SHORT QUESTIONNAIRE ON THE STATE OF PLANT GENETIC RESOURCES FOR FOOD AND AGRICULTURE

SLOVENIA

Note by FAO

This short questionnaire has been prepared by the national authorities in the context of the preparatory process for the Second Report on the State of World's Plant Genetic Resources for Food and Agriculture.

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FOREWORD

The document:

- Is entirely based on the guidelines for the preparation of Country Reports. It does not contain new concepts.
- Does not replace, but is complementary to the guidelines for the preparation of Country Reports.
- Is made up of targeted questions to obtain the most relevant information for the preparation of a Second State of the World's PGRFA that illustrates changes since 1996.
- Asks questions that will generate good quality data.
- Will allow for responses that will provide complete data-sets, to conduct relevant analyses.
- Will allow for analysis of change and main emerging issues, which will be a basis for updating the rolling GPA.

CHAPTER 1

THE STATE OF DIVERSITY

Has the state of diversity of PGRFA in your country been assessed since 1996?

Yes	No	If so, what crops? How?
X		- A survey and evaluation of the conditions and mechanisms for *ex situ* conservation of wild and agricultural plants, animals, microorganism and fungi in Slovenia has been assessed in 2003. - Measuring IRENA indicators (Indicator Reporting on the Integration of Environmental Concerns into EU Agriculture Policy) in 2006, which include indicator for biodiversity in agriculture (in our case it was evaluated with measuring the 5 most used varieties in the principal agricultural crops). - Some specific and detail studies on diversity of part of *Phaseolus* and *Lactuca* gene bank holdings using morphological and molecular markers. - Study of *Trifolium pratense*, *Phleum* and *Dactylis* gene bank holdings using morphological markers. - Study of diversity of natural stands of blueberries in Slovenia using morphological and molecular markers.

Does your country have plans to assess the state of diversity of PGRFA?

Yes	No	If so, what crops? How?
X		- Continuation of work on measuring environmental indexes - Continuation of work on diversity of specific crops: *Trifolium*, *Medicago*, grain legumes and small fruits using morphological and molecular markers.

Does your country have procedures in place to monitor or measure genetic erosion?

Yes	No	If so, what crops? How?
X		Genetic erosion is going to be measured on the bases of environmental indexes and allele structure and distribution within specific crops.

In your opinion, have there been changes in crop genetic diversity in your country over the past ten years? If so, please provide the information in the tables below:

In your country's production systems			
	Diversity		
Crop	**Decreased**	**Increased**	**How was this assessed?**
Grains and legumes	X		Quite some older varieties were deleted from national list in 2005, although it can be produced until 2009.
Root and tuber crops	X		Quite some older varieties were deleted from national list in 2005, although it can be produced until 2009.
Vegetable crops	X		Quite some older varieties were deleted from national list in 2005, although it can be produced until 2009.

In your country's production systems			
Forage crops	X		Quite some older varieties were deleted from national list in 2005, although it can be produced until 2009.
Vine	X		For some of old varieties growers show less interest at the moment so they exists only as accessions of gene bank collections *in situ*; the second reason is planting of grapevine clones.
Hop		X	New varieties were in National list of varieties.

In *ex situ* management			
	Diversity		
Crop	**Decreased**	**Increased**	**How was this assessed?**
Grains and legumes		X	By number of accessions, held in gene banks. Some new accessions (53, esp. maize, legumes) were added.
Root and tuber crops		X	By number of accessions, held in gene banks. Some new accessions (5) were added.
Vegetable crops		X	By number of accessions, held in gene banks. Some new accessions (112) were added.
Forage crops		X	By number of accessions, held in gene banks. Some new accessions (700, esp. perennial ryegrass) were added.
Fruit plants		X	By number of accessions, held in gene banks. Some new accessions (esp. apple and pear) were added. For small fruit the number of accessions remain the same.
Vine			Remained the same. Assessed through the gene bank holdings data.
Hop		X	By number of accessions, held in gene banks. Some new accessions were added.
Medicinal and aromatic plants		X	By number of accessions, held in gene banks. Some new accessions were added.

