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### Item 3 of the Provisional Agenda

## COMMISSION ON GENETIC RESOURCES FOR FOOD AND AGRICULTURE

### Third Extraordinary Session

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### REVISION OF THE COST ESTIMATES OF THE *GLOBAL PLAN OF ACTION*

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## REVISION OF THE COST ESTIMATES OF THE *GLOBAL PLAN OF ACTION*

### I. Introduction

1. The International Technical Conference on Plant Genetic Resources, in June 1996, took note of the cost estimates for the *Global Plan of Action* prepared by the Secretariat on the basis of the draft presented to the Commission on Genetic Resources for Food and Agriculture, at its Second Extraordinary Session in April, 1996 (CGRFA-Ex2/96/3). Given the changes introduced in many activities of the *Global Plan of Action* as adopted, the International Technical Conference requested the Secretariat to refine the cost estimates, and to submit the results to the Third Extraordinary Session of the Commission.

2. The cost estimates have been refined by the Secretariat in line with the above-mentioned request, using the same methodology as the original costing. The results are presented in this document and the methodology used is described. Changes in the costing of the adopted *Plan* arise principally from the alterations in the program of work of the *Plan*,<sup>1</sup> and from increased precision in the information on the cost of specific activities as well as from certain re-evaluations of existing capacity in countries to implement projects and to absorb activities.

### II. General considerations

3. The costing exercise is technically-based and reflects the needs and priorities for the conservation and utilization of plant genetic resources for food and agriculture (PGRFA) identified during the country-driven preparatory process. The cost estimates are not intended to be indications of, or proxies for, the value of plant genetic resources, or of the benefits derived from them.

4. As recognized by the International Technical Conference, the *Global Plan of Action* includes activities that may be funded by national governments, and other domestic sources of funds, as well as internationally through multilateral organizations, and from bilateral and regional sources. In the costing exercise, only those costs which might be borne by the international community are included, as indicated in the *Global Plan of Action*. This includes a significant share of the costs of implementing activities in developing countries. It also includes activities undertaken largely for the global benefit, regardless of their location. Such costs might be expected to account for a higher proportion of the total costs for conservation activities, and for other “public good” activities such as genetic enhancement, than for other types of utilization activities.

### III. Methodology

5. The costs of the *Global Plan of Action* have been estimated by aggregating known or forecast costs for the specific actions contained in the *Plan*. However, since concrete and detailed projects and programmes have not yet been formulated, estimates cannot be made

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<sup>1</sup> The scope and coverage of the adopted GPA differed in a number of areas from the draft GPA. Certain items in the draft GPA were deleted or reduced in their relative importance resulting in decreased cost estimates. Other Activities in the adopted GPA had new ideas or expanded importance to certain activities which resulted in increased cost estimates.

using detailed budget line items of formal submissions or project documents. The results should therefore be regarded as order of magnitude estimates only.

6. The *Global Plan of Action* contains twenty priority activity areas. Each one details a number of specific activities. For the purpose of the costing exercise, these are translated into specific actions for which costs can be estimated. Such actions include: the holding of training programmes (of specific duration and for a particular number of participants); the convening of workshops and meetings (again of specific duration and size); the provision of professional support (for particular duration); collecting, conserving or regenerating a given number of accessions or multiplying a given quantity of seed; provision of grants to countries, institutions or communities for specific purposes; provision of grants for scientific studies, research and technology development, etc. In total over 170 separate actions are costed.

7. These actions are costed using the best available information from various sources. For example standard rates for consultants, living expenses, and travel, as used by the UN system, are employed. Other costs related to workshops, training programmes, etc. are also based on FAO and UNDP experience. Costs of collecting, conserving or regenerating germplasm accessions are based on the latest estimates from recent expert meetings. Costs of some specific actions are based on the actual experience of similar activities. For example, the costs of support to regional PGR networks have been extrapolated from the actual experience of existing networks, and some of the costs involved in the activity to assist farmers in disaster situations to restore agricultural systems are based on the FAO/WFP experience in Rwanda.

8. The costing of activities can be influenced considerably by the extent to which governments wish to implement the activities, as well as the capacity of countries to absorb activities. For example, training for farmers might be provided to 50 or 500 communities per year; grants for scientific research and technology development might be of the order of US\$ 50,000 or US\$ 500,000. Additionally there are sometimes uncertainties in the actual cost of activities. For these reasons, the costs have been calculated, in each case, for three options. Option A represents a basic or rudimentary approach to implementation of the activities and recommendations found in the *Global Plan of Action*. In situations where costs cannot be precisely determined, it assumes the least costly of reasonable possibilities, and the number of countries, institutes or communities covered is lower than other options. Option B represents a moderate approach to the costing exercise, based on intermediate assumptions regarding needs. Its general coverage is greater than option A, but is consistent with known and documented needs and realistic absorption and implementation capacity of countries. Option C represents a more ideal and comprehensive approach to the implementation of the *Global Plan of Action*. Its coverage is generally higher and less fiscally constrained than other options. In situations where costs cannot be precisely determined, it assumes the more costly of reasonable possibilities.

