

**COMMISSION ON GENETIC RESOURCES
FOR FOOD AND AGRICULTURE**

Background to CGRFA/7/97/4 Annex

**Costing Estimates
for the
Global Plan of Action**

This background information has been prepared on limited numbers to reduce costs. One copy per delegation is available, on request.

Activity 1: Surveying and Inventorying Plant Genetic Resources for Food and Agriculture

The costs are based on a series of grants and professional support to governments. The activity requires support for survey and inventory activities, including application of GIS, support for training programs, professional support to establish strong linkages with regional and crop networks and with the users of plant genetic resources, and support for development of methodologies for survey and assessment, as well as costs of administration and co-ordination. The activity has been costed as follows:

	Option A: US\$ 2.13 million	Option B: US\$ 3.19 million	Option C: US\$ 7.74 million
support to countries survey and inventory:	8 grants of \$100,000	10 grants of \$100,000	15 grants of \$200,000
support to countries GIS:	8 grants of \$25,000	10 grants of \$50,000	15 grants of \$100,000
training programs:	20 programs for 5 days and 20 participants of \$30,300	30 programs for 5 days and 20 participants of \$30,300	35 programs for 10 days and 20 participants of \$48,600
development of methodologies for survey and assessment:	3 grants of \$100,000	4 grants of \$100,000	7 grants of \$100,000
professional support for linkages with networks:	10 times professional support for two weeks and one expert of \$9,230	20 times professional support for two weeks and one expert of \$9,230	20 times professional support for two weeks and two experts of \$17,760
coordination/administration costs:	7%	7%	7%

The rationale for this particular costing is as follows. The average costs of the minimal survey and inventory activities for one country is about US\$ 100,000. This is reflected in the grant for Option A and B therefore. Higher grants are provided for in the option C. A minimum of 8 countries should be annually supported in surveying and inventorying their plant genetic resources. After the 10 year period of the *Plan* at least 80 countries will have been supported for surveying and inventorying their plant genetic resources under option A. In the other options the amount of supported countries can be increased to 100 (Option B) or 150 (Option C). In supporting the utilisation of GIS for the countries, a grant of US\$ 25,000 is considered the minimum (Option A). US\$ 50,000 (Option B) and US\$ 100,000 (Option C) allow for increased utilisation of required technologies. National training programs and capacity-building in areas such as taxonomy, population biology, ethnobotany, eco-regional and agro-ecological surveying should be supported for 20 countries (or two programs in 10 countries) annually (Option A). By increasing the supported training programs to 30 (Option B) or 35 (Option C) more participants can be trained or specific participants could be trained even twice in the 10 year period of the *Plan*. For developing better methodologies for the surveying and assessment of intra- and inter specific diversity in agro-ecological systems a fixed level of grants is calculated (US\$ 100,000). Option A recommends three research studies for the development for better methodologies, whereas Option B and C are recommending 4 and 7 advances respectively. Professional support to establish strong linkages with regional and crop networks and with the users of plant genetic resources in order to inform, direct and prioritise the entire conservation process are calculated on the basis of 10 advances for one expert for two weeks (Option A), 20 advances for Option B and 20 advances but with two experts for Option C. The administration costs of disbursing funds is reflected in the 7% overhead.

Activity 2: Supporting On-Farm Management and Improvement of Plant Genetic Resources for Food and Agriculture

The costs are based on a series of national and regional workshops and training programs, grants to communities, genebanks, and research institutes, and expenses for coordination activities on national and international level. The activity requires support for national and regional workshops to consider how policies as well as agricultural extension and research services might facilitate and encourage on-farm management and improvement of PGRFA and strengthen local level capacity, and for training programs for scientists, technical staff, extension workers, farmers and NGOs. Further support is needed for scientific studies in ethnobotanical and socio-economic research to understand and analyse farmer knowledge, selection/breeding, utilisation and maintenance of plant genetic resources, in population and conservation biology to understand the structure and dynamics of genetic diversity in local landraces/farmers' varieties, in crop improvement research, including research in mass selection and simple breeding as a means of increasing crop yields and reliability without significant losses of local biodiversity, research and extension studies for little known crops including seed production, marketing and distribution, studies for monitoring, evaluation, and improvement of on-farm efforts. The development of methodologies for recording and linking *in situ* farm and garden conservation with national and regional genebanks needs support as well. Assistance has to be provided for recording and linking *in situ* farm and garden conservation with national and regional genebanks and research institutes. Finally close coordination with NARS, IARC, and with NGOs and farmers organisations should be supported. The activity has been costed as follows:

	Option A: US\$ 7.46 million	Option B: US\$ 17.17 million	Option C: US\$ 36.97 million
national workshops:	8 programs for 5 days and 20 participants of \$30,300	10 programs for 5 days and 20 participants of \$30,300	20 programs for 5 days and 20 participants of \$30,300
support to communities:	100 grants of \$10,000	200 grants of \$10,000	500 grants of \$10,000
support for genebanks:	150 times of multiplication for one metric tone of seed of one crop variety sufficient for planting 20 ha each of \$900	500 times of multiplication for one metric tone of seed of one crop variety sufficient for planting 20 ha each of \$900	1200 times of multiplication for one metric tone of seed of one crop variety sufficient for planting 20 ha each of \$900
development of training programs:	2 programs of \$35,000	4 programs of \$35,000	6 programs of \$45,000
regional training for scientists:	5 programs for 7 days and 25 participants of \$52,980	8 programs for 7 days and 25 participants of \$52,980	10 programs for 14 days and 25 participants of \$85,460
regional training for technical staff:	5 programs for 7 days and 25 participants of \$52,980	8 programs for 7 days and 25 participants of \$52,980	10 programs for 14 days and 25 participants of \$85,460
regional training for extension workers & NGOs:	15 programs for 5 days and 20 participants of \$30,300	20 programs for 5 days and 20 participants of \$30,300	35 programs for 10 days and 20 participants of \$48,600
community training for farmers:	100 programs for 5 days and 20 participants of \$3,950	200 100 programs for 5 days and 20 participants of \$3,950	500 programs for 10 days and 20 participants of \$5,800
scientific studies ethno/socio:	5 grants of \$100,000	grants of \$200,000	10 grants of \$300,000
scientific studies pop/conservation:	5 grants of \$100,000	8 grants of \$200,000	10 grants of \$300,000
scientific studies crop improvement:	5 grants of \$100,000	8 grants of \$200,000	10 grants of \$300,000
scientific studies under-utilised crops:	5 grants of \$100,000	8 grants of \$200,000	10 grants of \$300,000
scientific studies monitoring & evaluation:	5 grants of \$100,000	8 grants of \$200,000	10 grants of \$300,000
development of methodologies for linking ex situ/in situ:	5 grants of \$75,000	8 grants of \$75,000	10 grants of \$75,000
assistance linking ex situ/in situ:	15 grants of \$20,000	25 grants of \$20,000	40 grants of \$20,000

	Option A: US\$ 7.46 million	Option B: US\$ 17.17 million	Option C: US\$ 36.97 million
coordination NARS, IARC, NGOs, farmers' administration:	40% of Capacity	40% of Capacity	40% of Capacity
coordination/administration costs:	7%	7%	7%

The rationale for this particular costing is as follows. The national workshops are calculated for 5 days and 20 participants. The minimum amount of workshops held annually should be 8 (Option A), whereby 10 (Option B) and 20 (Option C) would increase the amount of countries considering policy issues of on-farm management. Community-based institutions and user groups for on-farm conservation and improvement work are supported with small grants for initialising their work. 100 grants per year could be distributed in 10 countries to 10 communities each or in 20 countries to 5 communities each. Option B (with 200 grants) and Option C (with 500 grants) are stressing the importance of the support for the work of local communities. The support for national genebanks and institutes for identifying appropriate landraces/farmers' varieties for multiplication and developing new breeding populations incorporating specific characteristics into locally adapted materials for on-farm improvement is calculated with US\$ 900 for the identification and multiplication for one metric tonne of seed of one crop variety sufficient for planting 20 ha. Option A is calculating that 15 genebanks and institutes are supported to identify and multiply 10 crop varieties each (i.e., 150 advances together). Option B is supporting 25 genebanks and institutes with 20 crop varieties each (i.e., 500 advances together). Option C is calculating the support for 40 genebanks and institutes with 30 crop varieties each (i.e., 1,200 advances together). It is assumed that 2, 4, and 6 programs to develop training programs are sufficient, whereby Option C has a more intensified program with US\$ 45,000. For regional training programs for scientists and technical staff the normal amount for regional activities Option A (5 advances), Option B (8 advances), and Option C (10 advances) are calculated. Option A assumes a minimum of one training program in each main region per year. By subdividing the regions in 8 or even 10 subregions, the training programs can be more specific to the needs of the participants. Option C is not only increasing the advances of programs but also the intensity of the programs by prolonging the programs from 7 to 14 days. This also applies to the regional training programs for extension workers and NGOs and the community training programs (from 5 days to 10 days). For these programs two to three advances in each region per year is calculated (15, 20, and 35 advances for the three options respectively). The advances for training programs for farmers are following the same rationale as for the above mentioned community support. The number of grants for scientific studies (5, 8, and 10) and their amount (US\$ 100,000; 200,000; 300,000) reflect the different necessity of research to be undertaken in the field of on-farm management. Grants of US\$ 20,000 are calculated to provide assistance for recording and linking *in situ* farm and garden conservation with national and regional genebanks and research institutes. The different numbers of grants (15, 25, and 40) reflect the possibility to provide each country with one grant in the 10 year period of the *Plan* (Option A) up to two to three grants in the same time period (Option C). The support for close coordination with NARS, IARC, and with NGOs and farmers' organisations (i.e., infrastructure, equipment, travel etc.) and the cost by national programs of disbursing numerous small grants is calculated as 40% of the capacity costs, i.e. the total of the cost of workshops, grants and training programs, excluding scientific studies and development of methodologies. The administration costs of disbursing funds is reflected in the 7% overhead.