Crop wild relatives			
	Diversity		
Crop	**Decreased**	**Increased**	**How was this assessed?**
Forage crops		X	Through notes and databases of collecting trips since majority of material was collected in the wild.(KIS)
Fruit plants		X	For small fruits (blueberries) on the basis of natural stands diversity evaluation.
Hop		X	By number of accessions, held in gene banks. Some new wild hops acessions were added
Medicinal and aromatic plants (MAPs)	X		There is general opinion on global decrease in diversity of MAPs due to exploitation of raw materials from native resources. In Slovenia the past exploitation of some native plant species for pharmaceutical and other processing industries has been the main reason that such species have become threatened and/or rare (like *Arnica montana*). Presently it is not possible to estimate general diversity loss of MAPs, in Slovenia, because detailed surveys with the aim of assessing abundance of MAP populations and factors affecting their natural resources has not been done for majority of plant species (over 400 taxons). Recently, information system has been developed for above mentioned estimations, but the field data will be obtained from surveys in next years.

CHAPTER 2

THE STATE OF *IN SITU* MANAGEMENT

In the last ten years, in your country, have actions been taken:

- **to support the *in situ* conservation of crop wild relatives?**

Yes	No	Action taken	If so, for which crops or species?
X		Inventories of species in protected areas	In some protected area (Kozjanski regional park) collections of conservation varieties and wild relatives of fruit plants has been established.
	X	Legislation	There is no specific legislation addressing *in situ* conservation of CWR. However, Nature Conservation Act (Of. G. RS 96/2004) include 2 sets of general obligation for conservation of plant and animal species, including genetic material and their habitats and ecosystems. It can be achieved through different measures; one of them is through a protected area.
	X	Developed a management plan	There is no specific management plan in this respect, but can appear as a part of regular management plan of a protected area.
X		Eco-geographical surveys	Information system for MAPs, based on relational principles, which enables monitoring and documentation of in-situ ecogeographical characteristics of native habitats has been developed. In next years, the field data are needed to be obtained in surveys and processed with information system.
		Others (please specify)	

- **to encourage or support the *in situ* conservation of crop-associated biodiversity and wild plants used for food?**

Yes	No	Action taken	If so, for which crops or species?
X		Inventories of species in protected areas	- In some protected area (Kozjanski regional park) collections of conservation varieties and wild relatives of fruit plants has been established. - MAPs: Surveys were performed on locations of northern Gorica region (comprising Trnovska plateau and Banjšice plateau), on Nanos as well as some on locations of the Karst regional park area. These areas are protected according to the Natura 2000 program.49 localities – MAP natural habitats have been surveyed with the aim of collecting seed material from natural resources. More than 100 floristic and phytocoenological surveys have been made for 355 taxons, including 20 species (5,6 %) from Red list of Vascular plants of Slovenia (14 vulnerable – V, 4 rare – R and 2 species not endangered – O) and 18 protected species (5%) in Slovenia (3 of these *Arnica montana*, *Gentiana lutea* subsp. *symphyandra* and G. *lutea* subsp. *vardjanii*). Some of the evaluated species: *Arnica montana* L. *Gentiana lutea* subsp. *vardjanii* T. Wraber, *Gentiana lutea* subsp. *symphyandra* Murb.), *Salvia officinalis* L., *Satureja montana* subps. *variegata* (Host.), *Ruta divaricata* Ten., *Anthyllis vulneraria* L., *Rubus idaeus* L., *Origanum vulgare* L. *Hypericum* perforatum L., *Thymus longicaulis* C.Presl, *Satureja subspicata* subsp. *liburnica* Šilić, *Achillea millefolium* L., *Artemisia absinthium* L., *Melissa officinalis* L.
	X	Legislation	There is no specific legislation addressing *in situ* conservation of CWR. However, Nature Conservation Act (Of. G. RS 96/2004) include 2 sets of general obligation for conservation of plant and animal species, including genetic material and their habitats and ecosystems. It can be achieved through different measures; one of them is through a protected area.
	X	Developed a management plan	There is no specific management plan in this respect, but can appear as a part of regular management plan of a protected area.
	X	Eco-geographical surveys	There are no specific surveys regarding this topic. In some areas habitat type mapping is conducted but with no direct relation to particular species. However, this data can be used later to model areas, suitable for target species.
		Others (please specify)	

In the last ten years, have actions have been taken in your country, to encourage or support on-farm maintenance of traditional varieties?

