologies should not be approved by Parties for field testing until appropriate scientific data can justify such testing, and for commercial use until appropriate, authorised and strictly controlled scientific assessments with regard to, *inter alia*, their ecological and socio-economic impacts and any adverse effects for biological diversity, food security and human health have been carried out in a transparent manner and the conditions for their safe and beneficial use validated".

41. The Conference of the Parties invited FAO, in close collaboration with member organizations of the Ecosystem Conservation Group, and other competent organizations and research bodies, to further study the potential implications of GURTs for the conservation and sustainable use of agricultural biological diversity and the range of agricultural production systems in different countries, and identify relevant policy questions and socio-economic issues that may need to be addressed; and invited FAO and its Commission on Genetic Resources for Food and Agriculture and other competent organizations to inform the Conference of the Parties at its sixth meeting of their initiatives in this area.

42. A document was prepared by FAO and presented to the Commission's Intergovernmental Technical Working on Plant Genetic Resources at its first session in July 2001 (CGRFA/WG-PGR-1/01/7 at http://www.fao.org/ag/cgrfa/PGR.htm). The document addresses various technical aspects of GURTs, the potential impacts of these technologies on agricultural biodiversity, biosecurity implications, impacts at farming system level (especially seed systems) as well as economic implications, and identifies policy issues, which governments may wish to consider.

43. In considering the report, members of the Intergovernmental Technical Working Group on Plant Genetic Resources raised many detailed comments, stressing both potential advantages and disadvantages of GURTs. Discussions were held on the flow of material in further breeding and of seed-saving practices used by farmers in traditional low-seed replacement systems and the consequences of this for the diffusion of improved varieties by farmers. Some members highlighted the potential for encouraging innovation and increased investment by the private sector. Some members of the Working Group supported the step-by-step and case-by-case approach, which is consistent with the regulatory frameworks in place in many countries. The need for capacity-building on biosafety at national level was highlighted by countries as essential in following this approach. Some also suggested that this approach be complemented by a more strategic assessment, taking into account the precautionary approach, in view of

4/ Jefferson, R.A., Byth, D., Correa, C., Otero, G., & Qualset, C. Genetic Use Restriction Technologies, Technical Assessment of the Set of New Technologies which Sterilize or Reduce the Agronomic Value of Second Generation Seed, as Exemplified by US Patent No 5,723,765 in UNEP/CBD/SBSTTA/4/9/Rev.1.

potential cumulative effects. Some members were of the opinion that the use of GURTs was not justified, whereas some others highlighted scenarios where the use of GURTs might be advantageous.

44. The document will be revised by FAO in light of the comments of the Working Group and submitted to the Commission at its ninth regular session. It will be subsequently presented to the Conference of the Parties as requested.

45. A number of questions pertaining to GURTs were included in the standard format for the second national reports. Information from such reports indicates that very few countries have carried out major programmes of scientific assessments on the ecological, social and economic effects of GURTs. While about between a quarter and a third have carried out some assessments, few have disseminated the results. However, more countries have considered how to address generic concerns regarding GURTs or other genetically modified organisms under international and national approaches to the safe and sustainable approach to germplasm. About half of the countries reporting have identified or are reviewing ways and means to address the potential impacts of GURTs on the conservation and sustainable use of agricultural biodiversity. Twenty-one of the thirty-five countries reporting have considered the need for national regulations of GURTs, and of these most have concluded that regulations are needed. Twelve countries have developed regulations, and four of these have applied them. Those that have developed regulations, have for the most part, made information on them available to other Parties.

46. Consultations with representatives of farmers, indigenous and local communities on issues related to GURTs are planned for the margins of the second meeting of the Ad Hoc Open-ended Working Group on Article 8(j) and Related Issues, in February 2002.

C. Trade and agricultural biodiversity

47. In its decision IV/6, the Conference of the Parties requested the Executive Secretary, to apply for observer status in the Committee on Agriculture of the World Trade Organization for the purpose of representing the Convention in meetings whose agendas may influence the implementation of decision III/11 and related decisions of the Conference of the Parties. The application was made but so far has not been successful. Information from national reports indicates that three-quarters of the countries reporting are supporting the application of the Executive Secretary for observer status in the WTO Committee on Agriculture.

48. The Conference of the Parties also requested the Executive Secretary to report to the Conference of the Parties on the impact of trade liberalization on the conservation and sustainable use of agricultural biological diversity in consultation with relevant bodies, such as the World Trade Organization. A study on this matter is under preparation and will be available to the Conference of the Parties at its sixth meeting.

D. The International Undertaking on Plant Genetic Resources

49. The Commission on Genetic Resources for Food and Agriculture completed its work to revise the International Undertaking, in harmony with the Convention on Biological Diversity at its sixth extraordinary session, held in Rome from 25 to30 June, 2001. The text of the Undertaking, as prepared by the Commission, will be forwarded by the Director-General to the FAO Conference in November 2001 for finalization and adoption.

