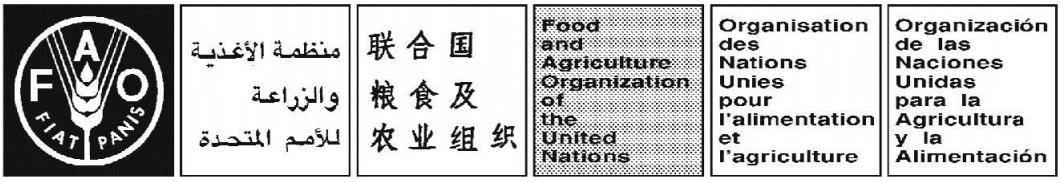

Item 4.2 of the Draft Provisional Agenda

COMMISSION ON GENETIC RESOURCES FOR FOOD AND AGRICULTURE

Ninth Session

Rome, 14 – 18 October 2002

INDICATORS AND REPORTING FORMAT FOR MONITORING THE IMPLEMENTATION OF THE *GLOBAL PLAN OF ACTION FOR THE CONSERVATION AND SUSTAINABLE UTILIZATION OF PLANT GENETIC RESOURCES FOR FOOD AND AGRICULTURE*

CONTENTS

		Para.
1.	Introduction	1– 5
Annex 1:	Indicators and related questions for monitoring and implementation of the *Global Plan of Action for the Conservation and Sustainable Utilization of Plant Genetic Resources for Food and Agriculture* (PGRFA)	
Annex 2:	Draft reporting format for monitoring the implementation of the *Global Plan of Action for the Conservation and Sustainable Utilization of Plant Genetic Resources for Food and Agriculture* (PGRFA)	
Annex 3:	Common tables used throughout the draft reporting format for monitoring the implementation of the *Global Plan of Action for the Conservation and Sustainable Utilization of Plant Genetic Resources for Food and Agriculture* (PGRFA)	

September 3, 2003

INDICATORS AND REPORTING FORMAT FOR MONITORING THE IMPLEMENTATION OF THE *GLOBAL PLAN OF ACTION FOR THE CONSERVATION AND SUSTAINABLE UTILIZATION OF PLANT GENETIC RESOURCES FOR FOOD AND AGRICULTURE*

1. INTRODUCTION

1. This document provides the detailed information and draft reporting format for monitoring the implementation of the *Global Plan of Action for the Conservation and Sustainable Utilization of Plant Genetic Resources for Food and Agriculture*, mentioned in paragraphs 5, 18, 20, 22, 26, 28 and 34 of document CGRFA-9/02/7.

2. In line with the recommendations of the Working Group on Plant Genetic Resources for Food and Agriculture at its first session in July 2001, FAO and IPGRI convened an expert consultation in February 2002, to develop a list of core and complementary indicators, and a reporting format for monitoring the implementation of the *Plan*.

3. The present document consolidates the output of four task forces organized during the consultation, which focused on priority activity areas of the *Plan* related to *in situ* conservation and development; *ex situ* conservation; utilization of plant genetic resources; and institutions and capacity-building.

4. This document includes:

i. A list of 83 core and 68 complementary indicators for monitoring the implementation of the 20 priority activity areas of the *Global Plan of Action*, as well as of 118 core and 23 complementary questions, related to these indicators (Annex 1);

ii. A draft reporting format, which, for each of the questions in Annex 1, (i) describes the structure of a table for collecting the information requested, and (ii) indicates whether the question should be answered by the National Focal Point or individually by relevant stakeholders in the country, (Annex 2); and

iii. A list of nine common tables referred to throughout the reporting format (Annex 3).

5. The reporting format, and the questionnaire it contains, have been designed to facilitate computer processing and analysis of the data and the use of individual items of information for multiple purposes. As mentioned in document GCRFA-9/02/7, data recording by National Focal Points and stakeholders is possible, through an electronic reporting format based on that shown in Annex 2.

Annex 1 – Indicators and Related Questions

In Annex 1 the indicators and questions are displayed into two separate tables for each priority activity area of the *Global Plan of Action for the Conservation and Sustainable Utilization of Plant Genetic Resources for Food and Agriculture*.

The indicator table should be read as follows:

- The left column contains the unique identifier (ID) for each indicator.
- The middle column contains the indicator itself. Core indicators are written in boldface, with the word 'core' in parenthesis after the text. State and response indicators are indicated by 'S' or 'R', respectively, in brackets after the text.
- The right column contains the identifier(s) of the related question(s). Should a related question be recorded under a priority activity area of the *Plan* other than the current one, the question identifier is followed by the priority area number within brackets.

The question table should be read as follows:

- The left column contains the unique identifier (ID) for each question.
- The middle column contains the question itself
- The right column contains the identifier(s) of the related indicators. Core indicator identifiers are typed in boldface. Should the question be linked to an indicator recorded under a priority activity area other than the current area, the indicator identifier is followed by the priority area number within brackets.

Area 1 - Surveying and Inventorying Plant Genetic Resources for Food and Agriculture

ID	INDICATORS	QUESTIONS
47	**Surveys/inventories of plant genetic resources for food and agriculture and associated indigenous knowledge carried out (core)** [S]	1, 2, 16
48	**Threatened inter- and intra-specific diversity relevant to food and agriculture identified (core)** [S]	1
49	Assessment of training needs and availability of appropriate courses [S]	1, 4, 6
50	State of technology to be applied to surveying and inventorying [S]	1
102	**Priority areas for in situ conservation identified (core)** [R]	1
103	Training and capacity building in taxonomy, population biology, ethnobotany, and eco-regional or agro-ecological surveying carried out [R]	6
104	Surveying/inventorying activities integrated within the national strategy and policy on PGRFA conservation and use [R]	11
105	Adoption and institutionalization of appropriate methods including documentation of indigenous knowledge for surveying and inventorying intra- and inter-specific diversity in agro-ecological systems [R]	1, 6
106	Geographical information Systems (GIS) to support genetic resources surveys used [R]	1
216	**Priority areas for surveying and inventorying identified (core)** [R]	3

ID	QUESTIONS	INDICATORS
1	Enter in the table below any PGRFA survey and inventory conducted by your organization, including references, area(s) covered and its(their) conservation priority ranking, surveying method(s) used, threatened species/ ecotypes/ populations identified, main cause of threat and major findings.	**47**, **48**, 49, 50, **102**, 105, 106, **170**[12]
2	Rate the adequacy of your efforts to survey and inventory PGRFA in the country.	**47**
3	List in the table below any area that have priority for surveying and inventorying of PGRFA, their priority rank and indicate the major threats in each priority area.	**216**
4	Were training needs in surveying and inventorying of PGRFA in the country assessed?	49
6	Enter in the table below any training course on PGRFA surveying and inventorying received by the staff of your organization, the topics covered and the number of persons trained.	49, 103, 105, **210**[19], **211**[19]
11	Were the survey and inventorying activities included in the National Environmental Action Plan (NEAP) or in the national biodiversity action plan?	104
16	Indicate the greatest constraints to surveying and inventorying of PGRFA in the country.	**47**

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

ID	INDICATORS	QUESTIONS
51	**Projects assessing farmer knowledge, landraces inventory, evaluation, breeding, utilization and management of PGRFA covering relevant agro-ecological zones (core)** [S]	18, 19
52	**Institutional (formal) links to farming system (core)** [S]	18, 20
53	Socio-economic and environmental assessment of on-farm management and development of PGRFA [S]	19
107	**Economic incentives and policy instruments to support farmers' utilization of diversity in place (core)** [R]	20, 21
108	**Pilot in situ sites established in areas of high diversity and risk (core)** [R]	19
109	**Integration of ethno-botanical and socio-economic aspects into institutional research programme (core)** [R]	19, 21
110	Recognized national/regional forums for stakeholders involved in in situ conservation [R]	26
111	Support given to community-based institutions for on farm management [R]	19, 21
112	Encouragement of indigenous seed supply, exchanges, seed fairs [R]	21
113	Participatory plant breeding and participatory variety selection programmes/projects/activities in place with inclusion of local varieties [R]	19, 21
114	Training provided to facilitate, improve and catalyze on-farm management and development of PGRFA [R]	31
217	Limitations to on-farm management [S]	38

ID	QUESTIONS	INDICATORS
18	Indicate the extent that on-farm management of PGRFA has been addressed within the country.	**51**, **52**
19	Enter in the table below any project/programme/activity addressing on-farm management and improvement of PGRFA in which your organization participates, listing local farmer communities and number of farmers involved.	**51**, 53, 77[10], **108**, **109**, 111, 113
20	Check any of the following incentives used to promote on-farm management of PGRFA in the country.	**52**, **107**
21	Indicate in the table below the type and frequency of activities carried out in the country to promote on-farm management and improvement of PGRFA.	**107**, **109**, 111, 112, 113
26	Enter in the table below any national/regional forum for stakeholders involved in on-farm conservation recognized by the National Programme.	110
31	Enter in the table below any training course on on-farm management received by the staff of your organization and the number of persons trained.	114, **210**[19], **211**[19]
38	Indicate the major limitations to on-farm management and improvement of PGRFA in the country.	217

Area 3 - Assisting Farmers in Disaster Situations to Restore Agricultural Systems

ID	INDICATORS	QUESTIONS
54	Local seed supply systems documented [S]	44
55	Agricultural components of National Disaster Response plans verified [S]	40
115	**Adequate information systems (including indigenous knowledge) for tracking appropriate germplasm for reintroduction available (core)** [R]	42, 43
116	**Mechanisms and funding arrangements for rapid multiplication and distribution of reintroduced PGRFA (also including farmers) in place (core)** [R]	40, 41, 42, 43, 44, 45, 47, 49
117	**Ex situ duplicates of local PGRFA identified (core)** [R]	42, 45
118	**Strategies in place to strengthen local/interlocal seed systems (core)** [R]	40, 44, 45
119	Community genebanks established/strengthened [R]	45
120	Agreements in place for rapid acquisition of PGRFA from international, national, regional sources [R]	40, 43, 47
121	Assessment carried out of post-disaster restoration experiences [R]	48

ID	QUESTIONS	INDICATORS
40	Enter in the table below any national plan in place to assist farmers to recover and preserve PGRFA following disasters.	55, **116**, **118**, 120
41	If the country has reintroduced any germplasm following a disaster, enter in the table below the name of the area affected, the distaster date and type, reintroduction date, the name of the taxon and cultivar reintroduced and the source of the germplasm.	**116**
42	Enter in the table below any information system available to identify appropriate germplasm for reintroduction following disasters.	**115**, **116**, **117**
43	Is there any mechanism available within the country to facilitate rapid acquisition, multiplication, distribution and cultivation of reintroduced germplasm?	**115**, **116**, 120
44	Is the information on the local seed supply system adequate to identify and facilitate germplasm reintroduction following disasters?	54, **116**, **118**
45	Enter in the table below any community genebanks established and strengthened to facilitate reintroduction of germplasm following disasters.	**116**, **117**, **118**, 119
47	Are there agreements in place for rapid acquisition of PGRFA from international, national and regional sources following disaster?	**116**, 120
48	Enter in the table below any assessment made of post-disaster restoration experiences.	121
49	Indicate the greatest constraint to restoration of locally adapted germplasm following disasters in the country.	**116**
240	Enter in the table below any training course on restoration of agricultural systems following disasters received by the staff of your organization and the number of persons trained.	**210**[19], **211**[19]

Area 4 - Promoting In Situ Conservation of Wild Crop Relatives and Wild Plants for Food Production

ID	INDICATORS	QUESTIONS
56	**Wild crop relatives and wild plants for food and agriculture identified and documented (core)** [S]	52
57	Existence of policies and regulations regarding protected areas [S]	60, 61, 65
58	Protected areas identified, planned, established and closed [S]	53
122	**Programmes and activities developed for conservation of wild crop relatives and wild plants for food and agriculture (core)** [R]	51, 52, 53
123	**Programmes in place to support community-based management of wild crop relatives and wild plants for food and agriculture in non-protected areas (core)** [R]	51, 52
124	Listing of activities carried out to raise awareness of value of WFP and WCR in food security and breeding [R]	62, 63
125	Staff trained in protected areas management [R]	63
126	Implementation of programs to restore degraded habitats of WFP and WCR [R]	52, 55

ID	QUESTIONS	INDICATORS
51	Describe the current status in your country of conservation of wild crop relatives and wild plants relevant to food production.	**122**, **123**
52	Enter in the table below any programme/project/activity on in situ conservation of wild crop relatives and wild plants for food production in which your organization participates, the area covered, taxa identified and the criteria used for their identification.	**56**, **122**, **123**, 126, **170**[12]
53	Enter in the table below any programme/project/activity related to protected areas in which your organization participates, the name of the areas, references, the current status and health condition of the area.	58, **122**
55	Enter in the table below any programme/project/activity relating to restoration of degraded habitats of wild crop relatives and wild food crops in which your organization participates, the area covered, references, status and health condition of the area.	126
60	In many countries, environmental impact assessments (EIAs) must be done before activities resulting in land-use changes are approved. To what extent do EIAs in the country incorporate the likely effect of land-use decisions on wild crop relatives?	57
61	Does national policy support the conservation of wild crop relatives?	57
62	List any programme/project/activity carried out to raise public awareness of the value of WCR and WPF in food security and plant breeding.	124
63	Enter in the table below any training course on in situ conservation of wild crop relatives or wild food plants received by the staff of your organization and the number of persons trained.	124, 125, **210**[19], **211**[19]
65	Describe any existing or proposed national policy or regulatory changes that might impact conservation of wild crop relatives and wild food plants.	57

Area 5 - Sustaining Existing Ex Situ Collections

ID	INDICATORS	QUESTIONS
127	**Capacity building in genebank management and information systems carried out (core)** [R]	67, 82, 243, 269
128	**Budget and other resources available for ex situ conservation of PGRFA (core)** [R]	67, 269
129	**Species and number of accessions preserved ex situ: medium term and long term (core)** [R]	239
130	Maintaining back-up or duplicates of ex situ collections and the basic data within and/or outside country [R]	68, 77
131	**Information management and dissemination systems in place and functioning (core)** [R]	203[17], 241, 243
132	Monitoring genetic integrity of accessions preserved ex situ [R]	242
133	**Identifying and mitigating major constraints to ex situ conservation of PGRFA (core)** [R]	68, 79, 80, 242, 248[6], 260[0]