Activity 3: Assisting Farmers In Disaster Situations to Restore Agricultural Systems

The costs are based on a series of professional supports, grants to institutions and governments, and salaries and infrastructure for the coordination of this program. The activity requires professional support for establishing necessary policies at all levels, and for agreements with appropriate agencies, support for international coordination of efforts, support for duplication of PGRFA, support to undertake emergency collections of local varieties and to multiply and conserve them, support to develop a range of options for the rescue of *ex situ* collections, and support for the coordination of this program. Furthermore a multilateral trust fund to set in motion the multiplication of seed and initiation of other related activities to respond to emergencies has to be financed. The activity has been costed as follows:

	Option A: US\$ 5.59 million	Option B: US\$ 6.56 million	Option C: US\$ 8.71 million
professional support for policies:	15 times professional support for one week and one expert of \$6,115	20 times professional support for one week and one expert of \$6,115	25 times professional support for one week and one expert of \$6,115
grant for international coordination:	1 grant of \$100,000	1 grant of \$100,000	1 grant of \$100,000
duplication of PGR:	10 times duplicating 100 accessions of different crop varieties of \$2,000	15 times duplicating 200 accessions of different crop varieties of \$6,000	15 times duplicating 500 accessions of different crop varieties of \$30,000
support for emergency collections:	5 grants of \$28,000	8 grants of \$28,000	12 grants of \$41,000
support for multiplication:	2 times of multiplication for one metric tone of seed of four crop varieties sufficient for planting 20 ha each of \$3,600	4 times of multiplication for one metric tone of seed of eight crop varieties sufficient for planting 20 ha each of \$7,200	8 times of multiplication for one metric tone of seed of twelve crop varieties sufficient for planting 20 ha each of \$10,800
support to conserve collections:	2 grants of \$100,000	4 grants of \$100,000	8 grants of \$150,000
professional support to establish agreements:	5 times professional support for one week and one expert of \$6,115	8 times professional support for one week and one expert of \$6,115	12 times professional support for two weeks and one expert of \$9,230
multilateral trust fund:	with 2 new disasters per year, there will be an annual need for financial support of \$2,000 for each disaster	with 2 new disasters per year, there will be an annual need for financial support of \$2,000 for each disaster	with 2 new disasters per year, there will be an annual need for financial support of \$2,000 for each disaster
development of methodologies for review/options:	2 grants of \$75,000	5 grants of \$75,000	8 grants of \$75,000
coordination of program:	salaries and infrastructure (i.e., equipment, travel etc.) of \$518,000	salaries and infrastructure (i.e., equipment, travel etc.) of \$798,000	salaries and infrastructure (i.e., equipment, travel etc.) of \$1,008,000
coordination/administration costs:	7%	7%	7%

The rationale for this particular costing is as follows. The necessary policies at all levels which will allow unhindered implementation of seed security activities in response to calamities should be established in all countries in the 10 year period. So professional support should be at least to 15 countries per year (after 10 years it will be 150 countries), as Option A recommends. 20 (Option B) or even 25 (Option C) advances per year can enable the policies to be evaluated in the period. The global grant for international coordination of efforts is fixed at US\$ 100,000 for all three options. It is estimated that for 10 countries 100 varieties each are duplicated outside of the country with duplication costs of US\$ 2,000 for 100 accessions (Option A). Option B calculates that for 15 countries 200 varieties each have to be duplicated for US\$ 6,000 for 200 accessions. Option C recommends for 15 countries 500 varieties to be duplicated for US\$ 30,000. 5, 8, and 12 grants per year as support to undertake emergency collections of local varieties within the country reflect the different urgencies. The grants are calculated on the basis of collection missions of US\$ 27,800 (Option A and Option B) and US\$ 41,000 for Option C. The support to multiply emergency collections for immediate use is calculated on the basis of multiplying one metric tone of seed of one crop variety sufficient for planting 20 ha. Option A calculates that there will be twice 4 crop varieties, which will have to be multiplied giving US\$ 3,600. Option B assumes four times 8 crop varieties to be multiplied (giving US\$ 7,200), whereas Option C assumes eight times 12 crop varieties to be multiplied (giving US\$ 10,800). Grants of US\$ 100,000 to support the conservation of emergency collections in national and international ex situ collections for future use are given to two countries per year as a minimum (Option A), but to support 4 (Option B) or even 8 countries would be increasing the conservation activities of emergency collections, especially by increasing the grant to US\$ 150,000 (Option C). The advances of professional supports to establish agreements with appropriate agencies for rapid acquisition and multiplication of materials is related to the above calculated support for emergency collections (5, 8, and 12 advances), whereby Option C is increasing the time of

professional support from one to two weeks. The need for a multilateral trust fund to set in motion the multiplication of seed and initiation of other related activities to respond to emergencies is calculated on the basis of 2 new disasters per year. There will be an annual need for financial support for multiplication of seed and initiation of other related activities to respond to emergencies of US \$ 2,000 per disaster. The review of experiences and development of a range of options for rescue of ex situ collections and emergency seed collecting in the context of calamities should be supported by 2, 5, and 8 grants of US\$ 75,000 to concerned institutes respectively for options A, B and C. The coordination of this program will need as minimum salaries and infrastructural inputs of US\$ 518,000 (Option A). This includes salaries for one scientist, one computer expert, and one technician plus infrastructure like equipment, travel, etc. Option B has additionally a second scientist and a second technician (US\$ 798,000). Option C calculates a third scientist (US\$ 1,008,000). The administration costs of disbursing funds is reflected in the 7% overhead.

Activity 4: Promoting In situ Conservation of Crop Wild Relatives and Wild Plants for Food Production

The costs are based on grants to governments, local communities, and institutions responsible for the conservation and sustainable use of wild relatives of crop plants, as well as professional support on national level. The activity requires support for the establishment of national and local objectives for and advisory panels to guide management of protected areas. Further, support is needed for indigenous and local communities efforts to manage wild crop relatives and wild plants for food production in protected areas as well as support to review existing environmental impact statement requirement. Support is needed to encourage local communities to conserve and manage wild crop relatives and wild plants for food production, to develop a prioritised plan for those ecosystems in which high levels of diversity are found, to conduct national reviews of protected area systems. Furthermore there is need for support to assist local communities in their efforts to identify, catalogue and manage wild crop relatives and wild foods, to link protected area planning and management with institutions responsible for the conservation and sustainable use of wild relatives of crop plants and wild plants for food production, and to establish mechanisms for periodically reviewing and modifying conservation plans. The activity has been costed as follows:

	Option A: US\$ 5.33 million	Option B US\$ 7.93 million	Option C US\$ 14.62 million
support for protected area management:	8 grants of \$50,000	10 grants of \$50,000	15 grants of \$100,000
support for creation of advisory panels:	8 grants of \$50,000	8 grants of \$75,000	10 grants of \$75,000
professional support for communities efforts:	15 times professional support for two weeks and one expert of \$9,230	20 times professional support for two weeks and two experts of \$17,760	30 times professional support for two weeks and two experts of \$17,760
support for communities efforts:	15 grants of \$3,000	20 grants of \$10,000	30 grants of \$10,000
professional support for review on impact statement:	5 times professional support for one week and two experts of \$11,880	10 times professional support for three weeks and one expert of \$12,345	15 times professional support for two weeks and two experts of \$17,760
support to local communities:	40 grants of \$10,000	60 grants of \$10,000	100 grants of \$30,000
professional support to develop plan:	15 times professional support for one week and two experts of \$11,880	20 times professional support for one week and two experts of \$11,880	30 times professional support for one week and two experts of \$11,880
support to develop plan:	15 grants of \$50,000	20 grants of \$50,000	30 grants of \$50,000
professional support for national reviews/protected area systems:	20 times professional support for two weeks and two experts of \$17,760	25 times professional support for four weeks and one expert of \$16,350	25 times professional support for four weeks and two experts of \$31,200
training for local communities:	50 programs for 5 days and 20 participants of \$30,300	75 programs for 5 days and 20 participants of \$30,300	100 programs for 5 days and 20 participants of \$30,300
support for local communities:	50 grants of \$10,000	75 grants of \$10,000	100 grants of \$10,000

link protected area planning & managing with institutions	8 grants of \$10,000	12 grants of \$10,000	15 grants of \$15,000
establishment of mechanisms for reviewing and modifying	15 times professional support for one week and two experts of \$11,880	15 times professional support for two weeks and two experts of \$17,760	20 times professional support for three weeks and two experts of \$23,640
coordination/administration costs:	7%	7%	7%

The rationale for this particular costing is as follows. The establishment of national and local objectives for protected area management through broad based participation and debate can be realised with a minimum support of US\$ 50,000 for one country (Option A and B). Option C provides for grants of US\$ 100,000. The need for this action is in nearly all the countries, so with 8, 10, and 15 advances all countries could be captured in the 10 year period of the *Plan*. A similar case is the creation of advisory panels to guide the management of protected areas with 8, 8, and 10 advances and an increase of the grant from US\$ 50,000 (Option A) to US\$ 75,000 in the other options. Grants for meetings, services etc. to support indigenous and local communities efforts to manage wild crop relatives and wild plants for food production in protected areas correspond with professional support for communities efforts. It is calculated that communities in at least 15 countries should benefit from this support. Additional professional support is needed to review existing environmental impact statements to incorporate an assessment of the likely effect of the proposed activity on local biodiversity for food and agriculture. 5 reviews per year should be supported as minimum (Option A). A minimum of two grants per country (40 grants in Option A) to 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 should be feasible. Every country should receive a minimum of one professional support (of two experts for one week) and one related grant (of US\$ 50,000) to develop a prioritised plan particularly for those ecosystems in which high levels of diversity are found (Option A). More urgently needed in some countries is a professional support to conduct national reviews of protected area systems to identify those management practices needed to protect the desired level of genetic diversity. So with a minimum of 20 advances in Option A it is anticipated that some countries will receive the possibility of a second national review in the 10 year period. To support local communities a minimum of 50 training programs to assist their efforts to identify, catalogue and manage wild crop relatives and wild foods are recommended. Relating to these programs, a minimum of 50 grants in Option A should assist the communities in their efforts. It is assumed that a minimum of 8 countries should receive a grant (of US\$ 10,000) to link protected area planning and management with institutions responsible for the conservation and sustainable use of wild relatives of crop plants and wild plants for food production. Whereas professional support to establish mechanisms for periodically reviewing and modifying conservation plans should be given at least to 15 countries per year. The administration costs of disbursing funds is reflected in the 7% overhead.