50. According to the text as prepared by the Commission, the objective of the Undertaking is to achieve the conservation and sustainable use of plant genetic resources for food and agriculture and the fair and equitable sharing of benefits derived from their use, in harmony with the Convention on Biological

Diversity, for sustainable agriculture and food security. The objectives are to be attained by closely linking the International Undertaking to both FAO and the Convention on Biological Diversity (Article 1). Other links to the Convention provide for cooperation between the Global Information System and the clearing-house mechanism under the Convention, and for the Governing Body to cooperate with the Conference of the Parties and take note of its relevant decisions.

51. The Undertaking has provisions for the conservation (Article 5) and sustainable use (Article 6) of plant genetic resources for food and agriculture, on Farmers' Rights (Article 10), and Access and Benefit Sharing (Articles 11-14). Supporting components are the Global Plan of Action (Article 15), *ex situ* collections held by international centres (Article 16), Networks (Article 17), and a Global Information System (Article 18). There are also provisions on financial resources (Article 19) and institutional provisions (Articles 20–36).

52. The centrepiece of the Undertaking is the "Multilateral System for Access and Benefit Sharing" (MLS): which is established by the Contracting Parties "in the exercise of their sovereign rights" "both to facilitate access to plant genetic resources for food and agriculture, and to share, in a fair and equitable way, the benefits arising from the utilization of these resources, on a complementary and mutually reinforcing basis" (Article 11, paragraph 2). While the general provisions of the Undertaking apply to all plant genetic resources for food and agriculture, the Multilateral System applies only to a list of crops and then only to material that is in the public domain (Article 12). The list includes most major food crops (some 35 crop genera), plus a list of forages (32 genera, containing some 70 species). Access under the MLS shall be provided solely for the purpose of utilization and conservation in research, breeding and training for food and agriculture, and is subject to various property rights and other conditions (Article 13, paragraph 3). Relevant conditions of access and benefit sharing are to be set out in a standard material transfer agreement (Article 13, paragraph 4)

53. Benefits arising from the use, including commercial, of plant genetic resources for food and agriculture under the Multilateral System shall be shared fairly and equitably through the following mechanisms: the exchange of information, access to and transfer of technology, capacity-building, and the sharing of the benefits arising from commercialization (Article 14, paragraph 2). In the case of commercialisation of a product that is a plant genetic resource for food and agriculture and that incorporates material accessed from the Multilateral System, recipients shall pay to a mechanism, an equitable share of the benefits arising from the commercialization of that product, except whenever such a product is available without restriction to others for further research and breeding, in which case the recipient who commercialises shall be encouraged to make such payment. The Governing Body shall determine the level, form and manner of the payment, in line with commercial practice (Article 14, paragraph 2 (d) (ii)). There shall be additional voluntary modalitites for benefit-sharing (Article 14, paragraph 6). as well as a funding strategy for the overall implementation of the Undertaking (Article 19).

54. Pending items that need to be resolved prior to adoption of the final text include:

(a) Whether or not limits to the intellectual property rights that can be claimed on material received from the multilateral system extend to "parts and components", and a related question in the definition of plant genetic resources for food and agriculture;

(b) The list of crops; and

(c) The relationship of the Undertaking to existing international agreements (i.e., in particular, the WTO agreements).

55. Information from national reports indicates that about a third of countries have been coordinating their positions in the Convention and the negotiations to revise the International Undertaking, while a further half are taking steps to do so.

IV. CONCLUSIONS AND PROPOSALS FOR FURTHER IMPLEMENTATION AND REPORTING

56. In reviewing progress made so far in implementing the four elements of the programme of work, it can be seen that most progress is related to programme elements 1 and 2. Studies have been prepared on many dimensions of agricultural biodiversity, and work is under way to develop indicators and guidelines on mainstreaming agricultural biodiversity. Priority now needs to be given to synthesizing and analysing case-studies in order to elucidate lessons learnt for policy and capacity-building. There is also a need to apply such lessons in the promotion of methods of sustainable agriculture that employ management practices, technologies and policies that promote the positive and mitigate the negative impacts of agriculture on biodiversity, with particular focus on the needs of farmers and indigenous and local communities. In particular, more emphasis needs to be given to promoting local capacity-building as called for in programme element 3, using successful examples such as the farmer field schools used for integrated pest management, and in mainstreaming the conservation and sustainable use of agricultural biodiversity in sectoral and cross-sectoral policies.

57. Proposed steps for the further implementation of the programme of work by the Executive Secretary and partner organizations are indicated in table 1 on page 16 below. For each activity of the programme of work, this table provides information on expected outputs and their timing, the actors and partners, the status of the activity, and milestones. Progress on these activities will be reported to SBSTTA each biennium.