ID	QUESTIONS	INDICATORS
67	Enter in the table below any programme/project/activity relating to sustaining ex situ collections presently carried out with the participation of your organization.	**127**, **128**, 141[7]
68	Enter (update) in the table below for each ex situ collection, held by your organization, and for each taxon or crop, sample status, geographic origin, number of accessions stored in the collection, number of accessions safely duplicated in other genebanks and the name of the genebank(s) holding such duplications.	83[12], 130, **133**, **142**[7]
77	Enter in the table below any cooperation arrangement established through regional crop networks or international organizations to conserve accessions from your collections.	130
79	Describe recent major constraints to implementing ex situ conservation activities.	**133**
80	Describe recent major achievements in implementing ex situ conservation activities.	**133**
82	Enter in the table below training courses on sustaining ex situ collections received by the staff of your organization and the number of persons trained.	**127**, **210**[19], **211**[19]
239	Enter (update) in the table below for each ex situ collection, held by your organization, and for each taxon or crop, the number of accessions stored under the specified storage conditions.	**129**, **134**[6], **147**[8], 150[8], **170**[12]
241	Enter in the table below any publication related to ex situ collections, held by your organization, and indicate the media used and the type of information covered.	**131**

242	Enter in the table below for each ex situ collection, held by your organization, frequency of monitoring viability, genetic integrity and stock inventories.	132, **133**, **136**[6]
243	Enter in the table below any information system used by your organization to store, manage or analyze data on ex situ collections, held by your organization, indicating system characteristics and the number of accessions for which the system is currently holding data.	**127**, **131**
269	Enter (update) in the table below type and conditions of germplasm storage facilities in use at your organization.	**127**, **128**

Area 6 - Regenerating Threatened Ex Situ Accessions

ID	INDICATORS	QUESTIONS
134	**Regeneration plan for priority species and accessions developed and implemented (core)** [R]	239[5], 245, 247
135	**Training and research to improve effectiveness and efficiency of regeneration carried out (core)** [R]	86, 96, 248
136	**Assessing viability and sample quantity of accessions in ex situ collections (core)** [R]	242[5]
137	Identifying and mitigating major causes of loss of viability and genetic integrity [R]	248
138	Species and number of accessions regenerated according to established standards [R]	245
139	Assessment of genetic change within accessions during regeneration [R]	248

ID	QUESTIONS	INDICATORS
86	Enter in the table below training courses on regeneration of ex situ accessions received by the staff of your organization and the number of persons trained.	**135**, **210**[19], **211**[19]
96	Enter in the table below any recently published regeneration guidelines that your organization has found useful in undertaking regeneration activities.	**135**
245	Enter in the table below for each ex situ collection, held by your organization, and for each taxon or crop, project names, priority status, number of accessions requiring regeneration, number of accessions already regenerated according to established standards and estimate the year when all regeneration will be completed.	**134**, 138
247	If your organization has the capacity to perform regenerations according to established standards, estimate current trends in capability for self-pollinated, cross-pollinated and vegetatively propagated crops, and the current capability to perform regenerations for other organizations.	**134**
248	Enter in the table below for each collection, taxon or crop, any reference to research conducted by your organization on genetic change or loss of genetic integrity during regeneration and indicate causing factors identified.	**133**[5], **135**, 137, 139

Area 7 - Supporting Planned and Targeted Collecting of Plant Genetic Resources for Food and Agriculture

ID	INDICATORS	QUESTIONS
140	**Training and research in technologies and methods required for identifying gaps in germplasm collecting carried out (core)** [R]	99, 100
141	Budget and other resources available for exploration and collection of PGRFA [R]	67[5]
142	**Identification of gaps in existing ex situ collections (core)** [R]	68[5], 244
143	Provisions in place for collection of rare and endangered species for ex situ conservation [R]	104
144	**Species and number of accessions collected during planned and targeted collecting missions (core)** [R]	98
145	Species and number of accessions from planned and targeted collecting missions placed in conservation for the long term [R]	98

ID	QUESTIONS	INDICATORS
98	Enter in the table below any collecting mission carried out by your organization, providing details of the geographical area where the mission took place, taxon or crop and number of accessions collected, and number of collected accessions for which long-term conservation has been secured.	**144**, 145, **170**[12]
99	Enter in the table below any training course on collecting plant genetic resources received by the staff of your organization and the number of persons trained.	**140**, **210**[19], **211**[19]
100	Enter in the table below any reference to results from research conducted by your organization on identifying gaps in existing collections with targeted and prioritized collecting.	**140**
104	Are there provisions in place for collection of rare and endangered species for ex situ conservation?	143
244	Describe the gaps found in collection(s) held by your organization and the methods used to identify them.	**142**

Area 8 - Expanding Ex Situ Conservation Activities

ID	INDICATORS	QUESTIONS
146	Training organized in innovative management strategies and/or methodologies for ex situ conservation of vegetatively propagated and recalcitrant seeded plants [R]	109
147	**Species and number of accessions preserved ex situ using complementary conservation methodologies (e.g. cryo and in vitro conservation, botanical gardens, arboreta and field gene banks) (core)** [R]	239[5]
148	**Established institutions and number of professionals involved in complementary ex situ conservation (e.g. cryo and in vitro conservation, botanical gardens, arboreta and field genebanks) (core)** [R]	105
149	Research and development of improved methodologies for complementary ex situ conservation conducted [R]	107, 108
150	Improvement of existing facilities to enhance complementary ex situ conservation [R]	239[5]
151	**Complementary ex situ conservation activities carried out in universities, schools, private sector, civil societies (core)** [R]	105

ID	QUESTIONS	INDICATORS
105	Enter in the table below complementary ex situ conservation activities (botanical gardens, arboreta, in vitro conservation, field genebanks, cryopreservation, DNA banks, etc.) carried out by your organization, indicating the conservation method used and the number of professionals currently involved.	**148**, **151**, **170**[12]
107	Describe any improved methodology for ex situ conservation of vegetatively propagated and recalcitrant seeded plants, as well as for species neglected in current conservation activities that have been developed by your organization.	149
108	Enter in the table below any publication made available by your organization on innovative management strategies and/or improved methodologies for ex situ conservation of plant genetic resources, including vegetatively propagated and recalcitrant seeded plants, as well as for species neglected in current conservation activities.	149
109	Enter in the table below any training course on expanding ex situ conservation activities received by the staff of your organization and the number of persons trained.	146, **210**[19], **211**[19]

Area 9 - Expanding the Characterization, Evaluation and Number of Core Collections to Facilitate Use

ID	INDICATORS	QUESTIONS
74	**Species and number of accessions characterized/evaluated (core)** [S]	112
75	PGRFA core collections established [S]	114, 115
76	Degree of availability to users of characterization/evaluation data [S]	120
152	Organizations involved in PGRFA characterization and evaluation [R]	116, 118
153	Training in characterization and evaluation carried out for national programme staff, and on-farm evaluation with farmers [R]	117
154	Degree of national support to characterization and evaluation [R]	118
155	**Provisions made for data processing, information management and dissemination (core)** [R]	119
156	**Species and number of accessions distributed from collections (core)** [R]	114

ID	QUESTIONS	INDICATORS
112	If your organization holds germplasm collections, enter in the table below, for each collection, taxon or crop/crop group the percentage of accessions presently characterized and/or evaluated for the various types of descriptors.	**74**
114	Enter in the table below the core collections of globally or nationally important crops held by your organization, indicating the total number of accessions held and the total number of accessions distributed at least once.	75, **156**
115	What obstacles exist to establishing core collections in the country?	75
116	If your organization performs germplasm characterization or evaluation, enter in the table below, for each taxon or crop/crop group, your organization's capacity to carry out germplasm characterization or evaluation for the different types of descriptors.	152
117	Enter in the table below any training course on germplasm characterization and/or evaluation, and core collections received by the staff of your organization and the number of persons trained.	153, **210**[19], **211**[19]
118	Enter in the table below any programme/project/activity on germplasm characterization and/or evaluation, in which your organization participates, specifying the taxa or crops/crop groups covered.	152, 154
119	Enter in the table below any information system used by your organization to store, manage or analyze data on germplasm characterization and evaluation, and indicate the number of accessions for which the system is currently holding characterization and evaluation data.	**155**
120	Indicate if and how characterization or evaluation data are made available to external users.	76

Area 10 - Increasing Genetic Enhancement and Base-Broadening Efforts

ID	INDICATORS	QUESTIONS
77	Level of deployment by farmers of improved varieties in marginal/heterogeneous agro-ecological areas [S]	19[2]
157	**Extent of farmers participation (according to local needs) in enhancement/broadening efforts (core)** [R]	234, 246, 277
158	**Breeding programmes established and expanded (core)** [R]	234, 246, 277
159	**Genetic enhancement and base broadening programmes established and expanded (core)** [R]	234

ID	QUESTIONS	INDICATORS
234	Enter in the table below any genetic enhancement (including base-broadening) programme/project/activity in which your organization participates. Please specify the type of and rationale for each activity, details of the starting materials and methods for assessing diversity in them, and indicate whether or not farmers are involved in the activity.	**157**, **158**, **159**
237	Enter in the table below any training course on breeding, genetic enhancement and/or base-broadening received by the staff of your institute and the number of persons trained.	**210**[19], **211**[19]
246	Estimate the current trend within your organization in term of capability to perform breeding for specified crop groups.	**157**, **158**
277	For each crop breeding programme carried out by your institution since 1996, please list the taxon/crop addressed, the improvement targets in terms of trait(s) or characteristic(s), agroecological zone(s) and/or farming system(s) the improvement applies to, providing an estimate of the importance of the improvement in terms of food security, and detail germplasm source(s), the type of participatory breeding activities conducted, the number of professional staff involved, output(s) achieved so far and year of achievement.	**157**, **158**

Area 11 - Promoting Sustainable Agriculture through Diversification of Crop Production and Broader Diversity in Crops

ID	INDICATORS	QUESTIONS
78	**Crops and varieties per crop cultivated (core)** [S]	150[13], 279[13]
80	Staff trained in diversification of crops and crop production [S]	135
81	Existence of legal/policy framework that promotes diversity in agro-eco system [S]	249
82	Level of participation of communities in diversity promotion [S]	132
160	Genetic uniformity monitoring for crops/species and genetic vulnerability assessment [R]	132
161	**Programmes/projects/activities to increase genetic heterogeneity of crop species and diversity within the agro-ecosystem (e.g. composite crosses, landraces, multi-lines, etc) (core)** [R]	132
162	Number of landraces, multiline and other genetically broad-based populations (e.g. composite crosses) suitable for each agro-ecological zone developed [R]	150[13]
163	**Adoption and implementation of legal/policy framework that allows/encourages diversity in agro-ecosystems (core)** [R]	249, 250
164	**Existence of and access to marketing incentives for diversity rich products (core)** [R]	249
165	Capacity-building at local/national level [R]	135
166	Programmes/projects/activities involving participatory approaches [R]	132, 249
167	**Programmes/projects/activities of genetic uniformity monitoring and/or vulnerability assessment established (core)** [R]	132
168	Measures taken to increase the use of mixtures, and/or a range of varieties [R]	249

ID	QUESTIONS	INDICATORS
132	Enter in the table below any programme/project/activity related to assessment or improvement of diversity within and among crops or crop production in which your organization participates, indicating the crop(s) and topics covered and any relevant publication.	82, 160, **161**, 166, **167**
135	Enter in the table below any training course on diversification of crop production and broadening crop diversity received by the staff of your organization and the number of persons trained.	80, 165, **210**[19], **211**[19]
249	If legal policy or market incentives for diversification of crops or crop production exist in the country, enter in the table below, taxa or crops covered, references, type of incentive and give an estimate of the level of access to the incentive by the stakeholders.	81, **163**, **164**, 166, 168
250	Indicate the major constraints in the country in diversifying crop production and broadening diversity in crops.	**163**

Area 12 - Promoting Development and Commercialization of Under-Utilized Crops and Species

ID	INDICATORS	QUESTIONS
83	Status and constraints of conservation and use of under-utilized species [S]	68[5], 139
84	Priority under-utilized species identified [S]	139
86	Programmes/projects/activities for development and marketing [S]	139
87	Political and legal limitations [S]	143
88	Information and documentation [S]	139
169	**Under-utilized species with great socio-economic potential for broader utilization identified (core)** [R]	139
170	**Survey, collection, conservation, genetic diversity studies carried out (core)** [R]	1[1], 52[4], 98[7], 105[8], 239[5]
171	**Crop improvement programmes/projects/activities for most promising under-utilized crops/species (core)** [R]	139, 141
172	Sustainable production management practices developed and implemented [R]	139
173	**Post-harvest processing and marketing methods developed (core)** [R]	139
174	Training in promoting development and commercialization of under-utilized crops and species carried out [R]	142
175	Planting material multiplied and available for use [R]	139
176	**Appropriate policy/legal frameworks (including strategies) in support of sustainable use and marketing developed/improved (core)** [R]	143

ID	QUESTIONS	INDICATORS
139	Enter in the table below the main under-utilized taxa or crops identified in the country, rank them in terms of priority and detail the progress achieved so far toward their development and sustainable use in the country.	83, 84, 86, 88, **169**, **171**, 172, **173**, 175
141	Enter in the table below any programme/project/activity related to the development or commercialization of under-utilized crops or species in which your organization participates, indicating, for each crop or species, references, geographical area and topics covered.	**171**
142	Enter in the table below any training course on development and commercialization of under-utilized crops received by the staff of your organization and the number of persons trained.	174, **210**[19], **211**[19]
143	Specify any policy/legal frameworks (including strategies) in place to support sustainable use and marketing for under-utilized species.	87, **176**

Area 13 - Supporting Seed Production and Distribution

ID	INDICATORS	QUESTIONS
89	**Participatory community-based seed programmes/projects/activities (core)** [S]	156
90	Number of varieties registered, released and cultivated in the country [S]	149, 150
92	**Programmes/projects/activites addressing seed storage problems (core)** [S]	156
179	**Seed quality standards established (core)** [R]	276
180	**Programmes/projects/activities jointly carried out between formal and informal seed sector (core)** [R]	156
181	**Regulatory frameworks in support of local seed systems developed/adopted (core)** [R]	147, 151
182	Training in seed production techniques carried out [R]	157
183	Implementation of appropriate international regulatory frameworks and other conventions and treaties such as IPR, UPOV and Farmers Rights [R]	151
184	**National seed policies to develop and expand viable local-level seed production and distribution mechanisms for varieties and crops important to small-scale farmers implemented (core)** [R]	151, 155
185	Incentives for quality seed production including landraces/under-utilized crops provided [R]	153
186	Seed growers supported [R]	152