Activity 5: Securing Existing Ex Situ Collections

The costs are based on professional support for governments and national institutions, training programs for appropriate personnel, and grants to governments and institutions involved in ex situ collections. The activity requires support for drafting a model legal agreement to allow countries to place collections voluntarily in secure facilities outside their country, for training programs for appropriate personnel for implementing and monitoring the policies and agreements. Support is also needed for national institutions to evaluate current genebank management practices and support for proper facilities, human resources and equipment for national programs. Expenses incurred by institutions providing designated storage and related conservation and research/documentation services have to be defrayed as well. Furthermore support is needed for the multiplication of inadequately duplicated materials, for the expansion of some existing storage facilities and the creation of new facilities, as well as for the development of improved conservation methods and rational, effective systems. The establishment of strong links with regional networks and international centres and the coordination within the country, between the national ex situ genebank, national crop working groups, and all users of PGRFA, the implementation of this activity, and the periodic administrative and technical reviews need support as well. The activity has been costed as follows:

	Option A: US\$ 29.74 million	Option B: US\$ 47.27 million	Option C: US\$ 73.53 million
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	Option A: US\$ 29.74 million	Option B: US\$ 47.27 million	Option C: US\$ 73.53 million
professional support for model legal agreement draft:	5 times professional support for one week and one expert of \$6,115	5 times professional support for one week and one expert of \$6,115	5 times professional support for one week and one expert of \$6,115
global coordinator (P 4):	one global coordinator for one year of \$15,000	one global coordinator for two years of \$30,000	one global coordinator for three years of \$45,000
training for personnel:	8 programs for 5 days and 20 participants of \$30,300	10 programs for 5 days and 20 participants of \$30,300	15 programs for 10 days and 20 participants of \$48,600
professional support for national institutions:	8 times professional support for two weeks and one expert of \$9,230	10 times professional support for two weeks and two experts of \$17,760	15 times professional support for three weeks and two experts of \$23,640
support for national programs:	8 grants of \$300,000	10 grants of \$300,000	12 grants of \$500,000
support for institutions providing services:	1 grant of \$20,000,000	1 grant of \$30,000,000	1 grant of \$40,000,000
annual duplication of 100000 accessions:	1 grant of \$2,000,000	1 grant of \$3,000,000	1 grant of \$6,000,000
expansion of storage facilities:	1 grant of \$660,000	3 grants of \$660,000	6 grants of \$660,000
creation of storage facilities:	1 grant of \$1,500,000	2 grants of \$1,500,000	3 grants of \$1,500,000
scientific studies on improved conservation/low-cost techniques:	1 grant of \$180,000	4 grants of \$250,000	10 grants of \$350,000
scientific studies on basis for rational, effective systems:	1 grant of \$100,000	3 grants of \$100,000	4 grants of \$200,000
links with regional networks & international centres:	8 grants of \$50,000	10 grants of \$100,000	15 grants of \$150,000
professional support for implementation of activity:	16 times professional support for one week and one expert of \$6,115	15 times professional support for two weeks and one expert of \$9,230	30 times professional support for two weeks and one expert of \$9,230
professional support for reviews:	15 times professional support for two weeks and one expert of \$9,230	15 times professional support for two weeks and two experts of \$17,760	20 times professional support for three weeks and two experts of \$23,640
coordination/administration costs:	7%	7%	7%

The rationale for this particular costing is as follows. Annually 5 trips of professional support are needed to draft a model legal agreement to allow countries to place collections voluntarily in secure facilities outside their country. This is assumed for all three options. A global coordinator is needed for the starting phase of this activity. The coordinator is calculated for one, two or three years (Option A to C respectively) with US\$ 150,000, but calculated over the 10 year period, i.e., the average annual costs are US\$ 15,000 for Option A, US\$ 30,000 for Option B, and US\$ 45,000 for Option C. The training programs for appropriate personnel and the professional support for national institutions are calculated on the basis of 8, 10, and 15 advances each year to cover all countries. Whereas the supporting grant for the national programs (of US\$ 300,000 for Option A and B) calculates for Option C a higher support (US\$ 500,000), but only covers 12 countries per year. The grant for institutions providing designated storage and related conservation, research, and documentation services is based on the assumption that there are to be conserved 1 million unique accessions (Option A), 1.5 million accessions (Option B), and 2 million unique accessions (Option C). Assuming that there have to be 100,000 accessions annually multiplied, because of the existence of inadequately duplicated material, the grant is calculated on multiplication costs of US\$ 20 (Option A), US\$ 30 (Option B), and US\$ 60 (Option C). The grants for expansion of some existing and the creation of new storage facilities are calculated on the basis that there will be one expansion and one creation of storage facilities per year for Option A, three expansions and two creations of storage facilities per year for Option B, and six expansions and three creations of storage facilities per year for Option C. The grants for the different scientific studies reflect the importance of the research. The advances and the amount of the grants to establish strong links

with regional networks and international centres and for coordination within the country, between the national ex situ genebank, national crop working groups, and all users of PGRFA have been increased from Option A to Option C. The professional support for the implementation of this activity correlates with this grant as well as the training programs and the support for national institutions. The administration costs of disbursing funds is reflected in the 7% overhead.

Activity 6: Regenerating Threatened Ex Situ Accessions

The costs are based on training programs and grants to national programs and international institutions, as well as research institutes. The activity requires support for proper facilities, human resources, appropriate technology, equipment, to train in the execution of the procedures of germplasm regeneration, as well as for developing general guidelines for regeneration, standards and specific technologies. Support is needed for research on developing scientific methodologies for identifying and prioritising choices of accessions to be regenerated, on improving conservation technologies in various fields, and on increasing the effectiveness and efficiency of regeneration efforts. Finally support has to be given for assembling and analysing data on existing accessions and to develop an operational plan for a coordinated, global regeneration effort and to coordinate and administer the implementation of this plan. The activity has been costed as follows:

	Option A: US\$ 4.81 million	Option B: US\$ 7.39 million	Option C: US\$ 12.41 million
proper facilities etc. to national programs & international institutions:	8 grants of \$100,000	10 grants of \$100,000	15 grants of \$100,000
training programs:	16 programs for 5 days and 10 participants of \$16,800	20 programs for 5 days and 10 participants of \$16,800	30 programs for 10 days and 20 participants of \$48,600
support for development of general guidelines:	1 grant of \$300,000	2 grants of \$300,000	3 grants of \$300,000
development of methodologies for choices of regeneration:	8 grants of \$75,000	10 grants of \$75,000	15 grants of \$75,000
scientific studies effectiveness & efficiency increase:	1 grant of \$100,000	5 grants of \$100,000	8 grants of \$200,000
assembling data:	5 grants of \$25,000	10 grants of \$25,000	15 grants of \$25,000
analysing data:	1 grant of \$200,000	1 grant of \$200,000	1 grant of \$200,000
development of operational plan:	1 grant of \$250,000	1 grant of \$500,000	1 grant of \$750,000
annual regeneration of accessions:	annual generation of 50,000 accessions of \$ 2,000,000	annual generation of 75,000 accessions of \$ 3,000,000	annual generation of 100,000 accessions of \$ 4,000,000
coordination/administration costs:	7%	7%	7%

The rationale for this particular costing is as follows. Grants of US \$ 100,000 to national programs and international institutions involved in regeneration activities can be seen as part of their over-all investment in proper facilities, human resources, appropriate technology, and equipment. 8 institutions per year should at least receive this grant (Option A), 10 (Option B) and 15 grants (Option C) distributed per year would increase the international assistance for improved facilities in those institutions. For each distributed grant there are two training programs envisaged to train staff members in the execution of the procedures of germplasm regeneration and in the unique regeneration requirements of specific species. Developing general guidelines for regeneration, standards and specific technologies should be done on international and national level, which are supported with grants of US \$ 300,000, whereby one up to three grants per year are recommended. For identifying and prioritising choices of accessions to be regenerated through national as well as global efforts, scientific methodologies have to be developed. The development of these methodologies are supported with US \$ 75,000 and it is calculated that between 8 grants (Option A) and 15 grants (Option C) will be distributed annually. To increase the effectiveness and efficiency of regeneration efforts, scientific studies, which are calculated with US \$ 100,000 (Option A and B) and US \$ 200,000 (Option C) are to be carried out. The minimum of one study per year is to be supported, but with increasing the amount of grants to 5 (Option B) and 8 (Option C), the available scientific knowledge would increase. It is calculated that 5, 10 or 15 grants of US \$ 25,000 are needed annually for assembling data on existing accessions in ex situ collections in order to assist in planning and implementation. One grant of US \$ 200,000 will cover the costs for analysing that data on an annual base. The development of an operational plan for a coordinated, global regeneration effort and to coordinate and administer the implementation of this plan will need between US \$ 250,000 (Option A) and US \$ 750,000 (Option C), depending on the intensity and effectiveness of the action. The annual regeneration is calculated on the base of US \$ 40 per each accession, whereby the amount of accessions needing regeneration is estimated to be 50,000 (Option A), 75,000 (Option B), and 100,000 (Option C). The administration costs of disbursing funds is reflected in the 7% overhead.