58. Further implementation of the programme of work is largely contingent on the progress that will be achieved in countries, especially with regard to programme elements 3 and 4, and activity 2.3. Development of the formats for the third national reports will provide an opportunity to gather pertinent information in this respect, and of developing more precise targets for implementation by Parties. This exercise should draw upon the lessons learned from the experience of the second national reports.

59. Based on current plans for national reporting (see also UNEP/CBD/MSP/3) and for work on assessments in the context of the programme of work, a reporting schedule is indicated in table 2 on page 18 below. SBSTTA and the Conference of the Parties are invited to consider whether there is a need for an interim report on agricultural biodiversity prior to the seventh meeting of the Conference of the Parties.

Table 1: Proposed steps for the further implementation of the programme of work by the Executive Secretary and partner organizations

	Programme element and activity	Expected outputs		Actors and partners	Status	Milestones	
1	**Assessments**						
1		Comprehensive assessment of the status and trends of the agricultural biodiversity	2007	SCBD, FAO, MA	Planned	Preliminary assessment Draft full assessment	2003 2005
1.1	Planned assessments	State of the world's plant genetic resources II	2007	FAO (CGRFA)	Planned	Thematic supplements Country inputs Full draft Report	2003 2004 2006
		State of the world's animal genetic resources	2005	FAO (CGRFA)	In progress	Country Reports Strategic priorities report	2003 2003
1.2	Specific assessments	Status and trends of pollinator diversity	2001		Planned		
1.3	Knowledge, innovations & practices of farmers, indigenous & local communities	State of the world's traditional knowledge on biodiversity	2003	CBD- Article 8(j) process	Planned	Outline of report	2002
1.4	Interactions between agriculture and biodiversity	Millennium Assessment	2005		In progress	PAGE: Agro-ecosystems	2000
1.5	Methods: Indicators	Agri-environmental indicators	2004	OECD	In progress	First report Workshop: habitat matrices	2001 2001
		Genetic diversity/erosion	2004	FAO (CGRFA)	Planned	Draft indicators Field tested indicators	2002 2004
		Agricultural biodiversity	2004	FAO, MA	Planned	Technical workshop	2002
	Agreed terminology and classification for production environments		2004	FAO, MA	Planned	Compilation of existing Classification for MA	2002 2003
2	**Adaptive management**						
2.1	Case-studies	Plant genetic resources, animal genetic resources, soil, pollinators	2001	Various	In progress		
		Other aspects	2002	Various	Planned		
2.2	Analysis	Analysis of cases	2003	SCBD, FAO	In progress		
		Study on trade liberalization	2002	SCBD, FAO, WTO	In progress		
		Study on GURTs	2002	FAO, SCBD	In progress		

Programme element and activity		Expected outputs		Actors and partners	Status	Milestones
2.3	Promotion	Pilot projects for the application of lessons learned	2004	Various	Proposed	

Programme element and activity		Expected outputs		Actors and partners	Status	Milestones
3	**Capacity building**					
3.1	Partnerships and forums	Documentation of successful cases	2002	SCBD, FAO, etc	Planned	
3.2	Enhanced capacity	Pilot projects for the application of lessons learned from programme element 2	2005	Various, including Parties, civil-society organizations, funding agencies	Proposed	
3.3	Participation of farmers, indigenous and local communities in national strategies	In-country multi-stakeholder workshops	2005	Parties, SCBD	Proposed	
3.4	Policy change, benefit-sharing and incentive measures	Identification of lessons learned from programme element 2	2003	Parties, SCBD	Proposed	
3.5	Awareness amongst producer organizations and consumers	Dialogue workshops with producer and consumer organizations	2005	Parties, SCBD	Proposed	
3.6	Networks	Five regional workshops	2003	Parties, SCBD	Proposed	
4	**Mainstreaming**					
4.1	Institutional framework	Best practice guidelines	2001	BSBP	Completed	
4.2	Information systems	Development of the clearing-house mechanism		SCBD, Parties	Ongoing	
4.3	Public awareness	UNESCO-CBD programme		UNESCO-CBD	Ongoing	
4.4	Conservation of genetic resources	Global Plan of Action for the Conservation and Sustainable Use of Plant Genetic Resources for Food and Agriculture		FAO	Ongoing	Reports to FAO CGRFA 2002 2004 2006

Table 2: Reporting schedule

Year	Meeting	Consideration of assessment results, studies and recommendations	Review of implementation by Parties
2002	COP-6	- Study on trade liberalization - Study on GURTs	- Considers 2nd national reports
2003	SBSTTA-8/9	- Analysis of lessons learned from case-studies - Preliminary assessment of status and trends of agricultural biodiversity	
2004	COP-7	- Recommendations from SBSTTA on capacity-building and policy	
2005	SBSTTA-10/11	- Draft comprehensive assessment of status and trends of agricultural biodiversity	(3rd national reports due)
2006	COP-8		- Considers 3rd national reports