ID	QUESTIONS	INDICATORS
147	Enter in the table below the crop(s)/crop group(s) for which variety registration is a legal requirement in your country, the agency(ies) responsible, the procedure followed and any relevant reference.	**181**
149	Enter in the table below any relevant publication in the country listing registered and recommended cultivars, specifying the geographical area(s), taxon(a) or crop(s) focused by the publication.	90
150	List in the table below registered, released and cultivated varieties, specifying type, origin, year of registration and release (when apply), target agro-ecological environment(s), important characteristics and an estimate of the percentage of total crop area.	**78**[11], 90, 162[11]
151	Indicate any policy and/or regulatory framework in place in the country to develop and expand local seed systems for crops and crop varieties important to small-scale farmers and list crops and varieties that benefit from it.	**181**, 183, **184**
152	Is there any mechanism in place in the country to support the organization and expansion of local seed growers' associations?	186
153	Is there any incentive for quality seed production of local varieties and/or under-utilized crops? If yes, please explain what incentives are in place.	185
155	Indicate for each crop/crop group the major constraints in the country in making seed of new varieties available in the market.	**184**
156	Enter in the table below any programme/project/activity related to seed production and distribution in which your organization participates, taxa/crops and topics covered, and relevant references.	**89**, **92**, **180**

157	Enter in the table below any training course on seed production and distribution received by the staff of your organization and the number of persons trained.	182, **210**[19], **211**[19]
276	Enter in the table below the crop(s)/crop group(s) for which seed quality standards are applied in your country.	**179**
279	Enter in the table below for each major crop or cropping system in your country an estimate of the proportion sown to modern or improved varieties.	**78**[11]

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

ID	INDICATORS	QUESTIONS
93	Number of landraces in each crop whose products are well established in the market [S]	159
94	Programmes/projects/activities for developing and marketing "diversity-rich" products [S]	160
95	Policy and legal limitations [S]	162, 165
187	**Landraces/farmers varieties with great economic potential for developing new markets identified (core)** [R]	159
188	**Post-harvest processing and marketing methods developed (core)** [R]	160, 163
189	Training in developing new markets for local varieties and "diversity-rich" products carried out [R]	164
190	**Appropriate policy/legal frameworks (including strategies) in support of specialized niche markets developed/improved (core)** [R]	165
192	Existence of marketing incentives [R]	271
193	Landraces used in organic farming [R]	271
194	Market-driven community-based activities [R]	160

ID	QUESTIONS	INDICATORS
159	Describe in the table below, for each relevant taxon or crop, the market situation and provide the approximate number of local varieties currently in the market and of those with great economic potential identified for developing new markets.	93, **187**
160	Enter in the table below any programme/project/activity for developing and marketing local varieties and "diversity rich" products and specify the crops covered.	94, **188**, 194
162	Indicate critical constraints to increasing markets for local varieties and "diversity-rich" products in the country.	95
163	Describe any effort made towards developing value-added processing of diversity-rich products for commercial purposes	**188**
164	Enter in the table below any training course on the development of new markets for local varieties and 'diversity-rich' products received by the staff of your organization and the number of persons trained.	189, **210**[19], **211**[19]
165	Describe any legal policy/legal frameworks (including strategies) in place to support new markets development and diversity rich products.	95, **190**
271	Indicate any incentive that has been examined or implemented to promoting markets for local varieties and "diversity-rich" products.	192, 193

Area 15 - Building Strong National Programmes

ID	INDICATORS	QUESTIONS
96	**National entity (agency, committee, etc.) functioning as a governance structure responsible for coordinating and/or facilitating PGRFA activities in the country (core)** [S]	171
97	**Entities (agency, programme, national focal point, individual etc.) responsible for implementing PGRFA activities in the country (core)** [S]	167, 171, 177
98	**Formal, legal or administrative mandate or status for the national programme(s) (core)** [S]	181
195	**National legislative and policy framework for PGRFA developed and adopted (core)** [R]	181
196	**Participation of national programmes in the implementation of international agreements and initiatives relevant to PGRFA (core)** [R]	185
197	**Capacity building activities to establish or strengthen the country's own national programme (core)** [R]	263, 270
198	**National contribution towards establishing/strengthening national programmes in other countries (core)** [R]	167
199	**Effectiveness of coordination and facilitation of national activities (core)** [R]	171, 182, 263

ID	QUESTIONS	INDICATORS
167	Enter in the table below the details of the national programme for the conservation and sustainable use of PGRFA, indicating which activity areas of the GPA are covered.	**97**, **198**
171	Enter in the table below the national entity (agency, committee, etc.) functioning as a governance structure responsible for coordinating and/or facilitating PGRFA activities in the country, specifying the year of establishment, mandate, the categories of stakeholders represented and the frequency of meetings.	**96**, **97**, **199**
177	Enter in the table below title, position, name and address of the National Focal Point officially appointed for reporting on the implementation of the GPA to FAO.	**97**
181	Describe the legal framework regulating the establishment of the national strategy, plan and programme on conservation and sustainable use of PGRFA (e.g. issues addressed, title of legal text and current status of the legal text).	**98**, **195**
182	Are workshops and meetings of concerned persons and organizations held to review national activities on conservation and use of PGRFA?	**199**
185	Enter in the table below any PGRFA relevant international convention or agreement signed and/or ratified by your country, specifying a reference to it, the institute(s) responsible for its implementation, the national focal point for the agreement/convention, references to implementation reports, and the GPA priority areas in which the country benefit most.	**196**
263	Provide an estimate in the table below of the current trend within the National Programme in terms of:	**197**, **199**

270 Enter in the table below any training course on institutions and capacity building received by the staff of your organization and the number of persons trained. **197**

Area 16 - Promoting Networks for Plant Genetic Resources for Food and Agriculture

ID	INDICATORS	QUESTIONS
99	**Level of involvement in existing networks and corresponding national activities (core)** [S]	191
200	**Level of participation in networks (number of networks the country is participating in) (core)** [R]	187
201	**Achievements of the networks (core)** [R]	189, 190, 191
202	**Effectiveness of participation in the networks (core)** [R]	188, 192, 193

ID	QUESTIONS	INDICATORS
187	List in the table below the name and acronym of all PGRFA networks that the country is an active member of, participating institutions, network national focal point, and indicate whether their scope is global or regional.	**200**
188	Indicate the nature of support that your Government recently provided to support network activities.	**202**
189	List in the table below any publication your organization has actively contributed to in the context of the network activities.	**201**
190	Enter in the table below any training course received by the staff of your organization through a PGRFA network and the number of persons trained.	**201**, **210**[19], **211**[19]
191	Enter in the table below any programme/project/activity carried out by your organization in collaboration with any PGRFA network.	**99**, **201**
192	Indicate the major benefits gained by the country through PGRFA networks.	**202**
193	Indicate the major constrains to the effective participation of your country in regional and/or international PGRFA networks.	**202**

Area 17 - Constructing Comprehensive Information Systems for Plant Genetic Resources for Food and Agriculture

ID	INDICATORS	QUESTIONS
203	**Type of national and institutional information systems used for in situ and ex situ management of PGRFA (core)** [R]	198, 201, 203
204	**Degree of standardization of or linkage among the information systems (core)** [R]	196, 201, 203
205	**Linkage of PGRFA information systems with other relevant national information systems (e.g seed stocks, plant breeding, geo-referenced botanical distributions) (core)** [R]	201, 203
206	**International information systems accessed (core)** [R]	202
207	**Comprehensiveness and accuracy of data in PGRFA information and documentation systems (core)** [R]	201, 203
218	**Level of computerization and connectivity among stakeholders within the country (core)** [S]	197, 198

ID	QUESTIONS	INDICATORS
196	Are the data management and information systems standardized between organizations participating in activities of the National Programme in the country?	**204**
197	Provide an estimate of relevant GPA stakeholders equipped with computers in the country.	**218**
198	Indicate the type of Internet connectivity available at your organization.	**203**, **218**
201	Enter in the table below any project/programme/activity in which your organization participates in order to develop data and information management systems for PGRFA in the country.	**203**, **204**, **205**, **207**
202	Enter in the table below any international PGR information system (e.g. WIEWS, SINGER, IPGRI DGC etc.) consulted and specify how frequently they are consulted.	**206**
203	List in the table below any information system currently used for PGRFA and/or Seed Stock data management, specifying characteristics, functions and level of utilization.	**131**[5], **203**, **204**, **205**, **207**
236	Enter in the table below any training course on constructing information systems for PGRFA received by the staff of your organization and the number of persons trained.	**210**[19], **211**[19]

Area 18 - Developing Monitoring and Early Warning Systems for Loss of Plant Genetic Resources for Food and Agriculture

ID	INDICATORS	QUESTIONS
100	**Measures taken to identify and assess genetic erosion, including trends over time (core)** [R]	206, 207, 208, 209, 210, 211, 212
101	**Identified loss of PGRFA reported by the mandated national authority(ies) to the FAO Global system on PGRFA (core)** [S]	212, 262

ID	QUESTIONS	INDICATORS
206	Is there any recognizable threat of genetic erosion and genetic vulnerability in the country?	**100**
207	Is the need for assessing genetic erosion and genetic vulnerability recognized in the country?	**100**
208	If yes, are there any mechanism in place in the country to assess genetic erosion in both in situ and ex situ reserves?	**100**
209	Indicate the mechanisms used to monitor genetic erosion in the country.	**100**
210	Enter in the table below any project in which your organization participates, relating to assessment of the magnitude and rate of genetic erosion.	**100**
211	Describe the constraints faced in the country to monitoring genetic erosion.	**100**
212	The FAO World Information and Early Warning System (WIEWS) has recently been evaluated (see `http://www.fao.org/ag/cgrfa/docs8.htm` for the document CGRFA/8/99/inf.5). Assuming the recommendations of the review are implemented, would the country provide necessary reports and information to WIEWS, and consider it an appropriate early warning system for monitoring the loss of PGRFA?	**100**, **101**
262	Enter in the table below any reference to identified loss of PGRFA reported by the mandated national authority(ies) to the FAO Global system on PGRFA.	**101**
278	Enter in the table below any training course on developing monitoring and early warning systems for loss of PGRFA received by the staff of your organization and the number of persons trained.	**210**[19], **211**[19]

Area 19 - Expanding and Improving Education and Training

ID	INDICATORS	QUESTIONS
208	**Existence of educational and training programmes incorporating plant genetic resources aspects (core)** [R]	215, 216, 219, 220, 275
209	**National strategies for education and training to enhance performance in the GPA priority activity areas (core)** [R]	214
210	**Frequency, levels and subjects of training courses and number of persons trained in national, regional and international training courses (core)** [R]	6[1], 31[2], 63[4], 82[5], 86[6], 99[7], 109[8], 117[9], 135[11], 142[12], 157[13], 164[14], 190[16], 236[17], 237[10], 240[3], 278[18]
211	**Organization of national, regional and international training courses and programmes (core)** [R]	6[1], 31[2], 63[4], 82[5], 86[6], 99[7], 109[8], 117[9], 135[11], 142[12], 157[13], 164[14], 190[16], 236[17], 237[10], 240[3], 278[18]

ID	QUESTIONS	INDICATORS
214	Which of the following statements best describe education and training for PGRFA in the country?	**209**
215	List in the table below any topic which your organization considers a training priority for its staff and which is presently not covered by any training programme in your country or region.	**208**

216	If training and educational facilities in PGRFA conservation and utilization exist in the country, please indicate the level of these opportunities.	**208**
219	Indicate the availability of university training opportunities in the region on topics related to PGRFA conservation and use	**208**
220	Indicate the greatest obstacles to training in PGRFA in the country.	**208**
275	Indicate the availability of short course training opportunities in the region on priority topics related to PGRFA conservation and use	**208**

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

ID	INDICATORS	QUESTIONS
212	**Number and kind of measures taken to promote awareness among priority target groups (core)** [R]	268
213	**Assessing the impact of public awareness activities (core)** [R]	222, 223, 232
214	**Degree of involvement of different actors in public awareness activities (core)** [R]	226, 227, 231
215	**Integration of awareness of PGRFA into pre-secondary and secondary educational curricula (core)** [R]	274

ID	QUESTIONS	INDICATORS
222	Is the public well aware of the value of PGRFA conservation in the country?	**213**
223	Is the public awareness programme well developed in the country?	**213**
226	Public awareness activities are coordinated in the country through:	**214**
227	List, if any, non-governmental organizations (NGOs) and well-known personalities involved in public awareness activities in the country.	**214**
231	List in the table below regional or international organizations that provide the country with support for public awareness activities on PGRFA.	**214**
232	Indicate the greatest constraints to developing and using public awareness materials.	**213**
268	Indicate in the table below the type of products developed, media used, audience targeted and topics covered by your organization in creating awareness on the value of PGRFA.	**212**
274	Is the awareness of the value of PGRFA integrated into pre-secondary and/or secondary educational curricula?	**215**

Annex 2 – Draft Reporting Format

The draft Reporting Format in Annex 2 includes the questions and the description of the tables for collecting the requested information, grouped by the priority activity areas of the Global Plan of Action for the Conservation and Sustainable Utilization of Plant Genetic Resources for Food and Agriculture.

For formatting purposes, questions in Annex 2 are progressively numbered within each priority activity area.

The unique identifier of the question and an indication on whether the National Focal Point (NFP) or stakeholders (SH) should reply to the question, are given within brackets at the end of each question.

Next to a question, in the outmost margin of the page, the identifier of the indicator(s) to which a question is related, is also given.

The last question of each priority activity area is not linked to any indicator; it allows to provide general comments and suggestions related to the implementation of the priority activity area.

For a number of questions, the information requested should be recorded in a tabular format. In such cases, the question is followed by a description of the table structure (columns).

Some of the columns in the tables are links to one of the nine common tables that are referenced by more than one question in the Reporting Format. To identify these columns the word 'link:' plus the name of the common table, follows the column description. The common tables are described in Annex 3.

1 Surveying and Inventorying Plant Genetic Resources for Food and Agriculture

Surveying and inventorying of PGRFA are essential prerequisites for monitoring the implementation of various priority activities in the Global Plan of Action. Inventories are necessary not only for assessing the current status, but also for formulating future conservation strategies. Thus, PGRFA surveys and inventories should be as comprehensive as possible, including both common and rare, threatened and endangered species, and ecotypes and populations of the latter.

1.1 Enter in the table below any PGRFA survey and inventory conducted by your organization, including references, area(s) covered and its(their) conservation priority ranking, surveying method(s) used, threatened species/ ecotypes/ populations identified, main cause of threat and major findings. [1; SH]

COLUMN DESCRIPTION	
Title of survey/inventory	link:protab
Name of area surveyed/inventoried	link:aretab
Reference	link:reftab
Area priority ranking for in-situ conservation	
• Not set • Low • Low-Medium • Medium • Medium-High • High	
Survey details	
☐ Indigenous knowledge used during the survey ☐ Identification of threatened or endangered species relevant to PGRFA ☐ Assessment of threat to genetic diversity in plants relevant to PGRFA ☐ Data entered into a Geographical Information System (GIS)	
Description of surveying method(s)	
Threatened species/ecotypes/populations	
Proven causes of threat	
Presumed causes of threat	
Description of major findings	

1.2 List in the table below any area that have priority for surveying and inventorying of PGRFA, their priority rank and indicate the major threats in each priority area. [3; SH]

COLUMN DESCRIPTION	
Name of priority area for survey/inventory of PGRFA	link:aretab
Priority rank for survey/inventory	
• Not set • Low • Low-Medium • Medium • Medium-High • High	

continued on next page...