Activity 7: Supporting Planned and Targeted Collecting of Plant Genetic Resources for Food and Agriculture

The costs of this activity are low due to the overlap with other activities (e.g., Securing Existing ex situ Collections, Global Information System). The activity requires support for the development of collecting practices as well as for targeted collecting expeditions and training & capacity-building programs. The activity has been costed as follows:

	Option A: US\$ 1.0 million	Option B: US\$ 2.12 million	Option C: US\$ 3.21 million
professional support for development of collecting practices:	8 times professional support for two weeks and one expert of \$9,230	8 times professional support for two weeks and two experts of \$17,760	14 times professional support for two weeks and two experts of \$17,760
targeted collecting expeditions:	20 collecting expeditions with 2 persons and 20 days and equipment of \$27,800	30 collecting expeditions with 2 persons and 30 days and equipment of \$41,200	30 collecting expeditions with 2 persons and 30 days and equipment of \$51,200
training & capacity-building:	10 programs for 5 days and 20 participants of \$30,300	20 programs for 5 days and 20 participants of \$30,300	25 programs for 10 days and 20 participants of \$48,600
coordination/administration costs:	7%	7%	7%

The rationale for this particular costing is as follows. For the development of collecting practices with regard to the objectives and obligations set forth in the Convention on Biological Diversity, professional support is needed at least in 80 countries with endemic and valuable PGRFA. Therefore 8 advances annually with one expert for two weeks should be the minimum (Option A). Option B increases the support by calculating two experts for each of the 8 advances. If all relevant countries should have the chance to develop practices with international support, there is the need of 14 advances per year. Financial support is envisaged for a minimum of 20 targeted collecting expeditions (Option A) for well identified and pressing regional and global needs with 2 persons and 20 days and US \$ 5,000 equipment. To increase the amount of collected genetic resources it is recommended to support 30 collecting expeditions with 2 persons and 30 days and US \$ 10,000 equipment (Option B) or US \$ 20,000 (Option C). To cover at least 100 countries once in the 10 year period of the *Plan*, 10 training & capacity-building programs for 5 days and for 20 extension workers, farmers and others (US \$ 30,300) have to be envisaged (Option A). To increase the support to 20 (Option B) or 30 (Option C) programs would enable the countries to enforce 2 or 3 programs in 10 years. The administration costs of disbursing funds is reflected in the 7% overhead.

Activity 8: Expanding Ex Situ Conservation Activities

The costs are based on a series of grants to botanic gardens to strengthen the organisational structure, to improve existing human and technical resources as well as for the assessment of the state of conservation and future needs. The activity has been costed as follows:

	Option A: US\$ 5.33 million	Option B: US\$ 6.51 million	Option C: US\$ 19.28 million
strengthening of botanic gardens and field genebanks:	5 grants of \$90,000	10 grants of \$90,000	20 grants of \$90,000
support for simple, low-cost botanic gardens etc.:	50 grants of \$10,000	100 grants of \$10,000	150 grants of \$30,000
training for in vitro techniques:	16 programs for 5 days and 10 participants of \$16,800	20 programs for 10 days and 10 participants of \$26,600	30 programs for 10 days and 10 participants of \$26,600
establishment of capacity in in vitro:	8 grants of \$100,000	10 grants of \$100,000	15 grants of \$200,000
development of protocols for in vitro conservation:	2 grants of \$200,000	4 grants of \$350,000	10 grants of \$400,000

	Option A: US\$ 5.33 million	Option B: US\$ 6.51 million	Option C: US\$ 19.28 million
assessment of conservation needs:	2 grants of \$100,000	4 grants of \$200,000	10 grants of \$300,000
professional support for assessment of state of conservation:	16 times professional support for two weeks and one expert of \$9,230	20 times professional support for two weeks and one expert of \$9,230	30 times professional support for two weeks and two experts of \$17,760
national workshop:	8 programs for 5 days and 20 participants of \$30,300	10 programs for 5 days and 20 participants of \$30,300	15 programs for 5 days and 20 participants of \$30,300
coordination/administration costs:	7%	7%	7%

The rationale for this particular costing is as follows. Grants of US \$ 90,000, which is approximately 6% of running costs of botanic gardens are distributed to strengthen botanic gardens and field genebanks particularly in relation to their capacity to conserve species neglected by more agriculturally-related facilities. Option A proposes to distribute 5 grants annually, whereas Option B (10 grants) and Option C (20 grants) would facilitate the improvement of more botanic gardens. Grants to support simple, low-cost botanic gardens, arboreta and field genebanks associated with universities, schools and other institutions may be significant lower (US \$ 10,000 for Option A and B and US \$ 30,000 for Option C), but still will be effective promoting education and public awareness. Due to the large amount of low-cost botanic gardens it is recommended to utilise at least 50 grants a year (Option A), but 100 grants (Option B), or even 150 grants (Option C) are more desirable. Financial support has to include 16 training programs (for 5 days and 10 participants) for in vitro techniques and other new and appropriate technologies - at least once in the 10 year period for all relevant countries (Option A). 20 programs for an extended duration of 10 days and 10 participants (Option B) and 30 programs (Option C), could intensify the training. Grants of US \$ 100,000 (Option A and B) and US \$ 200,000 (Option C) to establish the capacity to use in vitro and other new and appropriate technologies are linked to the training programs. Therefore 8, 10, and 15 grants are calculated respectively. Two grants of US \$ 200,000 need to be distributed as the minimum each year (Option A) for the development of protocols for in vitro conservation and other conservation technologies for important vegetatively propagated and non-orthodox seeded plants. For a more fundamental support, higher grants of US \$ 350,000 (Option B) and US \$ 400,000 and more grants (4 and 10 respectively) are necessary. Furthermore grants for scientific studies of different levels of intensity (US \$ 100,000, 200,000, and 300,000 for Option A, B, and C) are distributed to assess the conservation needs of other species for food and agriculture which are not adequately conserved, including a survey of activities as a prerequisite for further planning and coordination of collecting and conservation. 2 grants annually should be the minimum, whereby 4 or 10 grants are enabling more comprehensive surveys. In close link to the training programs and the establishment of new conservation technologies, professional support has to be given for regularly assessment of the state of conservation of vegetatively propagated and non-orthodox seeded plants. Consequently, 16, 20 or 30 assessments are planned, whereby Option C is calculated for two experts to intensify the work. The assessments of the state of conservation of two expert groups will be discussed on relating national workshops for 5 days and 20 participants, so there is the need to support 8, 10 or 15 workshops. The administration costs of disbursing funds is reflected in the 7% overhead.

Activity 9: Expanding the Characterisation, Evaluation and Number of Core Collections to Facilitate Use

The costs are based on a series of grants to institutions involved in characterising, evaluating PGRFA and which are involved in the development and utilisation of core collections. Furthermore countries are supported for implementing various training programs and developing new methodologies concerning the work with core collections as well as for cooperation and exchange of information.

	Option A: US\$ 9.38 million	Option B: US\$ 16.42 million	Option C: US\$ 31.38 million
assessment of progress in evaluation:	8 grants of \$20,000	15 grants of \$20,000	15 grants of \$50,000
development of core collections:	8 grants of \$603,050	10 grants of \$603,050	15 grants of \$603,050
characterise & evaluation program:	8 grants of \$75,000	12 grants of \$100,000	20 grants of \$100,000
characterisation & evaluation specific stresses:	8 grants of \$75,000	10 grants of \$75,000	15 grants of \$75,000
training characterisation & evaluation technique:	8 programs for 5 days and 20 participants of \$30,300	10 programs for 5 days and 20 participants of \$30,300	15 programs for 10 days and 20 participants of \$48,600
training for farmers:	100 programs for 5 days and 20 participants of \$3,950	200 programs for 5 days and 20 participants of \$3,950	500 programs for 5 days and 20 participants of \$3,950
multiplication of core collections:	multiplication of 50,000 accessions of \$1,000,000	multiplication of 100,000 accessions of \$2,000,000	multiplication of 150,000 accessions of \$4,500,000
development methods of characterisation:	1 grant of \$180,000	5 grants of \$250,000	10 grants of \$350,000
development diverse stratification procedures:	1 grant of \$100,000	5 grant of \$100,000	10 grant of \$100,000
development methods for validating core collection selections:	1 grant of \$100,000	5 grant of \$100,000	10 grant of \$100,000
development methods linking core collection to the main collection:	1 grant of \$100,000	5 grant of \$100,000	10 grant of \$100,000
development methods of using including targeted trait detection:	1 grant of \$100,000	5 grant of \$100,000	10 grant of \$100,000
international symposium (1 in 2 years):	0.5 program for 7 days and 70 participants of \$ 336,000	0.5 program for 7 days and 70 participants of \$336,000	0.5 program for 7 days and 70 participants of \$336,000
cooperation. & exchange of information:	8 grants of \$20,000	10 grants of \$50,000	15 grants of \$100,000
professional support for assessment of use of core collections:	8 times professional support for one week and one expert of \$6,115	10 times professional support for two weeks and one expert of \$9,230	15 times professional support for two weeks and one expert of \$9,230
coordination/administratio n costs:	7%	7%	7%

The rationale for this particular costing is as follows. For Option A there is a group of tasks, which are supported with 8 grants annually, reflecting the usual minimum of targeting 80 countries in the 10 year period (in Option B with 10 or 12, in Option C with 15 and 20, according the higher priority, additionally increasing the amount of the grants, where necessary). These are grants to periodically assess the progress in evaluation (of US \$ 20,000), grants to develop core collections of crops (of US \$ 603,050), grants to support characterisation and evaluation programs for selected priority germplasm and for specific stresses (of US \$ 75,000 each), grants for training programs (for 5 days and 20 participants) to train in germplasm characterisation and evaluation techniques, grants to support the cooperation and exchange of information, especially by developing country genebanks (of US \$ 20,000), and the professional support for periodic assessment (for one week and one expert) of the use of core collections to guide future work and assist in setting priorities. Further grants are calculated for the development of various methodologies (germplasm characterisation, diversity stratification procedures, validating core collection selections, linking core collection to the main collection, improved methods of using PGRFA, and grants for professional support to periodic assess the use of core collections). The grants for all these tasks, one per year (for Option B 5, and for Option C 10 grants per year are calculated) are estimated to be US \$ 100,000, only the development of improved methods of germplasm characterisation using biochemical and molecular biological

methods are calculated with US \$ 180,000, the professional support (for one week and one expert), and the support for cooperation and exchange of information (US \$ 20,000). Additionally there are 100 training programs for 5 days and 20 farmers participating in on-farm evaluation programs (for Option B 200, and for Option C 500 programs are calculated). The support for an biannually held international symposium of germplasm experts to discuss many technical issues involved in developing and using core collections and to stimulate activity in this area is calculated for all three options for 7 days and 70 participants (of US \$ 336,000 if calculated on annual basis). Finally the multiplication of core collection germplasm is calculated for 50,000 accessions (for Option B and C 100,000 and 150,000 accessions respectively) with the multiplication costs of US \$ 20 per accession (for Option A and B, and US \$ 30 for Option C). The administration costs of disbursing funds is reflected in the 7% overhead.