9. Costs for administrative overheads are also included. In line with the considerations of the International Technical Conference, it is envisaged that the *Global Plan of Action* will be implemented in part through bilateral channels, and in part through multilateral channels. An average administrative cost has been included globally to cover project servicing costs of

multilateral implementing agencies.<sup>1</sup> Additionally, a substantial coordination cost is included for Activity 2 “Supporting on-farm management and improvement of PGRFA” to cover the administrative costs of handling a large number of relatively small grants to farmers and communities, as well as associated national capacity-building and co-ordination needs.

10. The data is presented as average annual costs during a 10-year period,<sup>2</sup> at 1996 costs.<sup>3</sup>

11. The methodology can be illustrated by reference to an example (Box 1).

Box 1: Example of the Costing Exercise.

Activity 16 “Promoting networks for PGRFA” provides a rather simple case. These costs are based on a series of grants to governments and networks. The activity requires support for regional networks, support for global crop networks and support for regional crop-based networks, as well as costs of administration and co-ordination. The Activity has been costed as follows:

*Option A: US\$ 7.22 million*

|                               |                        |
|-------------------------------|------------------------|
| regional networks:            | 15 grants of \$50,000  |
| global crop networks:         | 10 grants of \$100,000 |
| regional crop-based networks: | 100 grants of \$55,000 |
| administration costs          | 7%                     |

*Option B: US\$ 11.24 million*

|                                   |                        |
|-----------------------------------|------------------------|
| regional networks:                | 15 grants of \$100,000 |
| global crop networks:             | 15 grants of \$100,000 |
| regional crop-based networks:     | 150 grants of \$55,000 |
| coordination/administration costs | 7%                     |

*Option C: US\$ 15.25 million*

|                                   |                        |
|-----------------------------------|------------------------|
| regional networks:                | 15 grants of \$150,000 |
| global crop networks:             | 20 grants of \$100,000 |
| regional crop-based networks:     | 200 grants of \$55,000 |
| coordination/administration costs | 7%                     |

The rationale for this particular costing is as follows. There are 15 regions or sub-regions for PGRFA networks exist or are required. The average costs of the minimal core activities of these networks is about US\$ 50,000. This is reflected in the grant for Option A therefore. Higher grants are provided for in the other options. In the case of crop networks, on the other hand, a fixed level of grant is used for all three options (US\$ 55,000 for networks operating at the regional level, and US \$100,000 for

<sup>1</sup> The FAO project servicing cost is 13%. As a first approximation, based on an assumption that about half of the activities will be implemented through multilateral channels and about half through bilateral channels, this average administrative charge is 7%.

<sup>2</sup> If the *Plan* were to be implemented more quickly, the initial annual costs would be higher, but the total average cost would be same. In any case, implementation of the *Global Plan of Action* will, presumably, not be constant over time for every activity. For some activities which need to be implemented urgently, or which require a high initial investment, costs may be expected to be higher in early years. For others, for which substantial levels of activity will require capacity-building first, costs may be expected to increase with time. However, considering that the activities have still to be formulated in detail and concrete programmes and projects have not been developed, the costs estimates have been based on average annual costs.

<sup>3</sup> i.e. without inflation rate adjustments. The total accumulated costs for a 10-year implementation period, assuming a 4% annual inflation rate, would be US\$ 2,101 million, US\$ 3,474 million, and US\$ 6,382 million, respectively for options A, B and C.

networks operating at the global level), but the number of crops which could be addressed by the *Plan* increases for the three options. For the middle option (Option B), the number of crops covered at a global level is set at 15, reflecting the number of crops for which priority genetic enhancement work is suggested in activity 10. Options A and C allow for somewhat smaller and larger numbers of crops to be addressed respectively. The greater number of crops addressed at the regional level reflects the greater number of crops important at this level, as well as the fact that more than one region would need to address each crop. The costs of coordination between regional, global crop specific, and regional crop-specific networks is reflected in these grants. The administration costs of disbursing funds is reflected in the 7% overhead.

#### IV. Results

12. The estimates of the total cost for the *Global Plan of Action* as a whole is US\$ 150 million for Option A, US\$ 248 million for Option B, and US\$ 455 million for Option C. Table 1 shows cost estimates organized by the four major categories of the *Plan*: (1) *In Situ* Conservation and Development, (2) *Ex Situ* Conservation, (3) Utilization of PGRFA and (4) Institutions and Capacity-building.

13. Table 2 shows cost estimates organized by the twenty priority areas that fall under the four major categories. It should be noted that the activities of the *Global Plan of Action* are inter-related, and therefore some of the components of one activity are costed under another activity. This applies particularly to activities 15 “Building strong national programmes” and 19 “Expanding and improving education and training”, since all or most other activities have components which relate to national capacity-building and training. The total cost of the training components in the *Global Plan of Action*, considering all activities, is, in fact, estimated to be US\$ 27 million, US\$ 47 million and US\$ 97 million, respectively for the three options, A, B, and C.