. . . continued

COLUMN DESCRIPTION
Major threats to PGRFA in the area

104 **1.3 Were the survey and inventorying activities included in the National Environmental Action Plan (NEAP) or in the national biodiversity action plan?** [11; NFP]

○ Yes ○ No

49 **1.4 Were training needs in surveying and inventorying of PGRFA in the country assessed?** [4; NFP]

○ Yes ○ No

49 103 105 210 211 **1.5 Enter in the table below any training course on PGRFA surveying and inventorying received by the staff of your organization, the topics covered and the number of persons trained.** [6; SH]

COLUMN DESCRIPTION	
Name of training course	link:protab
Course coverage	
☐ Taxonomy ☐ Population biology ☐ Ethnobotany ☐ Agro-ecologic and ecoregional surveying ☐ Indigenous knowledge	
Others course topics	
Number of participating staff	

47 **1.6 Rate the adequacy of your efforts to survey and inventory PGRFA in the country.** [2; NFP]

- ○ Areas have not been prioritized for survey and inventories
- ○ Priorities have been established but areas have not been adequately surveyed and inventoried
- ○ Surveys and inventories are planned or ongoing for all priority areas of the country
- ○ Surveys and inventories have taken place for all priority areas of the country

1.7 Indicate the greatest constraints to surveying and inventorying of PGRFA in the country. [16; NFP] 47

- ☐ It is not clear which organization is responsible to conduct surveys and inventories
- ☐ National priorities have not been established
- ☐ Insufficient financial support
- ☐ Insufficient number of staff
- ☐ Staff does not have sufficient skills

1.8 Please include any comment you may have on surveying and inventorying PGRFA, priorities, needs, constraints and opportunities for further action at the national level, and support needed from regional and international organizations for surveying and inventorying of PGRFA in your country. [17;]

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

The diversity of crop plants used and maintained by local peoples and farming communities varies greatly among countries and ecosystems within countries. Supporting farmers to manage and improve this diversity and assisting them to replace lost diversity may serve the dual purposes of conservation and development.

51 53 77 108 109 111 113

2.1 Enter in the table below any project/programme/activity addressing on-farm management and improvement of PGRFA in which your organization participates, listing local farmer communities and number of farmers involved. [19; SH]

COLUMN DESCRIPTION	
Name of on-farm conservation programme/project	link:protab
Local farmer community involved	link:instab
Number of farmers involved	
Activities include:	
☐ Pilot sites established in areas of high diversity ☐ Pilot sites established in high risk areas ☐ Assessment of farmers' knowledge ☐ Characterization and evaluation of local varieties ☐ Studies on local varieties population structure and dynamics ☐ On-farm breeding ☐ Seed multiplication and distribution of bred varieties ☐ Assessment of local varieties utilization and management ☐ Assessment of improved varieties utilization and management ☐ Socio-economic assessment of PGRFA on-farm management and improvement ☐ Envrionmental assessment of PGRFA on-farm management and improvement	
Other project activities	

51 52

2.2 Indicate the extent that on-farm management of PGRFA has been addressed within the country. [18; NFP]

- ○ On-farm management has not been integrated into national programmes
- ○ On-farm management is somewhat integrated into national programmes
- ○ On-farm management is well integrated into all national programmes
- ○ On-farm management of PGRFA is not a priority within national programmes

52 107 **2.3 Check any of the following incentives used to promote on-farm management of PGRFA in the country.** [20; NFP]

- ☐ National policies
- ☐ Economic incentives to farmers
- ☐ Extension services to support farmers
- ☐ Seed production and distribution services
- ☐ Supportive research

2.4 Enter in the table below any national/regional forum for stakeholders involved in on-farm conservation recognized by the National Programme. 110 [26; NFP]

COLUMN DESCRIPTION	
Name of stakeholder forum	link:instab

2.5 Indicate in the table below the type and frequency of activities carried out in the country to promote on-farm management and improvement of PGRFA. 107 109 111 112 113 [21; NFP]

COLUMN DESCRIPTION
Community-based research
• Never • Occasional • Regular
Participatory plant breeding
• Never • Occasional • Regular
Participatory cultivar selection
• Never • Occasional • Regular
Processing and packaging
• Never • Occasional • Regular
Market development
• Never • Occasional • Regular
Strengthening local seed supply
• Never • Occasional • Regular
Diversity fairs and seed exchange
• Never • Occasional • Regular
Increasing public awareness
• Never • Occasional • Regular

217 **2.6 Indicate the major limitations to on-farm management and improvement of PGRFA in the country.** [38; SH]

- ☐ Inadequate incentives provided to farmer
- ☐ Insufficient number of staff
- ☐ Insufficient skills and staff training
- ☐ Insufficient financial support
- ☐ On-farm management and improvement of PGRFA are not a national priority

114 210 211 **2.7 Enter in the table below any training course on on-farm management received by the staff of your organization and the number of persons trained.** [31; SH]

COLUMN DESCRIPTION	
Name of training course	link:protab
Number of participating staff	

2.8 Please include any comment you may have on promoting on-farm management and improvement of PGRFA, including regional and international assistance needed in your country. [39;]

3 Assisting Farmers in Disaster Situations to Restore Agricultural Systems

Natural (e.g. flood, earthquake and cyclone) and anthropogenic (e.g. civil strife and war) disasters may cause significant disruption of agricultural systems in a country or region with loss of plants and seeds of local ecotypes, varieties and strains. These losses may adversely affect agricultural productivity and sustainability. Assistance given to farmers following such disasters may allow the restoration of agricultural systems.

3.1 Is there any mechanism available within the country to facilitate rapid acquisition, multiplication, distribution and cultivation of reintroduced germplasm? [43; NFP]

115 116 120

- ○ Mechanisms are available, but exclude farmers
- ○ Mechanisms are available and include farmers
- ○ Mechanisms are being developed with external help
- ○ Mechanisms are being developed without external help
- ○ Recovery/reintroduction mechanisms are not a priority
- ○ No mechanisms are available

3.2 Enter in the table below any national plan in place to assist farmers to recover and preserve PGRFA following disasters. [40; NFP]

55 116 118 120

COLUMN DESCRIPTION	
Name of recovery plan	link:protab
Agricultural components	
• Not included in the national plan • Included in the national plan • Included in the national plan and verified	

3.3 Are there agreements in place for rapid acquisition of PGRFA from international, national and regional sources following disaster? [47; NFP]

116 120

COLUMN DESCRIPTION	
Name of agreement	link:agrtab

3.4 Enter in the table below any community genebanks established and strengthened to facilitate reintroduction of germplasm following disasters. [45; SH]

COLUMN DESCRIPTION	
Name of community genebank	link:instab

3.5 Is the information on the local seed supply system adequate to identify and facilitate germplasm reintroduction following disasters? [44; NFP]

○ Yes ○ No

3.6 Enter in the table below any information system available to identify appropriate germplasm for reintroduction following disasters. [42; SH]

COLUMN DESCRIPTION	
Name of information system	link:systab

3.7 If the country has reintroduced any germplasm following a disaster, enter in the table below the name of the area affected, the distaster date and type, reintroduction date, the name of the taxon and cultivar reintroduced and the source of the germplasm. [41; SH]

COLUMN DESCRIPTION	
Name of disaster area	link:aretab
Type of disaster	
• Flood • Fire • Typhoon/hurricane • Drought • Civil war • International war	
Other types of disaster	
Date of disaster (YYYY/MM)	
Cultivar reintroduced	link:cultab
Date of reintroduction (YYYY/MM)	
Source of germplasm	
• National gene bank • Regional gene bank • International gene bank • Farmers • Commercial agencies	

continued on next page...

. . . continued

COLUMN DESCRIPTION
Other sources of germplasm

3.8 Enter in the table below any assessment made of post-disaster restoration experiences. [48; SH] 121

COLUMN DESCRIPTION	
Title of publication	link:reftab

3.9 Indicate the greatest constraint to restoration of locally adapted germplasm following disasters in the country. [49; SH] 116

- ○ PGRFA were not collected and inventoried before the disaster
- ○ Germplasm is unavailable for reintroduction and restoration
- ○ Insufficient germplasm materials available for multiplication and restoration
- ○ Inadequate number of staff
- ○ Insufficient training and skills of staff
- ○ Insufficient farmers' involvement
- ○ Insufficient financial support
- ○ Disaster response is not a national priority
- ○ No constraint recognized (disasters have not occurred)

3.10 Enter in the table below any training course on restoration of agricultural systems following disasters received by the staff of your organization and the number of persons trained. [240; SH] 210 211

COLUMN DESCRIPTION	
Name of training course	link:protab
Number of participating staff	

3.11 Please include any comment you may have on the reintroduction of locally adapted germplasm and assisting farmers in the restoration of agricultural systems in your country following disaster. You may also comment on regional and international assistance that may be needed to ensure rapid and efficient reintroduction of germplasm in your country following disasters. [50;]

4 Promoting In Situ Conservation of Wild Crop Relatives and Wild Plants for Food Production

Wild and weedy crop relatives (WCR) and wild plants for food production (WFP) are valuable genetic resources. These species are best conserved in situ, in their natural habitats to allow evolution and adaptive changes. Activities in this area will facilitate dynamic conservation of wild crop relatives and other wild species of importance in agriculture and food production.

4.1 Describe the current status in your country of conservation of wild crop relatives and wild plants relevant to food production. [51; NFP]

122
123

- ○ Plans developed and significant achievements made
- ○ Plans developed and activities are continuing as planned
- ○ Work is in progress without any existing plans
- ○ Plans exist but activities have not begun
- ○ Neither plans nor activities

4.2 Enter in the table below any programme/project/activity on in situ conservation of wild crop relatives and wild plants for food production in which your organization participates, the area covered, taxa identified and the criteria used for their identification. [52; SH]

56
122
123
126
170

COLUMN DESCRIPTION	
Name of project/activity	link:protab
Name of conservation area	link:aretab
Name of taxon	link:taxtab
Taxon group	
☐ Wild Crop Relative ☐ Wild Food Plant	
Identification criteria	
Additional topics covered	
☐ Implementation of management practices to maintain high level of CWR/WFP genetic diversity ☐ Involvement of local communities ☐ Implementation of plans to encourage public participation ☐ Arrangements for ex situ conservation of threatened and endangered CWR/WFP	

4.3 Enter in the table below any programme/project/activity related to protected areas in which your organization participates, the name of the areas, references, the current status and health condition of the area. [53; SH] 58 122

COLUMN DESCRIPTION	
Name of protection project	link:protab
Name of protected area	link:aretab
Reference	link:reftab
Status of protected area	
• Planned • Identified • Established • Closed	
Condition of protected area	
• Unknown • Poor • Fair • Good • Very good • Excellent	

126 **4.4 Enter in the table below any programme/project/activity relating to restoration of degraded habitats of wild crop relatives and wild food crops in which your organization participates, the area covered, references, status and health condition of the area.** [55; SH]

COLUMN DESCRIPTION	
Name of restoration project	link:protab
Name of restoration area	link:aretab
Reference	link:reftab
Status of restoration area	
• Planned • Identified • Established • Closed	
Condition of restoration area	
• Unknown • Poor • Fair • Good • Very good • Excellent	

124 **4.5 List any programme/project/activity carried out to raise public awareness of the value of WCR and WPF in food security and plant breeding.** [62; SH]

COLUMN DESCRIPTION	
Name of project/activity	link:protab
Public awareness of the value of WCR and WPF raised for:	
☐ Food security ☐ Plant breeding	

4.6 Does national policy support the conservation of wild crop relatives? [61; NFP]57

- ○ Strongly supports
- ○ Supports
- ○ Does not support
- ○ Indifferent

4.7 In many countries, environmental impact assessments (EIAs) must be done before activities resulting in land-use changes are approved. To what extent do EIAs in the country incorporate the likely effect of land-use decisions on wild crop relatives? [60; NFP] 57

- ○ Wild crop relatives must be considered in all EIAs
- ○ Wild crop relatives are considered in some EIAs
- ○ Wild crop relatives are not usually considered in EIAs
- ○ Wild crop relatives are never considered in EIAs
- ○ EIAs are not included in the National Environmental policy

4.8 Describe any existing or proposed national policy or regulatory changes that might impact conservation of wild crop relatives and wild food plants. [65; NFP] 57

4.9 Enter in the table below any training course on in situ conservation of wild crop relatives or wild food plants received by the staff of your organization and the number of persons trained. [63; SH] 124 125 210 211

COLUMN DESCRIPTION	
Name of training course	link:protab
Number of participating staff	

4.10 Please include any comment you may have on promoting in situ conservation of wild crop relatives and wild food plants, and regional and international assistance needed to ensure adequate facilities and opportunities for in situ conservation of WCR and WPF in your country. [66;]

5 Sustaining Existing Ex Situ Collections

Over the past two decades, the numbers of ex situ collections and gene banks have grown rapidly. However, sustainability of these collections is threatened because of lack of long-term storage or alternative storage facilities. In addition, preservation of accessions below appropriate and agreed standards in many gene banks, existence of many of duplicates of large number of accession, lack of coordination among gene banks, and lack of continued funding have significantly increased the threat.