Activity 10: Increasing Genetic Enhancement and Base-Broadening Efforts

The costs are based on grants to support the relevant organisations to carry out pre-breeding and genetic enhancement projects. Additionally the activity requires support for the development of methodologies for genetic enhancement and for workshops.

	Option A: US\$ 21.24 million	Option B: US\$ 30.74 million	Option C: US\$ 51.19 million
supports to pre-breeding and genetic enhancement projects:	63 grants of \$300,000	90 grants of \$300,000	150 grants of \$300,000
development of methodologies for genetic enhancement:	8 grants of \$100,000	15 grants of \$100,000	25 grants of \$100,000
workshops:	4 programs for 5 days and 20 participants of \$30,300	6 programs for 5 days and 20 participants of \$30,300	9 programs for 5 days and 20 participants of \$30,300
additional support for communication:	4 grants of \$9,700	6 grants of \$9,700	9 grants of \$9,700
coordination/administration costs:	7%	7%	7%

The rationale for this particular costing is as follows. The financial support to relevant organisations to carry out pre-breeding and genetic enhancement projects is based on grants of US \$ 300,000, whereby 63 genetic enhancement programs are receiving funds annually in Option A (90 and 150 programs in Option B and C respectively). Grants of US \$ 100,000 are calculated to develop methodologies for genetic enhancement. Due to the importance of base-broadening efforts and linked to the number of genetic enhancement programs, 8 (Option A), 15 (Option B) or 25 grants (Option C) are issued annually. Workshops (for 5 days and 20 participants) and additional grants are to be incorporated to support communication. For Option A 4 workshops and 4 grants (of US \$ 9,700), for Option B and C 6 and 9 workshops and grants are envisaged. The administration costs of disbursing funds is reflected in the 7% overhead.

Activity 11: Promoting Sustainable Agriculture through Diversification of Crop Production and Broader Diversity in Crops

The costs are based on a series of grants to governments to carry out meetings for monitoring and assessing genetic uniformity and vulnerability and workshops to review policies as well as to increase the capacity to use integrated pest management strategies and to make use of decentralised and 'participatory' plant breeding strategies to develop plant varieties. Further grants for research institutes are needed to develop and use multilane, mixtures and synthetic varieties, to identify those activities used in plant breeding, plant research and farming systems that foster on-farm diversity, and to develop better tools and methodologies for genetic vulnerability assessment. The activity requires professional support for monitoring and assessing genetic uniformity and vulnerability and reviewing policies. Further on financial support is needed for the evaluation of the state of diversity.

	Option A: US\$ 5.27 million	Option B: US\$ 9.03 million	Option C: US\$ 18.51 million
professional support for monitoring and assessment:	8 times professional support for one week and one expert of \$6,115	10 times professional support for one week and one expert of \$6,115	15 times professional support for one week and one expert of \$6,115
meetings, services for monitoring & assessment:	8 grants of \$10,000	10 grants of \$10,000	15 grants of \$10,000
professional support for review policies:	8 times professional support for one week and one expert of \$6,115	10 times professional support for one week and one expert of \$6,115	15 times professional support for two weeks and two experts of \$17,760
additional workshop:	8 programs for 5 days and 20 participants of \$30,300	10 programs for 5 days and 20 participants of \$30,300	15 programs for 5 days and 20 participants of \$30,300
development & use of multilines etc.:	8 grants of \$100,000	15 grants of \$100,000	25 grants of \$200,000
increasing capacity IPM:	8 grants of \$120,000	15 grants of \$120,000	15 grants of \$180,000
decentralised and 'participatory' plant breeding strategies:	8 grants of \$120,000	15 grants of \$120,000	15 grants of \$180,000
research studies foster on-farm diversity:	5 grants of \$250,000	5 grants of \$350,000	10 grants of \$350,000
development of tools & methodologies for assessment of genetic vulnerability:	3 grants of \$100,000	6 grants of \$100,000	15 grants of \$100,000
evaluation of state of diversity:	biannual grant of \$500,000	biannual grant of \$1,000,000	biannual grant of \$2,000,000
coordination/administration costs:	7%	7%	7%

The rationale for this particular costing is as follows. The underlying assumption is that for the 10 year period at least 80 countries are benefiting of the support given. Therefore 8 grants are provided in Option A on an annual basis. For the other options 10 and 15 grants are calculated, and some grants are higher as well. Professional support is needed to regularly monitor and assess genetic uniformity and vulnerability in crops as well as to review policies which may affect the level of diversity in agricultural systems. Option A and B are calculating professional support for one week and one expert and additional workshops for 5 days and 20 participants, whereas Option C is increasing the professional support for the polices review by two experts. Grants of US \$ 10,000 are provided for meetings and services for monitoring and assessment of genetic uniformity and vulnerability in crops. Grants of US \$ 100,000 are used to support the development and use of multilines, mixtures and synthetic varieties and of US \$ 120,000 to increase capacity to use integrated pest management strategies as well as to use decentralised and 'participatory' plant breeding strategies to develop plant varieties (US \$ 200,00 and 180,000 each in Option C). Research studies are needed in this activity to identify those strategies used in plant breeding, plant research and farming systems that foster on-farm diversity (in each of the 5 regions a minimum of one for Option A and B and 10 for Option C), whereby the research level is increased from US \$ 250,000 (Option A) to US \$ 350,000 (Option B and C). The development of better tools and methodologies for assessing genetic vulnerability is supported with grants of US \$ 100,000, and an annual minimum of 3 grants (Option A), 6 grants (Option B) and 15 (Option C). Finally a biannual grant of US \$ 500,000 (Option A), US \$ 1,000,000 (Option B), and US \$ 2,000,000 (Option C) is provided on global level for the evaluation of the global state of PGRFA diversity. The administration costs of disbursing funds is reflected in the 7% overhead.

Activity 12: Promoting Development and Commercialisation of Under-utilised Crops and Species

The costs are based on financial support for training programs and capacity building for scientists and extension specialists and farmers and local communities as well as the development of management practices for under-utilised species and post-harvest processing and other methods to improve marketing possibilities. Professional support needs to be provided to regularly review the status of under-utilised species in the regions assisting the network based reviews, which are to be supported as well.

	Option A: US\$2.09 million	Option B: US\$ 4.68 million	Option C: US\$ 9.18 million
training & capacity building for scientists, extension specialists:	10 programs for 5 days and 20 participants of \$30,300	20 programs for 5 days and 20 participants of \$30,300	20 programs for 10 days and 20 participants of \$48,600
training & capacity building for farmers, local communities:	100 programs for 5 days and 50 participants of \$5,000	200 programs for 5 days and 50 participants of \$5,000	500 programs for 5 days and 50 participants of \$5,000
development of methodologies for management practices for under-utilised crops:	3 grants of \$100,000	8 grants of \$100,000	10 grants of \$100,000
development of methodologies for post-harvest processing:	3 grants of \$100,000	8 grants of \$100,000	10 grants of \$100,000
professional support to review status of under-utilised crops:	10 times professional support for two weeks and one expert of \$9,230	15 times professional support for four weeks and one expert of \$16,350	20 times professional support for four weeks and one expert of \$16,350
support to networks for review status of under-utilised crops:	10 grants of \$50,000	10 grants of \$100,000	15 grants of \$200,000
coordination/administration costs:	7%	7%	7%

The rationale for this particular costing is as follows. Training programs and capacity building for scientists and extension specialists have to be carried out at least in most relevant countries once in the 10 year period. Therefore 10 programs (20 programs in Option B and C) for 5 days and 20 participants (Option A and B and for 10 days in Option C) are supported annually. For each national program for scientists and extension specialists there are 10 training programs and capacity building for 50 participants from farmers and local communities for 5 days envisaged (100 in Option A and 200 in Option B). In Option C 500 programs are recommended to increase the extension work. The development of sustainable management practices for under-utilised species and post-harvest processing and other methods to improve marketing possibilities are supported with grants of US \$ 100,000 each, whereby 3 grants are sufficient for a minimum support on international level (Option A), but Option B with 8 and Option C with 10 grants could accelerate the knowledge increase and therefore appropriate strategies for sustainable management practices and improved marketing possibilities. The regular review of the status of under-utilised species in each region has to be financial supported for the networks by 10 grants of US \$ 50,000 annually (Option A and B of US \$ 100,000) and by 15 grants of US \$ 200,000 for Option C. Additionally professional support of 10 times for two weeks and one expert (Option A), or for four weeks and one expert 15 times (Option B) and of 20 times (Option C) has to be provided.

Activity 13: Supporting Seed Production and Distribution

The costs are based on grants and financial support for policies development, legislative measures, and promotion of seed quality control schemes as well as for the promotion of and incentives for small-scale seed enterprises. Furthermore financial support is provided for the monitoring and assessment of incentives and needs, as well as for the national capacity for farmers to acquire appropriate seed. Grants are distributed to support farmers' organisations in order that they can more effectively express demand for their seed requirements and training

programs for farmers in seed technology are supported. Finally grants are provided to support the development of approaches to support small-scale, farmer-level seed distribution.