14. The cost estimates of the *Global Plan of Action* as adopted are higher than those of the preliminary estimates prepared for the draft *Plan*, by 15%, 32% and 50% respectively for the three options, A, B and C. Many of the changes were due to the integration, into the various activity areas, of activities related to technology transfer. The greater range between the three costs estimates reflects the rather open-ended nature of some of these activities. The greatest increases were for the group of activities concerned with “Institutions and Capacity-building”. In particular the largest net increases were for priority activity 15 “Building strong national programmes”, and priority activity 19 “Expanding and improving education and training”. Additionally, the changes introduced in Leipzig caused a greater increase in the costs associated with priorities under the category “*In Situ* Conservation and Development” than the costs associated with priorities under the category of “*Ex Situ* Conservation.”

| Table 1: Cost Estimates, organized by Category<br>(in US\$ millions, annually, averaged over ten years) |                               |                                  |                                       |
|---|-------------------------------|----------------------------------|---------------------------------------|
| Priority Activities   | Option A<br>Basic<br>approach | Option B<br>Moderate<br>approach | Option C<br>Comprehensive<br>approach |
| <i>In Situ</i> Conservation and Development   | 20.5                          | 34.9                             | 68.0                                  |
| <i>Ex Situ</i> Conservation   | 38.7                          | 63.3                             | 108.4                                 |
| Utilization of PGRFA  | 46.3                          | 71.4                             | 131.1                                 |
| Institutions and Capacity-building  | 42.3                          | 78.2                             | 147.5                                 |
| Total   | 150.0                         | 247.7                            | 455.1                                 |

| Table 2: Cost Estimates, organized by Priority Activity<br>(in US\$ millions, annually, averaged over ten years) |          |          |          |
|--|----------|----------|----------|
| Priority Activities  | Option A | Option B | Option C |

|   |      |      |      |
|---|------|------|------|
| <i>In Situ</i> Conservation and Development   |      |      |      |
| 1. Surveying and inventorying PGRFA   | 2.1  | 3.2  | 7.7  |
| 2. Supporting on-farm management and improvement of plant genetic resources                             | 7.5  | 17.2 | 37.0 |
| 3. Assisting farmers in disaster situations to restore agricultural systems                             | 5.6  | 6.6  | 8.7  |
| 4. Promoting <i>in situ</i> conservation of crop wild relatives and wild plants for food and production | 5.3  | 7.9  | 14.6 |
| Subtotal:   | 20.5 | 34.9 | 68.0 |

|  |      |      |       |
|--|------|------|-------|
| <i>Ex Situ</i> Conservation                            |      |      |       |
| 5. Sustaining existing <i>ex situ</i> collections      | 29.7 | 47.3 | 73.5  |
| 6. Regenerating threatened <i>ex situ</i> accessions   | 4.8  | 7.4  | 12.4  |
| 7. Supporting planned and targeted collecting of PGRFA | 1.0  | 2.1  | 3.2   |
| 8. Expanding <i>ex situ</i> conservation activities    | 3.2  | 6.5  | 19.3  |
| Subtotal:  | 38.7 | 63.3 | 108.4 |

Table 2: Cost Estimates, organized by Priority Activity  
(in US \$ millions, annually, averaged over ten years)

| Priority Activities   | Option A | Option B | Option C |
|---|----------|----------|----------|
| <b>Utilization of PGRFA</b>   |          |          |          |
| 9. Expanding the characterization, evaluation and number of core collections to facilitate use                  | 9.4      | 16.4     | 31.4     |
| 10. Increasing genetic enhancement and base-broadening efforts  | 21.2     | 30.7     | 51.2     |
| 11. Promoting sustainable agriculture through diversification of crop production and broader diversity in crops | 5.3      | 9.0      | 18.5     |
| 12. Promoting development and commercialization of under-utilized crops and species                             | 2.1      | 4.7      | 9.2      |
| 13. Promoting seed production and distribution  | 5.6      | 8.0      | 14.5     |
| 14. Developing new markets for local varieties and "diversity-rich" products                                    | 2.0      | 2.5      | 6.4      |
| Subtotal:   | 46.3     | 71.4     | 131.1    |
| <b>Institutions &amp; Capacity-building</b>   |          |          |          |
| 15. Building strong national programmes   | 5.6      | 12.9     | 29.9     |
| 16. Promoting networks for PGRFA  | 7.2      | 11.3     | 15.3     |
| 17. Constructing comprehensive information systems for PGRFA  | 8.5      | 12.6     | 21.8     |
| 18. Developing monitoring and early warning systems for loss of PGRFA   | 1.9      | 3.3      | 5.8      |
| 19. Expanding and improving education and training  | 16.6     | 30.6     | 63.3     |
| 20. Promoting public awareness of the value of PGRFA conservation and use                                       | 4.5      | 7.6      | 11.4     |
| Subtotal:   | 44.3     | 78.2     | 147.5    |
| Total   | 150.0    | 247.7    | 455.1    |