5.1 Enter in the table below any programme/project/activity relating to sustaining ex situ collections presently carried out with the participation of your organization. [67; SH] 127 128 141

COLUMN DESCRIPTION	
Ex situ conservation programme/project/activity	link:protab

5.2 Enter (update) in the table below for each ex situ collection, held by your organization, and for each taxon or crop, sample status, geographic origin, number of accessions stored in the collection, number of accessions safely duplicated in other genebanks and the name of the genebank(s) holding such duplications. [68; SH] 83 130 133 142

COLUMN DESCRIPTION	
Name of ex situ collection	link:protab
Name of taxon[1]	link:taxtab
Name of crop[2]	
Status of accession	
• Wild • Weedy • Traditional cultivar/landrace • Breeder's line • Mutant/genetic stock • Advanced/Improved cultivar	
Geographic origin	
Number of accessions	
Number of accessions safely-duplicated at other genebanks	
Genebank holding safety-duplicate	link:instab

5.3 Enter (update) in the table below type and conditions of germplasm storage facilities in use at your organization. [269; SH]

COLUMN DESCRIPTION
Type of storage facility
• Short term seedstore • Medium term seedstore • Long term seedstore • In vitro conservation unit • Cryopreservation unit • Field
Minimum temperature
Maximum temperature
Minimum humidity
Maximum humidity
Minimum moisture content
Maximum moisture content
Total area (square meters)[3]
Total volume (cubic meters)[4]
Space available
• Yes • No

5.4 Enter (update) in the table below for each ex situ collection, held by your organization, and for each taxon or crop, the number of accessions stored under the specified storage conditions. [239; SH]

COLUMN DESCRIPTION	
Name of ex situ collection	link:protab
Name of taxon[5]	link:taxtab
Name of crop[6]	
Number of accessions in short-term seed storage	
Number of accessions in medium-term seed storage	
Number of accessions in long-term seed storage	
Number of accessions stored in field genebank	
Number of accessions stored in vitro	
Number of accessions stored in cryo-preservation	

[1]Taxon name is not required if crop is specified
[2]Crop name is not required if taxon is specified
[3]Total area is not required if total volume is specified
[4]Total volume is not required if total area is specified
[5]Taxon name is not required if crop is specified
[6]Crop name is not required if taxon is specified

5.5 Enter in the table below for each ex situ collection, held by your organization, frequency of monitoring viability, genetic integrity and stock inventories. [242; SH] 132 133 136

COLUMN DESCRIPTION	
Name of ex situ collection	link:protab
Stock inventories	
• Not performed • Performed irregularly • Performed regularly	
Monitoring of viability	
• Not performed • Performed irregularly • Performed regularly	
Monitoring of genetic integrity	
• Not performed • Performed irregularly • Performed regularly	

5.6 Enter in the table below any publication related to ex situ collections, held by your organization, and indicate the media used and the type of information covered. [241; SH] 131

COLUMN DESCRIPTION	
Title of publication	link:reftab
Name of ex situ collection	link:protab
Publication media	
☐ Hard-copy (printed/facsimile) ☐ On-line browsable (Internet) ☐ On-line downloadable (Internet) ☐ Off-line electronic (CDROM)	
Publication coverage	
☐ Passport data ☐ Evaluation/characterization data ☐ Regeneration data ☐ Requests and distribution data	

5.7 Enter in the table below any information system used by your organization to store, manage or analyze data on ex situ collections, held by your organization, indicating system characteristics and the number of accessions for which the system is currently holding data. [243; SH]

COLUMN DESCRIPTION	
Name of information system	link:systab
Name of ex situ collection	link:protab
Number of accessions covered	

5.8 Enter in the table below any cooperation arrangement established through regional crop networks or international organizations to conserve accessions from your collections. [77; SH]

COLUMN DESCRIPTION	
Name of agreement	link:agrtab

5.9 Enter in the table below training courses on sustaining ex situ collections received by the staff of your organization and the number of persons trained. [82; SH]

COLUMN DESCRIPTION	
Name of training course	link:protab
Number of participating staff	

5.10 Describe recent major constraints to implementing ex situ conservation activities. [79; SH]

133 **5.11 Describe recent major achievements in implementing ex situ conservation activities.** [80; SH]

5.12 Please comment in the box below on priorities, needs and constraints to sustaining existing ex situ collections, opportunities for further action at national or sub-regional level, and actions or support needed from regional and/or international organizations. [83;]

6 Regenerating Threatened Ex Situ Accessions

Many accessions presently stored in gene banks require regeneration to prevent loss of viability and consequent loss of genes or genotypes. Adequate amounts of seed must also be maintained to meet users' requests, and ensure genetic integrity of the accessions. For this purpose, infrastructure is needed for periodic regeneration of accessions in suitable locations under conditions designed to maintain the genetic integrity of material and coordination of regeneration activities.

134 138 **6.1 Enter in the table below for each ex situ collection, held by your organization, and for each taxon or crop, project names, priority status, number of accessions requiring regeneration, number of accessions already regenerated according to established standards and estimate the year when all regeneration will be completed.** [245; SH]

COLUMN DESCRIPTION	
Name of ex situ collection	link:protab
Name of regeneration project	link:protab
Name of taxon[7]	link:taxtab
Name of crop/crop group[8]	
Priority status	
• Priorities not yet set • Priorities are set but no activies have been done • Priorities are set and activies are underway	
Number of accessions in need of regeneration	
Number of accessions already regenerated according to established standards	
Estimated number of years required to complete regeneration	

135 **6.2 Enter in the table below any recently published regeneration guidelines that your organization has found useful in undertaking regeneration activities.** [96; SH]

COLUMN DESCRIPTION	
Title of publication	link:reftab

133 135 137 139 **6.3 Enter in the table below for each collection, taxon or crop, any reference to research conducted by your organization on genetic change or loss of genetic integrity during regeneration and indicate causing factors identified.** [248; SH]

COLUMN DESCRIPTION	
Name of collection	link:protab
Name of taxon[9]	link:taxtab
Name of crop/crop group[10]	
Reference	link:reftab
Factors causing loss of genetic integrity	
☐ Original sample size too small ☐ Low viability of original sample ☐ Insufficient isolation of cross-pollinated crop ☐ Unbalanced seed production between individuals ☐ Selection pressure from unsuitable environment ☐ Mechanical contamination or loss due to improper handling ☐ Other	
Other factors	

6.4 If your organization has the capacity to perform regenerations according to established standards, estimate current trends in capability for self-pollinated, cross-pollinated and vegetatively propagated crops, and the current capability to perform regenerations for other organizations. [247; SH] 134

COLUMN DESCRIPTION
Crop type
• Cross-pollinated • Self-pollinated • Vegetatively propagated • All
Regeneration capability
• Decreasing • Stable • Increasing
Regeneration capability for accessions from other organizations
• None • Poor • Fair • Good

[7] Taxon name is not required if crop is specified
[8] Crop name is not required if taxon is specified
[9] Taxon name is not required if crop is specified
[10] Crop name is not required if taxon is specified

135 **6.5 Enter in the table below training courses on regeneration of ex situ accessions received by the staff of your organization and the number of persons trained.** [86; SH]
210
211

COLUMN DESCRIPTION	
Name of training course	link:protab
Number of participating staff	

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

Over the past 20 years, major crops have been generally well collected, but collections of minor, regional or subsistence crops are generally less complete. This activity aims at collecting those species, ecotypes, landraces/farmers' varieties or other cultivars, and associated information, which are under threat. The activity also aims at filling gaps in the genetic diversity of existing collections with well targeted and prioritized collecting.

7.1 Enter in the table below any collecting mission carried out by your organization, providing details of the geographical area where the mission took place, taxon or crop and number of accessions collected, and number of collected accessions for which long-term conservation has been secured. [98; SH] 144 145 170

COLUMN DESCRIPTION	
Name of collecting mission	link:protab
Name of collection area	link:aretab
Name of collected taxon[11]	link:taxtab
Name of collected crop[12]	
Number of collected accessions	
Number of collected accessions secured in long-term conservation	

7.2 Are there provisions in place for collection of rare and endangered species for ex situ conservation? [104; SH] 143

○ Yes ○ No

7.3 Enter in the table below any reference to results from research conducted by your organization on identifying gaps in existing collections with targeted and prioritized collecting. [100; SH] 140

COLUMN DESCRIPTION	
Title of publication	link:reftab

[11] Taxon name is not required if crop is specified
[12] Crop name is not required if taxon is specified

142 **7.4 Describe the gaps found in collection(s) held by your organization and the methods used to identify them.** [244; SH]

COLUMN DESCRIPTION	
Name of collection	link:protab
Name of information system	link:systab
Gaps detected	
☐ Mandate taxa not fully covered ☐ Incomplete geographical coverage of mandate region ☐ Missing known local cultivars/landraces ☐ Missing historical cultivars	
Other gaps detected	
Methods used to detect gaps	
☐ Comparison of stored material against organization mandate ☐ Comparison of stored material against historical references ☐ Comparison of stored material against geographical references	
Other methods	

140 210 211 **7.5 Enter in the table below any training course on collecting plant genetic resources received by the staff of your organization and the number of persons trained.** [99; SH]

COLUMN DESCRIPTION	
Name of training course	link:protab
Number of participating staff	

7.6 Please comment in the box below on priorities, needs and constraints to supporting planned and targeted collecting of PGRFA, opportunities for further action at national or sub-regional level, and actions or support needed from regional and/or international organizations. [101;]

8 Expanding Ex Situ Conservation Activities

Many important species cannot be conserved effectively as seed. They require more risky or expensive conservation methods, or new methods that are not widely available. This area of activity is aimed at developing management strategies for ex situ conservation of vegetative propagated and recalcitrant seeded plants, as well as for species neglected in current conservation activities.

8.1 Enter in the table below complementary ex situ conservation activities (botanical gardens, arboreta, in vitro conservation, field genebanks, cryopreservation, DNA banks, etc.) carried out by your organization, indicating the conservation method used and the number of professionals currently involved. [105; SH] 148 151 170

COLUMN DESCRIPTION	
Name of activity	link:protab
Type of activity	
• Botanical garden • Arboretum • In vitro conservation • Field genebank • Cryopreservation • DNA gene bank • Other (please specify)	
Other activity type	
Number of professionals involved	

8.2 Enter in the table below any publication made available by your organization on innovative management strategies and/or improved methodologies for ex situ conservation of plant genetic resources, including vegetatively propagated and recalcitrant seeded plants, as well as for species neglected in current conservation activities. [108; SH] 149

COLUMN DESCRIPTION	
Title of publication	link:reftab

8.3 Describe any improved methodology for ex situ conservation of vegetatively propagated and recalcitrant seeded plants, as well as for species neglected in current conservation activities that have been developed by your organization. [107; SH] 149

146 **8.4 Enter in the table below any training course on expanding ex situ conser-**
210 **vation activities received by the staff of your organization and the number**
211 **of persons trained.** [109; SH]

COLUMN DESCRIPTION	
Name of training course	link:protab
Number of participating staff	

8.5 Please comment in the box below on priorities, needs and constraints to expanding ex situ conservation activities, opportunities for further action at national or sub-regional level, and actions or support needed from regional and/or international organizations. [111;]

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

A major limiting factor to increasing use of ex situ collections of PGRFA is inadequate characterization and evaluation of accessions. Comprehensive characterization and evaluation of accessions, using both conventional (e.g. agrobotanical) and new technologies (e.g. DNA fingerprinting), focusing on smaller representative samples of large base collections of crops of both national and global importance would promote utilization of preserved germplasm.

9.1 If your organization holds germplasm collections, enter in the table below, for each collection, taxon or crop/crop group the percentage of accessions presently characterized and/or evaluated for the various types of descriptors. [112; SH] 74

COLUMN DESCRIPTION	
Name of ex situ collection	link:protab
Name of taxon[13]	link:taxtab
Name of crop/crop group[14]	
Percent of accessions characterized for morphological traits	
Percent of accessions characterized based on molecular markers	
Percent of accessions evaluated for agronomic traits	
Percent of accessions evaluated for biochemical traits	
Percent of accessions evaluated for abiotic stresses	
Percent of accessions evaluated for biotic stresses	

9.2 If your organization performs germplasm characterization or evaluation, enter in the table below, for each taxon or crop/crop group, your organization's capacity to carry out germplasm characterization or evaluation for the different types of descriptors. [116; SH] 152

COLUMN DESCRIPTION	
Name of taxon[15]	link:taxtab
Name of crop/crop group[16]	
Organization's capacity in germplasm characterization/evaluation:	
☐ Morphological traits	
☐ Molecular markers	

continued on next page...

[13] Taxon name is not required if crop is specified
[14] Crop name is not required if taxon is specified
[15] Taxon name is not required if crop is specified
[16] Crop name is not required if taxon is specified

. . . continued

COLUMN DESCRIPTION
☐ Agronomic traits ☐ Biochemical traits ☐ Abiotic stress ☐ Biotic stress

152 **9.3 Enter in the table below any programme/project/activity on germplasm**
154 **characterization and/or evaluation, in which your organization participates, specifying the taxa or crops/crop groups covered.** [118; SH]

COLUMN DESCRIPTION	
Name of project/activity	link:protab
Name of taxon[17]	link:taxtab
Name of crop/crop group[18]	

155 **9.4 Enter in the table below any information system used by your organization to store, manage or analyze data on germplasm characterization and evaluation, and indicate the number of accessions for which the system is currently holding characterization and evaluation data.** [119; SH]

COLUMN DESCRIPTION	
Name of information system	link:systab
Number of accessions with C/E data	

76 **9.5 Indicate if and how characterization or evaluation data are made available to external users.** [120; SH]

COLUMN DESCRIPTION	
Title of publication	link:reftab
Name of collection	link:protab

continued on next page. . .

[17] Taxon name is not required if crop is specified
[18] Crop name is not required if taxon is specified

. . . continued

COLUMN DESCRIPTION
Publication media
☐ Hard-copy (printed/fascimile) ☐ On-line browsable (Internet) ☐ On-line downloadable (Internet) ☐ Off-line electronic (CDROM)
Data coverage
☐ Raw data ☐ Analyzed data

9.6 Enter in the table below the core collections of globally or nationally important crops held by your organization, indicating the total number of accessions held and the total number of accessions distributed at least once. [114; SH] 75 156

COLUMN DESCRIPTION	
Name of core collection	link:protab
Total number of accessions	
Number of accessions that have been distributed at least once	

9.7 What obstacles exist to establishing core collections in the country? [115; NFP] 75

- ☐ Lack of interest
- ☐ Lack of financial support
- ☐ Lack of trained personnel
- ☐ Need for core collection is not recognized
- ☐ Limited number of accessions available
- ☐ Lack of access to germplasm as needed to establish core collections
- ☐ Inadequate available information on accessions

9.8 Enter in the table below any training course on germplasm characterization and/or evaluation, and core collections received by the staff of your organization and the number of persons trained. [117; SH] 153 210 211

COLUMN DESCRIPTION	
Name of training course	link:protab
Number of participating staff	

9.9 Please comment in the box below on priorities, needs and constraints to expanding the characterization, evaluation and number of core collections to facilitate use, opportunities for further action at national or sub-regional level, and actions or support needed from regional and/or international organizations. [122;]

10 Increasing Genetic Enhancement and Base-Broadening Efforts

Broadening the genetic base of crop species may be an effective way, although long-term, to ensure continued progress in plant breeding and contribute to the stability of farming systems, as well as crop response to farming conditions. This may be achieved by increasing genetic heterogeneity of locally adapted varieties through introgression from exotic germplasm including wild crop relatives, or large scale base broadening. For completeness of the survey, questions pertaining to other aspects of plant breeding are also included under this activity area.