	Option A: US\$ 5.64 million	Option B: US\$ 8.03 million	Option C: US\$ 14.47 million
development of policies seed production & distribution:	8 grants of \$60,000	10 grants of \$60,000	15 grants of \$60,000
promotion of small-scale seed enterprises:	8 grants of \$60,000	10 grants of \$60,000	15 grants of \$60,000
promotion of seed quality control schemes:	8 grants of \$50,000	10 grants of \$50,000	15 grants of \$100,000
professional support for legislative measures:	8 times professional support for two weeks and one expert of \$9,230	10 times professional support for two weeks and two experts of \$17,760	15 times professional support for three weeks and two experts of \$23,640
incentives for seed enterprises:	8 grants of \$300,000	10 grants of \$300,000	15 grants of \$300,000
support for farmers' organisations:	50 grants of \$10,000	100 grants of \$10,000	250 grants of \$10,000
training for farmers in seed technologies:	50 programs for 5 days and 20 participants of \$3,950	100 programs for 5 days and 20 participants of \$3,950	250 programs for 5 days and 20 participants of \$3,950
professional support for assessment of incentives/disincentives and needs:	15 times professional support for four weeks and one expert of \$16,350	20 times professional support for four weeks and one expert of \$16,350	30 times professional support for four weeks and one expert of \$16,350
development of approaches to support small-scale, farmer-level seed distribution	5 grants of \$75,000	10 grants of \$75,000	15 grants of \$75,000
professional support for monitoring & assessment of national capacity	8 times professional support for one week and one expert of \$6,115	10 times professional support for one week and one expert of \$6,115	15 times professional support for two weeks and one expert of \$9,230
support for monitoring & assessment of national capacity	8 grants of \$10,000	10 grants of \$10,000	15 grants of \$10,000
coordination/administration costs:	7%	7%	7%

The rationale for this particular costing is as follows. The distribution of grants and financial support for policies development, legislative measures, and promotion of seed quality control schemes as well as for the promotion of and incentives for small-scale seed enterprises as well as for monitoring and assessing national capacities follows the over-all framework of providing at least 80 countries with support in the 10 year period, i.e., calculating 8 grants per year (Option A), and increasing this level to either 150 countries in the period or to have the possibility to provide support twice for specific countries. Grants of US \$ 60,000 are distributed for the development of appropriate policies concerning governmental, commercial and informal enterprises in seed production and seed distribution as well as for providing, and promoting as appropriate, an enabling environment for the development of small-scale seed enterprises, including through appropriate incentives. Grants (of US \$ 50,000 for Option A and B and US \$ 100,000 for Option C) to promote seed quality control schemes appropriate to small scale enterprises are recommended as well as grants of US \$ 300,000 to provide appropriate incentives, credit schemes, etc., to facilitate the emergence of seed enterprises. Professional support to consider legislative measures which allow distribution and commercialisation of landraces/farmers' varieties and obsolete varieties is calculated for two weeks and one expert for Option A and is intensified for Option B (two experts) and even more for Option C (for three weeks and two experts) characterising the importance and difficulties to be solved of this activity. To support and strengthen farmers' organisations in order that they can more effectively express demand for their seed requirements as well as implementing training programs for farmers in seed technology, in order to improve the physical and genetic quality of farmer-saved seed it is calculated that as minimum the support should reach 6 farmers' organisation and 6 training programs should be offered for each of the 8 countries (Option A). To increase farmers' participation,

Option B recommends to implement in each of the 10 countries (15 countries for Option C) 10 training programs and 10 organisations should benefit from the offered grants (16 for Option C). To assess incentives or disincentives and needs for support to small-scale, farmer-level seed distribution efforts, using appropriate participatory techniques, professional support is needed and should be carried out at least twice in the 10 year period, i.e., 15 times (Option A) for four weeks and one expert, 20 times (Option B) or 30 times (Option C). The development of approaches to support small-scale, farmer-level seed distribution is supported with 5 grants of US \$ 75,000 in Option A (10 in Option B and 15 in Option C). To monitor and assess the national capacity for farmers to acquire appropriate seed professional support for one week and one expert (Option A and B, and two weeks and one expert in Option C) and grants of US \$ 10,000 are recommended. The administration costs of disbursing funds is reflected in the 7% overhead.

Activity 14: Developing New Markets for Local Varieties and "Diversity-Rich" Products

The costs are based on grants for studies and assessments to identify process and categories of activities which have significant adverse impacts on the conservation and sustainable use of biodiversity and monitor their effects on crop diversification and to promote public awareness in various media and through appropriate mechanisms. Additional professional support is needed to develop policies to ensure incentives for crop diversification and the creation of markets for biodiverse food crops.

	Option A: US\$ 1.98 million	Option B: US\$ 2.54 million	Option C: US\$ 6.38 million
professional support to develop policies:	20 times professional support for three weeks and one expert of \$12,345	30 times professional support for three weeks and one expert of \$12,345	30 times professional support for three weeks and two experts of \$23,640
studies & assessment of identification of activities:	16 grants of \$50,000	20 grants of \$50,000	30 grants of \$75,000
promotion of public awareness:	16 grants of \$50,000	20 grants of \$50,000	30 grants of \$100,000
coordination/administration costs:	7%	7%	7%

The rationale for this particular costing is as follows. Professional support to develop policies in extension, training, pricing, input distribution, credit and taxation to ensure incentives for crop diversification and the creation of markets for biodiverse food crops are recommended. In Option A, 20 assignments for three weeks and one expert are calculated to enable at least 100 countries two times the professional support concerning their policies. In Option B and C 150 countries will have the opportunity of policies development, and in Option C the professional support is intensified by two expert. Grants of US \$ 50,000 (US \$ 75,000 and 100,000 for Option C) are to be provided on the one side for studies and assessments to identify process and categories of activities which have or are likely to have significant adverse impacts on the conservation and sustainable use of biodiversity and monitor their effects on crop diversification and on the other side to promote public awareness in various media and through appropriate mechanisms. For all three options each country is benefiting of two grants in the 10 year period, therefore Option A is calculated with 16 grants annually, whereas 20 grants (Option B) and 30 grants (Option C) are recommended for the more intensive development of new markets. The administration costs of disbursing funds is reflected in the 7% overhead.

Activity 15: Building Strong National Programs

The costs are based on a series of professional support to national programs to assess needs, to establish quarantine and other regulations, to monitor the development of new technologies, for national planning, for information on policy, legal and institutional issues, and for review of policies. Furthermore grants are provided to governments for national coordination and link to regional and international activities, for the establishment of National Programs, and for research studies on National Programs.

	Option A: US\$ 5.63 million	Option B: US\$ 12.85 million	Option C: US\$ 29.93 million
professional support for assessment of national conservation and development needs:	8 times professional support for four weeks and two experts of \$31,200	10 times professional support for four weeks and two experts of \$31,200	15 times professional support for four weeks and two experts of \$31,200
professional support for monitoring development of new technologies:	8 times professional support for four weeks and one expert of \$16,350	10 times professional support for four weeks and two experts of \$31,200	15 times professional support for four weeks and two experts of \$31,200
professional support for establishment of quarantine and other regulations:	8 times professional support for two weeks and one expert of \$9,230	10 times professional support for two weeks and one expert of \$9,230	15 times professional support for two weeks and two experts of \$17,760
national coordination & link to regional and international activities:	8 grants of \$25,000	10 grants of \$40,000	15 grants of \$60,000
professional support for national planning & priority setting:	8 times professional support for four weeks and one expert of \$16,350	10 times professional support for four weeks and one expert of \$16,350	15 times professional support for four weeks and two experts of \$31,200
regional training programs:	8 programs for 10 days and 50 participants of \$114,600	10 programs for 10 days and 50 participants of \$114,600	15 programs for 10 days and 50 participants of \$114,600
establishment of National Programs:	8 grants of \$300,000	10 grants of \$600,000	15 grants of \$1,000,000
research studies on National Programs:	10 grants of \$100,000	16 grants of \$200,000	40 grants of \$200,000
professional support for information on policy, legal and institutional issues & assessment on impact of international developments:	8 times professional support for three weeks and one expert of \$12,345	10 times professional support for three weeks and two experts of \$23,640	15 times professional support for four weeks and two experts of \$31,200
professional support for review of policies:	8 times professional support for two weeks and one expert of \$9,230	10 times professional support for two weeks and two experts of \$17,760	15 times professional support for two weeks and two experts of \$17,760
coordination/administration costs:	7%	7%	7%

The rationale for this particular costing is as follows. Providing professional support and grants for establishing and improving national programs follows the normal calculation that a minimum of 80 countries should be benefiting in the 10 year period, therefore 8 countries should receive financial support annually. Option B calculates 10 countries and Option C 15 countries per year. Professional support is needed to foster national programs in various different ways. To develop the capability to assess and determine the PGRFA required to meet national conservation and development needs and related international obligations and supporting policies professional support is calculated for four weeks and two experts. For monitoring the development of new technologies relevant to the conservation, characterisation and sustainable utilisation of PGRFA professional support for four weeks and one expert is recommended for Option A, whereas Options B and C increase the monitoring process by providing a second expert. Additional professional support for two weeks and one expert (Option A and B, Option C is calculated with two experts) is needed for the establishment of quarantine and other regulations regarding the import and export of plant genetic materials. Financial support of US \$ 25,000 (Option A), US \$ 40,000 (Option B), and US \$ 60,000 (Option C) to national programs is recommended to encourage or provide for coordination amongst all relevant institutions and organisations in the country and link national work to regional and international activities. Professional support for four weeks and one expert (Option A and B, Option C for two experts) are provided to assist upon request to facilitate regular national planning and priority setting and management practices. Grants of US \$ 300,000 (Option A), 600,000 (Option B), and 1,000,000 (Option C) will support the establishment of National Programs, National Committees and Planning. Furthermore regional training programs are to be held for 10 days and 50 participants for all three options to foster the establishment and management of national programs. Professional support to provide national programs with information on policy,

legal and institutional issues and to assess the impact of international developments on conservation and exchange of PGR are planned (for Option A three weeks and one expert are envisaged, for Option B two experts and for Option C four weeks and two experts are calculated). The review of policies to evaluate their effectiveness will be provided by one expert for two weeks (Option A) and two experts for two weeks (Option B and C). Finally grants of US \$ 100,000 (Option A), US \$ 200,00 (Option B and C) are provided for the research on missions and management of national PGRFA programs. Due to high priority, Option A will provide 10 grants a year, Option B 16 and Option C 40. The administration costs of disbursing funds is reflected in the 7% overhead.