Definitions:

Genetic enhancement or Pre-breeding It refers to activities aimed at transferring genes, gene combinations and/or genetic variability from unadapted sources into more usable breeding materials that can be used as parents in breeding programmes. Two distinct approaches can be identified : (A) Introgression of the desired genetic traits into the elite gene pool of adapted material. This is the most common approach to genetic enhancement, used, for example, in transferring major gene disease resistances. Introgression can be achieved by repeated crosses (backcrossing) or by using biotechnological techniques. (B) Incorporation, or base-broadening, which is the large-scale development of locally adapted populations from unimproved germplasm stocks, through a long-term, population oriented approach. It a less commonly used approach to genetic enhancement.

10.1 Estimate the current trend within your organization in term of capability to perform breeding for specified crop groups. [246; SH]

157 158

COLUMN DESCRIPTION
Crop group
• Cereals • Grain legumes • Roots and tubers • Fruits • Vegetables • Forages • Fiber plants • Other
Other crop group
Breeding capability
• Decreasing • Stable • Increasing

10.2 For each crop breeding programme carried out by your institution since 1996, please list the taxon/crop addressed, the improvement targets in terms of trait(s) or characteristic(s), agroecological zone(s) and/or farming system(s) the improvement applies to, providing an estimate of the importance of the improvement in terms of food security, and detail germplasm source(s), the type of participatory breeding activities conducted, the number of professional staff involved, output(s) achieved so far and year of achievement. [277; SH]

157 158

COLUMN DESCRIPTION	
Name of programme/project/activity	link:protab
Name of taxon[19]	link:taxtab
Name of crop[20]	
Trait(s)/characteristic(s) addressed	
Agroecological zone(s)/Farming system(s) (the improvement applies to)	
Estimated importance of the improvement in terms of food security for the specified agroecological zone/farming system	
• Limited • Medium • High	
Germplasm source(s)	
☐ Local genebank ☐ National genebank ☐ Regional/International network ☐ CGIAR genebank ☐ Public organization from developed country ☐ Public organization from developing country ☐ Private sector	
Participatory breeding involved farmers in:	
☐ Setting breeding priorities ☐ Selecting from fixed lines or finished varieties (participatory varietal selection) ☐ Selecting from segregating populations ☐ Making crosses and/or determining parents	
Number of professional staff involved	
Output produced	
Year of output production	

157 **10.3 Enter in the table below any genetic enhancement (including base-broadening)**
158 **programme/project/activity in which your organization participates. Please**
159 **specify the type of and rationale for each activity, details of the starting materials and methods for assessing diversity in them, and indicate whether or not farmers are involved in the activity.** [234; SH]

COLUMN DESCRIPTION	
Name of programme/project/activity	link:protab
Name of taxon	link:taxtab
Type of activity	
☐ Genetic enhancement by introgression for specific traits ☐ Population improvement through incorporation or base broadening	

continued on next page...

[19] Taxon name is not required if crop is specified
[20] Crop name is not required if taxon is specified

. . . continued

COLUMN DESCRIPTION
Other type of activity
Rationale for activity
☐ Poor gain in breeding programme ☐ Specific trait not available in current breeding materials ☐ Evidence of narrow genetic base
Other rationale for activity
Assessment of genetic diversity was made through
☐ Molecular markers ☐ Pedigree studies ☐ Other methods ☐ No assessment made
Starting materials
☐ Improved varieties in use in your country ☐ Exotic varieties ☐ Wild relatives ☐ Local varieties/landraces
Farmers involvement
☐ Setting priorities ☐ Implementing programme

10.4 Enter in the table below any training course on breeding, genetic enhancement and/or base-broadening received by the staff of your institute and the number of persons trained. [237; SH] 210 211

COLUMN DESCRIPTION	
Name of training course	link:protab
Number of participating staff	

10.5 Please provide below any comment you may have on priorities, needs and constraints to implementation, opportunities for further action at national or sub-regional level, and actions or support needed from regional and/or international organizations. [129;]

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

Low or lack of genetic variation within and among cultivars (genetic uniformity) is likely to introduce a high level of risk in agricultural systems (genetic vulnerability). Therefore, concerted efforts are needed to minimize the threat of genetic vulnerability. For this reason, reliable assessment of genetic diversity is needed to ensure the desired level of genetic diversity (genetic heterogeneity) among crop cultivars, and whenever possible within them.

82 160 161 166 167 **11.1 Enter in the table below any programme/project/activity related to assessment or improvement of diversity within and among crops or crop production in which your organization participates, indicating the crop(s) and topics covered and any relevant publication.** [132; SH]

COLUMN DESCRIPTION	
Name of project	link:protab
Name of taxon[21]	link:taxtab
Name of crop[22]	
Topics covered	
☐ Assessing/monitoring intra-specific diversity in crops ☐ Increasing intra-specific diversity in crops ☐ Assessing/monitoring diversity in agricultural systems ☐ Increasing diversity in agricultural systems ☐ Participatory diversity methods applied	
Reference	link:reftab

163 **11.2 Indicate the major constraints in the country in diversifying crop production and broadening diversity in crops.** [250; SH]

- ☐ Policy/legal obstacles
- ☐ Marketing/commercial obstacles
- ☐ Obstacles to officially release heterogenic material as cultivars

81 163 164 166 168 **11.3 If legal policy or market incentives for diversification of crops or crop production exist in the country, enter in the table below, taxa or crops covered, references, type of incentive and give an estimate of the level of access to the incentive by the stakeholders.** [249; NFP]

[21] Taxon name is not required if crop is specified
[22] Crop name is not required if taxon is specified

COLUMN DESCRIPTION
Name of taxon[23] link:taxtab
Name of crop[24]
Reference link:reftab
Incentive description
Incentive target ☐ Crop production ☐ Crop processing ☐ Crop marketing
Level of access to incentive • Difficult • Moderate • Easy

11.4 Enter in the table below any training course on diversification of crop production and broadening crop diversity received by the staff of your organization and the number of persons trained. [135; SH]

80
165
210
211

COLUMN DESCRIPTION
Name of training course link:protab
Number of participating staff

11.5 Please provide below any comment you may have on priorities, needs and constraints to implementation, opportunities for further action at national or sub-regional level, and actions or support needed from regional and/or international organizations. [251;]

[23] Taxon name is not required if crop is specified
[24] Crop name is not required if taxon is specified

12 Promoting Development and Commercialization of Under-Utilized Crops and Species

One of the remarkable evolutionary changes in agriculture is the increasing human dependence on fewer crop species for food. However, hundreds of plant species are still being cultivated in many parts of the world. Many of these species are useful sources of food and could be more widely utilized directly or developed as human food by genetic and agronomic improvements. Efforts are needed also to increase their market demand, value-added development and conservation.

12.1 Enter in the table below the main under-utilized taxa or crops identified in the country, rank them in terms of priority and detail the progress achieved so far toward their development and sustainable use in the country. [139; NFP]

COLUMN DESCRIPTION
Name of taxon[25] link:taxtab
Name of crop[26]
Priority for the country • Low • Low-medium • Medium • Medium-high • High
Geographical distribution mapping • No activity planned • Activities planned but not initiated • Some on-going activities • Activities well advanced • Activities completed
Characterization/evaluation • No activity planned • Activities planned but not initiated • Some on-going activities • Activities well advanced • Activities completed
Crop improvement • No activity planned • Activities planned but not initiated • Some on-going activities • Activities well advanced • Activities completed
Post harverst processing • No activity planned • Activities planned but not initiated • Some on-going activities • Activities well advanced • Activities completed
Marketing • No activity planned • Activities planned but not initiated • Some on-going activities • Activities well advanced • Activities completed
Multiplication of seed/planting material • No activity planned • Activities planned but not initiated • Some on-going activities • Activities well advanced • Activities completed
Documentation in information systems • No activity planned • Activities planned but not initiated • Some on-going activities • Activities well advanced • Activities completed

[25] Taxon name is not required if crop is specified
[26] Crop name is not required if taxon is specified

12.2 Enter in the table below any programme/project/activity related to the development or commercialization of under-utilized crops or species in which your organization participates, indicating, for each crop or species, references, geographical area and topics covered. [141; SH] 171

COLUMN DESCRIPTION	
Name of project	link:protab
Name of taxon[27]	link:taxtab
Name of crop[28]	
Reference	link:reftab
Areas of interest	link:aretab
Topics covered	
☐ Research ☐ Crop improvement ☐ Seed distribution ☐ Improving processing ☐ Market development ☐ Public awareness ☐ Policy changes ☐ Other	
Other project topics	

12.3 Enter in the table below any training course on development and commecialization of under-utilized crops received by the staff of your organization and the number of persons trained. [142; SH] 174 210 211

COLUMN DESCRIPTION	
Name of training course	link:protab
Number of participating staff	

12.4 Specify any policy/legal frameworks (including strategies) in place to support sustainable use and marketing for under-utilized species. [143; NFP] 87 176

[27] Taxon name is not required if crop is specified
[28] Crop name is not required if taxon is specified

12.5 Please provide below any comment you may have on priorities, needs and constraints to implementation, opportunities for further action at national or sub-regional level, and actions or support needed from regional and/or international organizations. [265;]

13 Supporting Seed Production and Distribution

The availability of seed and planting materials to farmers can be constrained by lack of seed production and poor seed distribution systems. Activities in this area facilitate collaboration among governmental, commercial and small-scale seed production and distribution agencies.

13.1 Enter in the table below any programme/project/activity related to seed production and distribution in which your organization participates, taxa/crops and topics covered, and relevant references. [156; SH] 89 92 180

COLUMN DESCRIPTION	
Name of programme/project/activity	link:protab
Name of crop/crop group[29]	
Name of taxon[30]	link:taxtab
Topics covered	
☐ Seed production ☐ Seed storage ☐ Seed processing ☐ Seed quality control ☐ Seed distribution ☐ Participatory community-based activities ☐ Linkages between formal and informal seed sectors	
Reference	link:reftab

13.2 Enter in the table below the crop(s)/crop group(s) for which variety registration is a legal requirement in your country, the agency(ies) responsible, the procedure followed and any relevant reference. [147; NFP] 181

COLUMN DESCRIPTION	
Name of crop/crop group	
Responsible agency	link:instab
Procedure followed for registration	
• Distinctness, uniformity and stability (DUS) • Value for cultivation and use (VCU) • Special regulations for local varieties • Other (please specify)	
Other procedure	
Reference	link:reftab

[29] Crop name is not required if taxon is specified
[30] Taxon name is not required if crop is specified

90 **13.3 Enter in the table below any relevant publication in the country listing registered and recommended cultivars, specifying the geographical area(s), taxon(a) or crop(s) focused by the publication.** [149; NFP]

COLUMN DESCRIPTION	
Title of publication	link:reftab
Name of area	link:aretab
Name of crop[31]	
Name of taxon[32]	link:taxtab

179 **13.4 Enter in the table below the crop(s)/crop group(s) for which seed quality standards are applied in your country.** [276; NFP]

COLUMN DESCRIPTION
Name of crop/crop group
Seed quality standards (physical purity, germinability, etc.)
☐ Based on ISTA rules ☐ Based on AOSCA rules ☐ Based on FAO Quality Declared Seed rules ☐ Based on nationally defined rules ☐ Based on other rules
Genetic purity standards
☐ Based on OECD scheme ☐ Based on a nationally defined scheme ☐ Based on other scheme

184 **13.5 Indicate for each crop/crop group the major constraints in the country in making seed of new varieties available in the market.** [155; SH]

COLUMN DESCRIPTION
Name of crop/crop group

continued on next page...

[31] Crop name is not required if taxon is specified
[32] Taxon name is not required if crop is specified

. . . continued

COLUMN DESCRIPTION
Constraint
☐ Varieties poorly adapted to local conditions ☐ Insufficient availability of basic/foundation seed ☐ Insufficient availability of registered/certified seed ☐ Insufficient availability of commercial seed ☐ Insufficient availability of disease-free planting material ☐ Poor seed storage facilities ☐ Poor seed germinability ☐ Low seed physical purity ☐ Availability and cost of required production inputs ☐ Seed price too high as compared to commodity price ☐ Inadequate seed distribution systems ☐ Distance to seed supplier ☐ Inadequate seed production systems ☐ Other (please specify)
Other constraint

13.6 Enter in the table below for each major crop or cropping system in your country an estimate of the proportion sown to modern or improved varieties. [279; NFP] 78

COLUMN DESCRIPTION
Name of crop
Estimated percentage of area sown to modern varieties
Source of estimate
• Crop survey • Expert estimate • Other (please specify)
Other source

13.7 List in the table below registered, released and cultivated varieties, specifying type, origin, year of registration and release (when apply), target agro-ecological environment(s), important characteristics and an estimate of the percentage of total crop area. [150; NFP] 78 90 162

COLUMN DESCRIPTION	
Name of crop	
Name of cultivar	link:cultab

continued on next page. . .

. . . continued

COLUMN DESCRIPTION
Type • Local variety • Improved variety
Origin • National • Introduced from abroad
Year of registration
Year of release
Target agro-ecological environment(s)
Estimated percentage of total crop area sown to this cultivar
Important characteristics

181 **13.8 Indicate any policy and/or regulatory framework in place in the country**
183 **to develop and expand local seed systems for crops and crop varieties**
184 **important to small-scale farmers and list crops and varieties that benefit from it.** [151; NFP]

COLUMN DESCRIPTION	
Policy/Regulatory framework description	
Reference	link:reftab
Name of crop[33]	
Name of cultivar	link:cultab

185 **13.9 Is there any incentive for quality seed production of local varieties and/or under-utilized crops? If yes, please explain what incentives are in place.** [153; SH]

186 **13.10 Is there any mechanism in place in the country to support the organization and expansion of local seed growers' associations?** [152; SH]

○ Yes ○ No

[33] Crop name is not required if cultivar is specified

13.11 Enter in the table below any training course on seed production and distribution received by the staff of your organization and the number of persons trained. [157; SH] 182 210 211

COLUMN DESCRIPTION	
Name of training course	link:protab
Number of participating staff	

13.12 Please provide below any comment you may have on priorities, needs and constraints to implementation, opportunities for further action at national or sub-regional level, and actions or support needed from regional and/or international organizations. [266;]

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

Traditional agroecosystems were replete with diversity of crops and crop varieties. Modernization of agriculture with increasing intensification has been a principal contributing in eroding this diversity. Numerous locally adapted traditional varieties of crop plants have been replaced by modern varieties responsive to intensive agriculture. Consequently, informal exchanges and formal commodity markets are dominated by fewer advanced varieties replacing traditional local varieties. As a result, farmers are losing interest in maintaining genetically diverse traditional varieties and landraces. This trend needs to be reversed by increasing demand for genetically diverse traditional varieties and diversity-rich materials in the market place. This will encourage farmers to maintain locally adapted diversity on-farm as 'living collections' of PGRFA.

95 190 **14.1 Describe any legal policy/legal frameworks (including strategies) in place to support new markets development and diversity rich products.** [165; NFP]

93 187 **14.2 Describe in the table below, for each relevant taxon or crop, the market situation and provide the approximate number of local varieties currently in the market and of those with great economic potential identified for developing new markets.** [159; SH]

COLUMN DESCRIPTION	
Name of taxon[34]	link:taxtab
Name of crop[35]	
Current market situation ☐ Markets are well established and expanded ☐ A limited number of new markets have been developed ☐ Existing markets have been expanded and some new markets developed ☐ Attempts are underway to develop new markets ☐ No attempts are presently being made to develop new markets	
Number of local varieties in the market	
Number of local varieties with economic potential for new markets development	

94 188 194 **14.3 Enter in the table below any programme/project/activity for developing and marketing local varieties and "diversity rich" products and specify the crops covered.** [160; SH]

[34] Name of taxon is not required if crop name is given
[35] Name of crop is not required if taxon name is given

COLUMN DESCRIPTION	
Name of project/activity	link:protab
Name of crop	
Topics covered also:	
☐ Development of post-harvest processing methods ☐ Development of marketing methods	

14.4 Describe any effort made towards developing value-added processing of diversity-rich products for commercial purposes [163; SH] 188

14.5 Indicate any incentive that has been examined or implemented to promoting markets for local varieties and "diversity-rich" products. [271; SH] 192 193

- ☐ Niche variety-registration systems
- ☐ Organic farming
- ☐ Labelling of products that use non-standard crop varieties
- ☐ Strengthening cooperation of producers
- ☐ Initiative in schools
- ☐ Street fairs

14.6 Indicate critical constraints to increasing markets for local varieties and "diversity-rich" products in the country. [162; SH] 95

- ○ Emphasis on modern cultivars of staple crops
- ○ Uniformity standards in the country discourage 'diversity rich' products
- ○ Development/establishment of markets for local varieties is not a national priority
- ○ Lack of financial support
- ○ Lack of trained personnel
- ○ Disincentives in the country

14.7 Enter in the table below any training course on the development of new markets for local varieties and 'diversity-rich' products received by the staff of your organization and the number of persons trained. [164; SH] 189 210 211

COLUMN DESCRIPTION	
Name of training course	link:protab
Number of participating staff	

14.8 Please provide below any comment you may have on priorities, needs and constraints to implementation, opportunities for further action at national or sub-regional level, and actions or support needed from regional and/or international organizations. [267;]

15 Building Strong National Programmes

National programmes are the foundation of the global efforts towards conservation and sustainable use of plant genetic resource (PGR). They provide the basis for developing a rational PGR strategy, balancing activities in in situ, ex situ conservation and use, conditions of access, safe movement, benefit-sharing, and technology-transfer. National programmes generally include representation from government, private, community and non-governmental organizations (NGOs) that are involved in PGR activities in the country. Strong national programmes strive to improve institutional and sectoral linkages including community efforts, and developing national capacity in the scientific, technical, managerial and policy areas.

15.1 Enter in the table below the national entity (agency, committee, etc.) functioning as a governance structure responsible for coordinating and/or facilitating PGRFA activities in the country, specifying the year of establishment, mandate, the categories of stakeholders represented and the frequency of meetings. [171; NFP] 96 97 199

COLUMN DESCRIPTION
Name of entity link:instab
Year of establishment
Year of latest restructuring
Additional mandate ☐ Forest genetic resources ☐ Animal genetic resources
Description of objectives
Frequency of meetings • Quarterly during a year • Twice a year • Annually • Every two years • Every three years • Irregularly • Other
Date of last meeting (YYYY/MM)
Participating partners ☐ Plant breeders ☐ Farmers ☐ Private sector ☐ NGOs ☐ Universities ☐ National genebanks ☐ Community organizations ☐ Ministry of Agriculture ☐ Ministry of the Environment ☐ Other (please specify)
Other participating partners

97 198 **15.2 Enter in the table below the details of the national programme for the conservation and sustainable use of PGRFA, indicating which activity areas of the GPA are covered.** [167; NFP]

COLUMN DESCRIPTION	
Name of programme	link:protab
Reference	link:reftab

97 **15.3 Enter in the table below title, position, name and address of the National Focal Point officially appointed for reporting on the implementation of the GPA to FAO.** [177; NFP]

COLUMN DESCRIPTION	
Name of Focal Point	link:pertab
Date of appointment (YYYY/MM)	

98 195 **15.4 Describe the legal framework regulating the establishment of the national strategy, plan and programme on conservation and sustainable use of PGRFA (e.g. issues addressed, title of legal text and current status of the legal text).** [181; NFP]

COLUMN DESCRIPTION	
Reference to legal framework	link:reftab
Description of legal framework	
National Programme mandate status	
☐ Formal provision	
☐ Legal provision	
☐ Administrative provision	

196 **15.5 Enter in the table below any PGRFA relevant international convention or agreement signed and/or ratified by your country, specifying a reference to it, the institute(s) responsible for its implementation, the national focal point for the agreement/convention, references to implementation reports, and the GPA priority areas in which the country benefit most.** [185; NFP]

COLUMN DESCRIPTION	
Name of agreement/convention	link:agrtab
Agreement reference	link:reftab
Implementing organization	link:instab
Agreement national focal point	link:pertab
Implementation reports	link:reftab
GPA areas that benefit most	
☐ Surveying and inventorying PGRFA ☐ Supporting on-farm management of PGRFA ☐ Assisting farmers in disaster situations ☐ Promoting in situ conservation of wild crop relatives ☐ Sustaining existing ex situ collections ☐ Regenerating threatened ex situ collections ☐ Supporting planned and targeted collecting of PGRFA ☐ Expanding ex situ conservation activities ☐ Expanding the characterization, evaluation and number of core collections ☐ Increasing genetic enhancement and base-broadening efforts ☐ Promoting sustainable agriculture ☐ Promoting development and commercialization of under-utilized crops and species ☐ Supporting seed production and distribution ☐ Developing new markets for local varieties and 'diversity rich' products ☐ Building strong national programmes ☐ Promoting networks for PGRFA ☐ Constructing comprehensive information systems for PGRFA ☐ Developing monitoring and early warning systems for loss of PGRFA ☐ Expanding and improving education and training ☐ Promoting public awareness of the value of PGRFA conservation and use	

15.6 Provide an estimate in the table below of the current trend within the National Programme in terms of: [263; NFP] 197 199

COLUMN DESCRIPTION
Number of technical experts working in the National Programme
• Decreasing • Stable • Increasing

continued on next page...

. . . continued

COLUMN DESCRIPTION
Number of legal experts working in the National Programme
• Decreasing • Stable • Increasing
Number of managerial/policy experts working in the National Programme
• Decreasing • Stable • Increasing

199 **15.7 Are workshops and meetings of concerned persons and organizations held to review national activities on conservation and use of PGRFA?** [182; NFP]

○ Yes ○ No

197 **15.8 Enter in the table below any training course on institutions and capacity building received by the staff of your organization and the number of persons trained.** [270; SH]

COLUMN DESCRIPTION	
Name of training course	link:protab
Number of participating staff	

15.9 Please add any additional comment you may have on opportunities, challenges, needs, constraints and national priorities to establish and strengthen institutions and enhance national capacity to conserve and promote sustainable use of PGRFA. [186;]

16 Promoting Networks for Plant Genetic Resources for Food and Agriculture

Networking on mutually agreeable terms is an efficient way of conserving, utilizing and enriching crop germplasm. Viable and functional networks promote sharing of knowledge and experience as well as a wider use of crop germplasm for mutual benefits, such as setting regional and global priorities in germplasm conservation, genetic enhancement and enrichment. For these reasons, establishing new networks and strengthening existing networks are a priority.

16.1 List in the table below the name and acronym of all PGRFA networks that the country is an active member of, participating institutions, network national focal point, and indicate whether their scope is global or regional. [187; NFP] 200

COLUMN DESCRIPTION	
Name of network	link:instab
Network activity description	link:protab
Network national focal point	link:pertab

16.2 Indicate the nature of support that your Government recently provided to support network activities. [188; NFP] 202

- ☐ Direct financial support through membership dues
- ☐ Travel costs to attend meetings
- ☐ Publishing costs
- ☐ Technical expertise in joint activities
- ☐ Organization and hosting of network meetings
- ☐ Institutional infrastructure to participate in joint activities
- ☐ Information management support

202 **16.3 Indicate the major benefits gained by the country through PGRFA networks.** [192; NFP]

- ☐ Transfer of technology
- ☐ Back up safety duplication of germplasm
- ☐ Improved access to markets for PGRFA products
- ☐ Exchange of germplasm
- ☐ Increased stakeholder participation
- ☐ Access to financial resources through participation
- ☐ Increased research facilities
- ☐ Sharing of responsibilities for network activities
- ☐ Exchange of technical expertise
- ☐ Training for national programme scientists
- ☐ Exchange of information
- ☐ Access to advanced research results
- ☐ Joint characterization and evaluation of germplasm
- ☐ Increased awareness of PGRFA
- ☐ Avoiding duplication of efforts

202 **16.4 Indicate the major constrains to the effective participation of your country in regional and/or international PGRFA networks.** [193; NFP]

- ☐ Lack of financial resources
- ☐ Networks are poorly managed and ineffective
- ☐ Networking is not a national priority
- ☐ National policies limit the ability of our country to share germplasm
- ☐ Bilateral relations are found to be more beneficial than multilateral
- ☐ The benefits of participation in the networks are not clear
- ☐ Suitable partners for networking have not been found
- ☐ No agreements on benefit-sharing among potential partners
- ☐ Appropriate national partners/stakeholders are not identified
- ☐ No constraints exist

99 201 **16.5 Enter in the table below any programme/project/activity carried out by your organization in collaboration with any PGRFA network.** [191; SH]

COLUMN DESCRIPTION	
Name of programme/project/activity	link:protab

16.6 List in the table below any publication your organization has actively contributed to in the context of the network activities. [189; SH] 201

COLUMN DESCRIPTION	
Title of publication	link:reftab
Name of network	link:instab

16.7 Enter in the table below any training course received by the staff of your organization through a PGRFA network and the number of persons trained. [190; SH] 201 210 211

COLUMN DESCRIPTION	
Name of training course	link:protab
Number of participating staff	

16.8 Please provide below any additional comments you may have on promoting networks for PGRFA and your active participation in them. [195;]

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

Information management plays a pivotal role in PGRFA conservation and utilization. It involves collection and processing of data, documentation, summarization and dissemination of information in a user-friendly manner. A comprehensive information system should recognize traditional indigenous knowledge and integrate it with modern scientific knowledge to develop the best approach to conservation and use both ex situ and in situ preserved diversity of PGRFA. The efficiency of PGRFA information systems is enhanced by computerization of data management, and electronic dissemination of information to users.

204 **17.1 Are the data management and information systems standardized between organizations participating in activities of the National Programme in the country?** [196; NFP]

- ○ Yes
- ○ No

218 **17.2 Provide an estimate of relevant GPA stakeholders equipped with computers in the country.** [197; NFP]

- ○ None
- ○ Some (1-33%)
- ○ Many (34-66%)
- ○ Most (67-99%)
- ○ All

203 218 **17.3 Indicate the type of Internet connectivity available at your organization.** [198; SH]

- ○ Continuous
- ○ Dial-up
- ○ None

203 204 205 207 **17.4 Enter in the table below any project/programme/activity in which your organization participates in order to develop data and information management systems for PGRFA in the country.** [201; SH]

COLUMN DESCRIPTION	
Name of project/programme/activity	link:protab

17.5 Enter in the table below any international PGR information system (e.g. WIEWS, SINGER, IPGRI DGC etc.) consulted and specify how frequently they are consulted. [202; SH] 206

COLUMN DESCRIPTION	
Name of system	link:protab
Frequency of consultation	
• Low • Medium • High	

17.6 List in the table below any information system currently used for PGRFA and/or Seed Stock data management, specifying characteristics, functions and level of utilization. [203; SH] 131 203 204 205 207

COLUMN DESCRIPTION	
Name of system	link:systab
Level of usage	
• Low • Low-Medium • Medium • Medium-High • High	
Frequency of data quality control	
• Never • Occasionally • Regularly	

17.7 Enter in the table below any training course on constructing information systems for PGRFA received by the staff of your organization and the number of persons trained. [236; SH] 210 211

COLUMN DESCRIPTION	
Name of training course	link:protab
Number of participating staff	

17.8 Please provide below any additional comments you may have on opportunities, challenges, needs, constraints and national priorities on developing comprehensive information systems for efficient management of crop diversity and its use. [205;]

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

Erosion of plant genetic resources can occur in ex situ collections, in farmers' fields and in the wild. However, rarely are there formal mechanisms to monitor situations that put plant genetic resources at risk, to assemble information, and to take appropriate action. This activity area is aimed at determining the underlying causes of genetic erosion, encouraging the monitoring at national, regional and global levels, and establishing mechanisms to insure that information is transferred to appropriate points designated as responsible for analysis, coordination and action.

18.1 Is there any recognizable threat of genetic erosion and genetic vulnerability in the country? [206; NFP] 100

- ○ Yes
- ○ No

18.2 Enter in the table below any reference to identified loss of PGRFA reported by the mandated national authority(ies) to the FAO Global system on PGRFA. [262; NFP] 101

COLUMN DESCRIPTION	
Reference(s)	link:reftab

18.3 Is the need for assessing genetic erosion and genetic vulnerability recognized in the country? [207; NFP] 100

- ○ Yes
- ○ No

18.4 If yes, are there any mechanism in place in the country to assess genetic erosion in both in situ and ex situ reserves? [208; NFP] 100

- ○ Yes, only for in situ reserves
- ○ Yes, only for ex situ reserves
- ○ Yes, both in in situ and ex situ reserves
- ○ No mechanisms are in place for assessing genetic erosion

100 **18.5 Indicate the mechanisms used to monitor genetic erosion in the country.** [209; NFP]

- ☐ Land surveys and inventories
- ☐ Environmental impact assessments
- ☐ Gene bank monitoring
- ☐ Monitoring of reports of land use changes

100 **18.6 Describe the constraints faced in the country to monitoring genetic erosion.** [211; NFP]

- ☐ Monitoring genetic erosion is not a high priority in the country
- ☐ Need for genetic erosion assessment is not recognized
- ☐ Lack of skilled personnel
- ☐ Lack of appropriate technology
- ☐ Lack of financial resources
- ☐ No serious constraint to monitoring genetic erosion exists in the country

100 101 **18.7 The FAO World Information and Early Warning System (WIEWS) has recently been evaluated (see `http://www.fao.org/ag/cgrfa/docs8.htm` for the document CGRFA/8/99/inf.5). Assuming the recommendations of the review are implemented, would the country provide necessary reports and information to WIEWS, and consider it an appropriate early warning system for monitoring the loss of PGRFA?** [212; NFP]

○ Yes ○ No

100 **18.8 Enter in the table below any project in which your organization participates, relating to assessment of the magnitude and rate of genetic erosion.** [210; SH]

COLUMN DESCRIPTION	
Name of project	link:protab

210 **18.9 Enter in the table below any training course on developing monitoring**
211 **and early warning systems for loss of PGRFA received by the staff of your organization and the number of persons trained.** [278; SH]

COLUMN DESCRIPTION	
Name of training course	link:protab
Number of participating staff	

18.10 Please provide below any comment you may have on developing and using early warning systems, their constraints and opportunities, and the extent of external support needed to develop and use appropriate early warning systems to monitoring genetic erosion of PGRFA and genetic vulnerability caused by this erosion in the country. [213;]

19 Expanding and Improving Education and Training

Conservation and utilization of genetic resources of crops and their wild relatives entail cross-disciplinary education and training in a range of interrelated subjects. Furthermore, specialized training is needed to upgrade and enhance the capacity of personnel involved in conservation and use of PGRFA. This capacity-building activity may be organized nationally, regionally or internationally. With minor changes in curriculum, universities with strong agriculture and biology programmes may regularly or periodically offer necessary education and training in the conservation of plant genetic diversity.