Activity 16: Promoting Networks for Plant Genetic Resources for Food and Agriculture

The 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	Option B: US\$ 11.24 million	Option C: US\$ 15.25 million
regional networks:	15 grants of \$50,000	15 grants of \$100,000	15 grants of \$150,000
global crop networks:	10 grants of \$100,000	15 grants of \$100,000	20 grants of \$100,000
regional crop-based networks:	100 grants of \$55,000	150 grants of \$55,000	200 grants of \$55,000
coordination/administration costs:	7%	7%	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 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.

Activity 17: Constructing Comprehensive Information Systems for Plant Genetic Resources for Food and Agriculture

The costs are based on financial supports on genebank, regional and global level as well as on national level to promote a global information system. Furthermore professional support is provided for planning assistance to national programs, for assembling existing data and information, for global and regional assessment to promote cost efficiency and effectiveness. Grants are proposed for training programs and development of appropriate self-teaching manuals and for the development of appropriate and low-cost methodologies and technologies in various areas.

	Option A: US\$ 8.46 million	Option B: US\$ 12.60 million	Option C: US\$ 21.83 million
support on genebank level:	15 grants of \$100,000	20 grants of \$100,000	30 grants of \$100,000
support on regional level:	5 times salaries of \$173,000	8 times salaries of \$173,000	12 times salaries of \$173,000
support on regional level:	5 times infrastructural support of \$69,200	8 times infrastructural support of \$69,200	12 times infrastructural support of \$69,200
support on global level:	salaries of \$400,000	salaries of \$450,000	salaries of \$700,000
support on global level:	infrastructural support of \$160,000	infrastructural support of \$180,000	infrastructural support of \$280,000
professional support for development of strategies for information management:	25 times professional support for four weeks and one expert of \$16,350	25 times professional support for six weeks and one expert of \$21,690	25 times professional support for six weeks and two experts of \$41,280
professional support for assembling data and information:	16 times professional support for one week and one expert of \$6,115	20 times professional support for one week and one expert of \$6,115	30 times professional support for two weeks and one expert of \$9,230
support for countries:	16 grants of \$55,000	20 grants of \$80,000	30 grants of \$120,000
support for access to information:	16 grants of \$25,000	20 grants of \$25,000	30 grants of \$25,000
training in data management & electronic communications:	24 programs for 10 days and 10 participants of \$26,600	30 programs for 10 days and 10 participants of \$26,600	45 programs for 10 days and 10 participants of \$26,600
development of self-teaching manuals:	10 grants of \$30,000	15 grants of \$30,000	20 grants of \$50,000
national training for genebanks:	24 programs for 10 days and 10 participants of \$26,600	30 programs for 10 days and 10 participants of \$26,600	45 programs for 10 days and 10 participants of \$26,600
development of methodologies & techn. compilation and exchange of data:	1 grant of \$100,000	3 grants of \$100,000	6 grants of \$100,000
development of methodologies for adoption at local level:	10 grants of \$50,000	15 grants of \$50,000	30 grants of \$50,000
development of means for easy access and use of data:	2 grants of \$50,000	4 grants of \$100,000	6 grants of \$100,000
development of methodologies for information easily available to non-specialists:	10 grants of \$50,000	15 grants of \$50,000	30 grants of \$50,000
professional support for global and regional assessment:	8 times professional support for two weeks and one expert of \$9,230	12 times professional support for two weeks and two experts of \$17,760	12 times professional support for three weeks and two experts of \$23,640
coordination/administration costs:	7%	7%	7%

The rationale for this particular costing is as follows. The financial support on genebank level is limited to grants of US \$ 100,000 for all three options, providing 150 genebanks a support in the 10 year period in Option A, 200 genebanks in Option B and 300 genebanks in Option C. On regional level the financial support is following the rational of providing 5 regions (Option A) the financial means to employ one documentation officer (US \$ 150,000), one technician (US \$ 15,000), one secretary (US \$ 8,000) and additional financial resources for infrastructure and travel costs of US \$ 69,200. For all three options the supported staff is kept constant, but the numbers of supported regions is increased (Option B: 8, Option C: 12). On global level there is support for one documentation officer (US \$ 150,000), and computer expert (US \$ 150,000) one technician (US \$ 50,000), one secretary or assistance (US \$ 50,000) and additional financial resources for infrastructure and travel costs of US \$ 160,000. Option B is calculating two technicians and US \$ 180,000 additional financial resources. Option C increases the staff significantly by financing two documentation officers, three technicians, two secretary and additional financial resources for infrastructure and travel costs of US \$ 280,000. Professional support for planning assistance to national programs to encourage the development of rational and compatible strategies for information

management is suggested 25 times a year for all three options, whereby the support is for four weeks and one expert (Option A), for six weeks and one expert (Option B), and for six weeks and two experts (Option C). Professional and financial support for assembling data and information has to be made possible twice for all involved countries, therefore Option A will provide 16 times professional support for one week and one expert and the same number of grants of US \$ 55,000 for data and information collection, in Option B 20 countries and in Option C (for two weeks and one expert) 30 countries will receive professional support and grants of US \$ 80,000 (Option B) and US \$ 120,000 (Option C) annually. For the national program of those countries a grant of US \$ 25,000 is provided to support access to basic scientific, research, and bibliographic information. 24 training programs for 10 days and 10 participants are envisaged to train in data management and electronic communications for Option A, whereby the training programs are closely linked to those countries, which are provided with support in data and information collection and some additional programs, where necessary. Therefore in Option B 30 and in Option C 45 programs are envisaged. Closely linked to these programs are training programs for genebanks to improve management of data and information. Therefore the same amount of programs for 10 days and 10 participants are implemented in the three different options. Besides training programs, grants are distributed for the development of appropriate self-teaching manuals. It is estimated that at least 10 or 15 grants (Option A and B respectively) of US \$ 30,000 and 20 grants of US \$ 50,000 (Option C) are provided. For the development of appropriate and low-cost methodologies and technologies for compilation and exchange of data grants of US \$ 100,000 are provided, in Option A one grant per year, in Option B 3 and in Option C 6. Furthermore grants of US \$ 50,000 are needed for the development of methods for adapting these technologies at the local level as well as for the development of methodologies to make useful information easily available to non-specialists, including NGOs, farmers' and indigenous organisations. For Option A 10 grants each are recommended, for Option B 15 and for Option C 30 grants are needed to adapt information technologies and increase the availability on local level. 2 grants of US \$ 50,000 are provided annually to develop means to facilitate easy access and use of data by electronic means and through Internet for Option A, and Option B will provide 4 grants (Option C 6 grants) of US \$ 100,000. After all, professional support is needed for global and regional assessment, oversight, planning, and coordination to promote cost efficiency and effectiveness for constructing and running the global information system. The administration costs of disbursing funds is reflected in the 7% overhead.

Activity 18: Developing Monitoring and Early Warning Systems for Loss of Plant Genetic Resources for Food and Agriculture

The costs are based on grants for governments to periodically review and report on the situation of PGRFA and for research institutes to determine the underlying causes and dynamics of genetic erosion and for research studies on the remote sensing technologies. Support is provided for training programs for national program personnel and for allied workers at more local levels as well as for an international meeting, involving technical experts, representatives of national programs, and various organisations. Finally professional support is provided to evaluate the FAO World Information and Early Warning System.

	Option A: US\$1.86 million	Option B: US\$ 3.32 million	Option C: US\$ 5.80 million
review & report on PGRFA:	10 grants of \$20,000	15 grants of \$20,000	30 grants of \$20,000
training for national program personnel:	10 programs for 10 days and 20 participants of \$48,600	20 programs for 10 days and 20 participants of \$48,600	35 programs for 10 days and 20 participants of \$48,600
training for workers at local levels:	30 programs for 5 days and 20 participants of \$30,300	50 programs for 5 days and 20 participants of \$30,300	120 programs for 5 days and 20 participants of \$30,300
professional support for evaluation purpose and value of WIEWS:	1 time professional support for eight weeks and three experts of \$78,160	1 time professional support for eight weeks and three experts of \$78,160	1 time professional support for eight weeks and three experts of \$78,160
research studies on genetic erosion:	5 grants of \$100,000	5 grants of \$200,000	5 grants of \$300,000

	Option A: US\$1.86 million	Option B: US\$ 3.32 million	Option C: US\$ 5.80 million
international meeting early warning system:	biannual programs for 5 days and 25 international participants of \$106,200	biannual programs for 7 days and 25 international participants of \$115,480	biannual programs for 10 days and 25 international participants of \$129,400
research studies remote sensing technologies:	3 grants of \$100,000	5 grants of \$100,000	5 grants of \$200,000
coordination/administration costs:	7%	7%	7%

The rationale for this particular costing is as follows. Grants of US \$ 20,000 are provided for governments to periodically review and report on the situation of plant genetic resources for food and agriculture. Unlike the normal procedure, it is recommended that not only 80, but 100 countries should be supported as minimum in the 10 years period, underlining the importance of this task. Therefore 10, 15, and 30 grants are distributed annually. To intensify the development of a monitoring and early warning system, training is essential. 10 training programs for 10 days and 20 participants from national programs for training in methods of gathering and interpreting information on PGRFA and the various threats to these resources are calculated for Option A. Additionally, for allied workers at more local levels 30 programs for 5 days and 20 participants are envisaged, i.e., in each national program, which is supported, 3 training programs on more local level are implemented for Option A. Option B and C are intensifying the attempt to build up human resources by offering 20 (35 in Option C) programs on national level and 50 (120 in Option C) on more local level. This is not only increasing the amount of national programs, which are supported, but as well the ratio between the support of one national program and various more local programs. Besides of training there is a need for research to determine the underlying causes and dynamics of genetic erosion as well as research studies on remote sensing technologies, which are supported by providing different grants to research institutes. 5 grants of US \$ 100,000 are provided for studies on genetic erosion in Option A. Option B and C are increasing the research intensity by increasing the grants to US \$ 200,000 and US \$ 300,000 for Option B and C respectively. For the research studies on remote sensing technologies, Option A and B are providing grants of US \$ 100,000 (3 in Option A and 5 in Option B), and Option C 5 grants of US \$ 200,000. To develop further the mechanisms and modalities of an early warning system a biannual meeting, involving technical experts, representatives of national programs, UNEP, UNDR0, the CGIAR, NGOs, and the private sector is considered. In Option A, the program is outlined for 5 days and 25 international participants, in Option B for 7 days, and for Option C for 10 days . Finally, professional support for eight weeks and three experts will be provided to evaluate purpose and value of the FAO World Information and Early Warning System, which is a necessity in all three options. The administration costs of disbursing funds is reflected in the 7% overhead.