209 **19.1 Which of the following statements best describe education and training for PGRFA in the country?** [214; NFP]

- ○ There is no national strategy for education and training
- ○ There is no national strategy, but adequate training is provided
- ○ A strategy exists, but is not being adequately implemented
- ○ A strategy exists and is being adequately implemented
- ○ University-level education is offered to interested students

208 **19.2 If training and educational facilities in PGRFA conservation and utilization exist in the country, please indicate the level of these opportunities.** [216; NFP]

- ○ Sufficient training and education opportunities exist in the country
- ○ Some training and education opportunities exist in the country
- ○ Training and education opportunities are rare and inadequate in the country

208 **19.3 Indicate the availability of university training opportunities in the region on topics related to PGRFA conservation and use** [219; NFP]

- ○ Sufficient university level training opportunities exist in the region
- ○ Some university level training opportunities exist, but they are not sufficient to meet our needs
- ○ No university level training opportunities exist in the region and no national programme staff have participated in university courses either inside or outside the region
- ○ No university level training opportunities exist in the region, but national programme staff have participated in university courses outside the region

208 **19.4 Indicate the availability of short course training opportunities in the region on priority topics related to PGRFA conservation and use** [275; NFP]

- ○ Sufficient short course training opportunities exist in the region
- ○ Some short course training exists in the region, but they are not sufficient to meet our needs
- ○ No short course training opportunities exist in the region and no national programme staff have participated in any short courses either inside or outside the region
- ○ No short course training opportunities exist in the region, but national programme staff have participated in short courses outside the region

19.5 Indicate the greatest obstacles to training in PGRFA in the country. 208 [220; NFP]

- ☐ Lack of awareness of the training needs within the country
- ☐ Lack of trained personnel in the country to provide training
- ☐ Lack of financial resources
- ☐ Paucity of resource materials to improve existing training programmes
- ☐ Paucity of human resources to provide quality training
- ☐ Frequent staff turnover
- ☐ No serious obstacles to training activities

19.6 List in the table below any topic which your organization considers a training priority for its staff and which is presently not covered by any training programme in your country or region. 208 [215; SH]

COLUMN DESCRIPTION
Training topic
Not available
• at National level • at Regional level

19.7 Please provide below any comment you may have on establishing, improving and expanding training facilities on conservation and sustainable use of PGRFA, and on the extent of external assistance needed to implement training and educational programmes in the country. [221;]

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

Increasing public awareness is a conservation imperative, particularly in countries with rapid and large-scale genetic erosion. The public in general is not always aware of the effects of PGRFA on the economy and the environment, and on the urgent and critical need for their conservation. This can be alleviated by popular audio-visual presentation, as well as education. Communications and consultations and are the dual means of increasing public awareness and appreciation of the needs and benefits of conservation of PGRFA.

213 **20.1 Is the public well aware of the value of PGRFA conservation in the country?** [222; NFP]

- ○ The public is generally unaware
- ○ Public awareness is limited
- ○ Public awareness satisfactory
- ○ Public awareness is excellent

213 **20.2 Is the public awareness programme well developed in the country?** [223; NFP]

- ○ No public awareness activities undertaken
- ○ Limited complementary and coordinated activities
- ○ Several isolated activities
- ○ Very well development with several complementary and coordinated activities

214 **20.3 Public awareness activities are coordinated in the country through:** [226; NFP]

- ☐ National PGRFA Committee
- ☐ National Focal Point for GPA Implementation
- ☐ National PGRFA Programme
- ☐ Public Awareness Focal Point

215 **20.4 Is the awareness of the value of PGRFA integrated into pre-secondary and/or secondary educational curricula?** [274; NFP]

○ Yes ○ No

213 **20.5 Indicate the greatest constraints to developing and using public awareness materials.** [232; SH]

- ☐ Insufficient number of staff
- ☐ National priorities have not been established
- ☐ Staff does not have sufficient skills and knowledge
- ☐ It is not clear which organization is responsible for this activity
- ☐ Insufficient financial support

20.6 Indicate in the table below the type of products developed, media used, audience targeted and topics covered by your organization in creating awareness on the value of PGRFA. [268; SH] 212

COLUMN DESCRIPTION	
Products developed	
☐ Audio-visual products	
☐ Display panels and posters	
☐ Fact sheets	
☐ Newsletters	
☐ Reports (enter references below)	
☐ Magazines (enter references below)	
☐ WWW pages (enter references below)	
☐ Accessories (t-shirts, caps, bags, etc.) /Gadgets	
Media used	
☐ Press	
☐ Television	
☐ Radio	
☐ Internet	
☐ Diversity fairs	
☐ Conferences	
☐ Educational events	
Audiences targeted	
☐ Policy makers	
☐ Scientists	
☐ Extension agents	
☐ Farmers	
☐ School children	
☐ General public	
Topics covered	
☐ Importance of PGRFA as part of biodiversity	
☐ Farmers' role	
☐ National policy	
☐ Environmental education	
Reference	link:reftab

214 **20.7 List, if any, non-governmental organizations (NGOs) and well-known personalities involved in public awareness activities in the country.** [227; SH]

COLUMN DESCRIPTION	
Name of organization	link:instab
Name of person	link:pertab

214 **20.8 List in the table below regional or international organizations that provide the country with support for public awareness activities on PGRFA.** [231; NFP]

COLUMN DESCRIPTION	
Name of organization	link:instab

20.9 Please provide below any comment you may have on challenges, opportunities and constraints, and support received and additional support needed from regional and international organizations for increasing public awareness of the value of PGRFA. [233;]

Annex 3 – Draft Reporting Format: Common tables

Annex 3 contains a description of nine common tables. Each table is used to store detailed information about nine different entities, namely, organizations, contact persons, programmes/projects/activities, taxa, cultivars, geographical areas, information systems, published/unpublished references, and agreements, which are referred to by several tables throughout the reporting format (Annex 2).

Information available at FAO and IPGRI on the above nine entities will be preloaded into these common tables and made available to countries through the electronic version of the reporting format (please see paragraph 5 in this document).

The 'organization table' (instab) contains contact information on institutes, organizations and networks, as well as departments or subordinate structures within them. The field 'parent organization' is used to build hierarchies among the table entries. [256;]

COLUMN DESCRIPTION
Name of organization
Organization acronym
WIEWS instcode
Parent organization link:instab
Address
ZIP code
City
Country
Telephone
Fax
Email address
WWW address
Organization authority status
• Governmental • Non-Governmental • International • Regional • Parastatal • Private • United Nations • CGIAR
Organization role categories
☐ Genebank (long term collections) ☐ Genebank (medium term collections) ☐ Genebank (short term collections) ☐ Botanical garden ☐ Breeder ☐ Network ☐ Community ☐ Educational ☐ Seed producer ☐ Seed supplier ☐ Farmer community ☐ Research ☐ Extensionist ☐ Publisher ☐ Laboratory ☐ Administration/Policy

The 'contact person table' (pertab) contains contact information on persons, including phone and email address. Persons are usually associated with organizations in the organization table, where the mail adress is stored. [257;]

COLUMN DESCRIPTION	
Last name	
Title	
First name	
Position	
Country of residence	
Email address	
Telephone	
Organization	link:instab

The 'project table' (protab) collects data on programmes, projects, activities, plans, courses, etc. A flag field indicates the context and serves for analysis and filtering entries that belong to different questions. [252;]

COLUMN DESCRIPTION	
Name	
Acronym/code	
Status	
• Proposed • Approved • On-going • Completed	
Starting date (YYYY/MM)	
Ending date (YYYY/MM)	
Parent[36]	link:protab
Description	
Co-ordinator	link:pertab
Co-ordinating organization	link:instab
Participants	link:pertab
Participating organizations	link:instab
Participating countries	
Associated networks	link:instab
Budget amount	
Budget currency units	
Budget type	
• Annual • Total	

continued on next page...

[36] If an activity is part of another higher-level activity you can indicate the parent activity here

. . . continued

COLUMN DESCRIPTION
Categories of funding sources ☐ Co-ordinating organization ☐ Participating organizations ☐ National Programme ☐ Associated networks
Funding sources link:instab
Scope • Institutional • Local • National • Regional • International
Course type[37] • Not applicable • Workshop • Seminar • Symposium • Academic • Short course
GPA activity areas addressed ☐ Surveying and inventorying PGRFA ☐ Supporting on-farm management of PGRFA ☐ Assisting farmers in disaster situations ☐ Promoting in situ conservation of wild crop relatives ☐ Sustaining existing ex situ collections ☐ Regenerating threatened ex situ collections ☐ Supporting planned and targeted collecting of PGRFA ☐ Expanding ex situ conservation activities ☐ Expanding the characterization, evaluation and number of core collections ☐ Increasing genetic enhancement and base-broadening efforts ☐ Promoting sustainable agriculture ☐ Promoting development and commercialization of under-utilized crops and species ☐ Supporting seed production and distribution ☐ Developing new markets for local varieties and 'diversity rich' products ☐ Building strong national programmes ☐ Promoting networks for PGRFA ☐ Constructing comprehensive information systems for PGRFA ☐ Developing monitoring and early warning systems for loss of PGRFA ☐ Expanding and improving education and training ☐ Promoting public awareness of the value of PGRFA conservation and use

The 'taxon table' (taxtab) contains data on scientific plant names and authorities. [259;]

COLUMN DESCRIPTION
Name of taxon

continued on next page. . .

[37] Only applicable to educational activities

. . . continued

COLUMN DESCRIPTION	
Name of authority	
Botanical family	
Taxonomic status	
Preferred taxon name	link:taxtab

The 'cultivar table' (cultab) contains data on cultivated varieties, their pedigree and origin. [260;]

COLUMN DESCRIPTION	
Name of taxon	link:taxtab
Cultivar name	
Breeding organization	link:instab
Breeder person	link:pertab
Breeder's cultivar ID	
Pedigree	
Note	
Preferred cultivar name	link:cultab

The 'area table' (aretab) is used to store data on geographical areas within countries. There is no attempt to be complete in the description of the area - the only required field is the area name. If longitudes and latitudes are entered they should refer to a central point within the area, which can be used to plot areas on a map. The area size field is useful for the same purpose, but is not required. It is possible to enter whole countries or even larger geographic areas into the area table, but no attempt is made to build hierarchies between such areas. [254;]

COLUMN DESCRIPTION
Name of area
Size of area
Size unit
• Square kilometers • Hectares • Square miles • Acres
Longitude

continued on next page. . .

. . . continued

COLUMN DESCRIPTION	
Latitude	
Communities covered	link:instab

The 'infosys table' (systab) contains data on information system software used to store, manage and analyze PGRFA data. [258;]

COLUMN DESCRIPTION
Name of system
Acronym
Last release date (YYYY/MM)
Last version
System coverage
☐ In situ ☐ Ex situ (single crop) ☐ Ex situ (multi-crop)
Data type
• Full detail • Meta-data
System capabilities
☐ Management of transaction data ☐ Management of passport data ☐ Management of inventory data ☐ Management of quality control data ☐ Management of regeneration data ☐ Management of characterization/evaluation data ☐ Management of cultivar data ☐ Management of taxonomic synonyms ☐ Management of data on organizations ☐ Management of data on contact persons ☐ Management of references ☐ Management of geo-referenced data (GIS) ☐ Management of environmental data ☐ Management of ecological data
System usability
• Single-user (stand-alone) • Multi-user (network-based)
Update capabilities
• Read-only • Read/Write
System availability
• Free, open source • Free, closed source • Non-free • Not available
Database engine

continued on next page. . .

... continued

COLUMN DESCRIPTION
• SQL-based • DB2-based • AceDB-based • Xbase-based • MS-Access • Other
Client interface
• Browser-based • Java-based • Windows proprietary • MacIntosh proprietary • Unix proprietary • Other
Links to other relevant national information systems
☐ Seed stocks ☐ Plant breeders ☐ Geo-referenced botanic distributions ☐ Taxonomic reference systems ☐ Others

The 'reference table' (reftab) is used to collect data on published references. The structure follows the BibTex standard in order to allow easier processing with existing BibTex tools, e.g. to produce lists of references in standard format. A reference can be an electronic document, such as a web-site on the Internet. [253;]

COLUMN DESCRIPTION
Title
Author
Type of reference
• Article • Booklet • InBook • InProceedings • MastersThesis • PhDThesis • Manual • TechReport • Book • Proceeding • Catalogue • Misc • Unpublished • Draft law • Bill • Law • Regulation
Journal
Year of publication
Volume
Number
Pages/Page range
Book title/Proceeding
Editor
Edition
Series
Language
Publisher
Place
ISBN

continued on next page...

. . . continued

COLUMN DESCRIPTION	
ISSN	
WWW address	
Abstract	
Cross-reference	link:reftab

The 'agreement table' (agrtab) contains data on bilateral or multilateral agreements. [255;]

COLUMN DESCRIPTION
Name of agreement
Agreement acronym
Parent agreement link:agrtab
Other parties link:instab
Agreement type
• International treaty/convention • Regional treaty/convention • National treaty/convention • Other multilateral agreement • Bilateral agreement • Memorandum of understanding
Signing date (YYYY/MM)
Ratification date (YYYY/MM)
Valid until (YYYY/MM)