Activity 19: Expanding and Improving Education and training

The costs are based on a series of grants to countries for providing training and advanced educational opportunities, to maintain existing institutions and to link their training with on-going research, as well as for the enhancement of technology transfer expertise. Further support as grants is given to students to complete degree programs, for the implementation of various training courses, and for the development of training materials and courses. Additional professional support is financed to coordinate training at the global level and to develop advanced programs in cooperation with relevant institutions.

	Option A: US\$ 16.62 million	Option B: US\$ 30.61 million	Option C: US\$ 63.31 million
training for staff:	50 grants of \$30,000	100 grants of \$30,000	200 grants of \$60,000
development of institutions in each region:	15 grants of \$300,000	15 grants of \$400,000	15 grants of \$600,000
support to developing institutions for advanced education:	12 grants of \$15,000	15 grants of \$25,000	19 grants of \$50,000
support to students:	16 grants of \$20,000	48 grants of \$20,000	160 grants of \$20,000
support for existing institutions:	3 grants of \$100,000	3 grants of \$200,000	4 grants of \$200,000
professional support for development of short specialised training courses:	10 times professional support for six weeks and one expert of \$21,690	15 times professional support for six weeks and one expert of \$21,690	18 times professional support for eight weeks and one expert of \$27,920
short specialised regional training courses I:	15 programs for 60 days and 25 participants of \$298,900	30 programs for 60 days and 25 participants of \$298,900	45 programs for 60 days and 25 participants of \$298,900
short specialised regional training courses II:	15 programs for 14 days and 25 participants of \$85,460	30 programs for 14 days and 25 participants of \$85,460	45 programs for 14 days and 25 participants of \$85,460
enhancement of technology transfer expertise:	15 grants of \$100,000	20 grants of \$130,000	30 grants of \$160,000
on-site training for rural women:	100 programs for 5 days and 20 participants of \$30,300	200 programs for 5 days and 20 participants of \$30,300	500 programs for 10 days and 20 participants of \$48,600
development of training materials:	10 grants of \$30,000	10 grants of \$50,000	10 grants of \$75,000
professional support for global coordination of training:	10 times professional support for one week and one expert of \$6,115	15 times professional support for one week and one expert of \$6,115	18 times professional support for two weeks and one expert of \$9,230
link training with on-going research:	8 grants of \$30,000	24 grants of \$60,000	75 grants of \$80,000
development of training courses:	5 grants of \$35,000	8 grants of \$35,000	12 grants of \$45,000
professional support for development of programs:	10 times professional support for two weeks and one expert of \$9,230	15 times professional support for two weeks and one expert of \$9,230	18 times professional support for two weeks and two experts of \$17,760
coordination/administration costs:	7%	7%	7%

The rationale for this particular costing is as follows. 50 grants of US \$ 30,000 are provided to different countries annually for supporting training and advanced educational opportunities for existing staff. The number of grants are calculated in a way so that every second year every country will benefit from the support. Option B enables 100 countries annually to receive a grant of US \$ 30,000 and in Option C 100 countries will be supported twice a year with a grant of US \$ 60,000. To support development of institutions in each region, 15 grants are provided according to the number of existing regions: in Option A grants of US \$ 300,000 (US \$ 400,000 and 600,000 for Option B and C respectively) are calculated. Further support is for different short specialised regional training courses (for 60 days and 25 participants or for 14 days and 25 participants) held for each region in different areas. In Option A one specialised regional training courses each is held annually, therefore 15 grants are distributed (in Option B two programs each and in Option C three programs each are calculated annually). Linked to the implementation of these courses, professional support is needed to develop these courses. It is assumed that 10 (for Option B 15) times professional support for six weeks and one expert is needed (for Option C 18 times professional support for 8 weeks and one expert). Additional support for on-site training programs especially for rural women is provided to implement 100 programs (200 in Option B) for 5 days and 20 participants in Option A and 500 programs for 10 days and 20 participants in Option C. 12 grants annually of US \$ 15,000 (Option B: US \$ 25,00 and Option C: US \$ 50,000) are calculated in Option A to support institutions in each region, which are capable of providing advanced education in plant genetic resources. The calculation assumes to support 120 institutions in 80 countries in the 10 year period for Option A. In Option B 150 institutes (190 institutes for Option C) are supported in that period. For the development of training materials at the global level, 10 grants of US \$ 30,000 (Option A),

50,000 (Option B), and 75,000 (Option C) are provided as well as for the development of training courses, 5 grants (Option A and 8 grants in Option B) of US \$ 35,000 are calculated. Option C will provide 12 grants of US \$ 45,000. To coordinate training at the global level, professional support is needed: Option A calculates 10 times (Option B 15 times) professional support for one week and one expert, whereas Option C envisages 18 times professional support for two weeks and one expert. Corresponding to the global coordination, there is a need to develop advanced programs in cooperation with relevant regional academic consortia or associations. Consequently, 10 times (15 times in Option B) professional support is recommended for two weeks and one expert in Option A and 18 times for two weeks and two experts (Option C). Additional grants for institutions to link training with on-going research is envisaged. At least one institution has to be supported annually in every of the usual 8 countries in Option A with a grant of US \$ 30,000. For increasing this linkage, 24 grants of US \$ 60,000, (Option B) or even better 75 grants of US \$ 80,000 (Option C) are recommended. To support students to complete degree programs, grants of US \$ 20,000 are supplied to 16 students annually (Option A), 48 (Option B), and 160 (Option C). Besides supporting students, existing institutions in developed countries need support. Therefore 3 grants are provided in Option A (of US \$ 100,000) and Option B (of US \$ 200,000), and 4 grants of US \$ 200,000 are provided in Option C. Financial support to countries will be granted for enhancement of technology transfer expertise related to the conservation, characterisation and sustainable utilisation of plant genetic resources for food and agriculture. At least 15 countries will be supported with a grant of US \$ 100,000 (Option A), Option B recommends 20 grants of US \$ 130,000, and Option C 30 grants of US \$ 160,000. The administration costs of disbursing funds is reflected in the 7% overhead.

Activity 20: Promoting Public Awareness of the Value of Plant Genetic Resources for Food and Agriculture Conservation and Use

The costs are based on a series of grants to governments for the production of public awareness materials, on-going awareness programs, and for promoting-programs in schools and in specialised agricultural research institutions. Further costs are based on grants for research studies about the use of new information technologies and information needs as well as to facilitate and expand work and to generate public awareness tools and technologies. Additionally, the activity requires support to identify objectives and strategies for public awareness .

	Option A: US\$4.49 million	Option B: US\$ 7.55 million	Option C: US\$11.37 million
professional support for identification of objectives and strategies for public awareness:	15 times professional support for two weeks and one expert of \$9,230	20 times professional support for two weeks and one expert of \$9,230	20 times professional support for two weeks and two experts of \$17,760
production of public awareness materials:	15 grants of 50,000	30 grants of 50,000	45 grants of 50,000
support for awareness programs:	48 grants of 10,000	60 grants of 10,000	90 grants of 10,000
generating public awareness tools and technologies:	8 grants of 100,000	10 grants of 200,000	15 grants of 200,000
promoting-programs in schools, agricultural research institutions:	16 grants of 100,000	20 grants of 100,000	30 grants of 100,000
research studies on new information technologies:	1 grant of 100,000	2 grants of 100,000	3 grants of 100,000
research into information needs:	5 grants of 10,000	10 grants of 10,000	12 grants of 10,000
support for work:	6 grants of \$50,000	10 grants of \$50,000	10 grants of \$75,000
coordination/administration costs:	7%	7%	7%

The rationale for this particular costing is as follows. Calculating that at least once in the 10 year period every country should identify objectives and strategies for public awareness, defining target audiences, partners and tools for public outreach, 15 times (20 times in Option B) professional support is needed for two weeks and one expert (Option A). To reach an optimal intensity, 20 times professional support for two weeks and two experts (Option C) should be provided annually, enabling twice a survey in each relevant country. To produce public awareness materials in appropriate languages to facilitate broad use within countries, it is calculated that approximately all of the relevant 80 countries in Option A will receive a supporting grant of US \$ 50,000 twice in 10 years, therefore 15 grants are distributed annually. For Option B and C 30 and 45 grants are recommended to improve the amount and quality of material. Small grants of US \$ 10,000 are provided for on-going awareness programs for the different options (48 grants for Option A, 60 grants for Option B, and 90 grants for Option C). For generating public awareness tools and technologies at the international level for use on national level, grants are supplied to fulfil the minimum requirements that at least 80 countries are provided with public awareness tools and technologies, i.e., 8 grants of US \$ 100,000 in Option A, 10 grants in Option B and 15 grants in Option C of US \$ 200,000. Close linked to these grants are other grants for promoting programs in schools at all levels, as well as in specialised agricultural research institutions. For each of the above mentioned grants 2 additional grants of US \$ 100,000 are provided. Consequently, Option A is recommending 16, Option B 20, and Option C 30 grants. Grants of US \$ 100,000 are supplied to one, two or three research institutes for studies about the use of new information technologies to meet public awareness. Additional small research grants of US \$ 10,000 are distributed to survey the existing information needs (5, 10, and 12 grants for Option A, B, and C respectively). Additional grants of US \$ 50,000 for Option A and B (and US \$ 75,000 in Option C) to facilitate and expand public awareness work will be provided where necessary (Option A with 6 grants and Option B and C with 10). The administration costs of disbursing funds is reflected in the 7% overhead.