Yes	No	Types of action	Scale (e.g., number of farmers) and priority crops
X		Policy/Legislation	Measures for cultivating conservation (traditional) varieties were established as a part of program for rural development.
X		Provision of incentives	Propagating material of fruit plants conservation varieties were distributed to local farmers to preserve meadow orchards.
X		Development of markets	Actions for promoting of old vine varieties through growers associations ('Konzorcij Zelen','Konzorcij Cviček') and putting on market wine of traditional old vine cultivars.
X		Participatory plant breeding	Onion and flint corn participatory breeding in Bela krajina region.
X		Base-broadening	- Reintroduction of grain legumes, mainly Phaseolus landraces, to farms in Dolenjska region in cooperation with Slovenian agricultural and forestry chamber. - Resurrection of extinct landraces of Lactuca sativa. - Introduction to the market envisaged.
X		Small-scale seed production	Dozen of organic farmers in vegetable crops (Amarant)
	X	Capacity-building	
	X	Farmer Field Schools	
	X	Community seed banks	
		Other (please specify)	

Restoring agricultural systems after natural and man-made disasters:

Has your country put in place mechanisms to replace PGRFA lost through natural disasters and emergencies?

Yes	No	If so, what mechanisms?
	X	

CHAPTER 3

THE STATE OF *EX SITU* MANAGEMENT

Of the genebank accessions that were sourced within your country (not obtained from foreign genebanks), approximately what percentage are in need of regeneration? (i.e., the percentage of accessions whose germination rate is now below 85% of the level it had when first acquired)

- Maize and buckwheat – almost 25 %
- Grasses and legumes – almost 50 %
- Vegetables – almost 50 %

What percentage of genebank accessions sourced within your country have been safety-duplicated in a genebank outside your country?

- *Solanum tuberosum* – 80%, Gross Lusewitz, Germany
- Forage crops – 10%, Czech gene bank, Prague

How many accessions in the national genebank were distributed last year to: (a.) users within the country

- Forage crops: 10 accessions

(b.) users outside the country

- Maize: 18 accessions
- Lucerne: 1 accession
- Hop: 2 accessions
- Other forage crops: 15 accessions
- Potato: 8 accessions

Are there any crop collections being conserved *ex situ* from which no samples were distributed last year? If so, how many crops?

- Buckwheat, wheat, fruit plants, grasses, medicinal plants, small grains, grain legumes, vegetables

Does the national genebank have formal links with breeders such as crop or breeder committees?

- No formal links

Has the budget (inflation-adjusted) for your national genebank roughly stayed the same, risen or fallen during the last five years?

- Soft risen during five past years (5 % increased)

Does the national genebank have an annually approved budget, or a budget that is approved for multiple years? (If so, how many?)

- Annually approved budget

CHAPTER 4

THE STATE OF USE

In the past ten years, have more of the PGRFA in your country's *ex situ* collections been characterized and evaluated?

	Yes	No	If yes, please indicate the extra percentage (%) characterized and evaluated
Grains and legumes	X		maize – 40 %, buckwheat – 50 %, other – 30 %
Root and tuber crops	X		100 %
Vegetable crops	X		70%
Underutilized crops	X		5%
Forage crops	X		red clover and perennial ryegrass – 50 %, other 35 %
Hop	X		10 %

In the past ten years, has the documentation of PGRFA in your country improved?

	Yes	No	If yes, please indicate the extra percentage (%) documented
In written form	X		50% (mainly passport data)
Electronically	X		50% (mainly passport data)

In the past ten years, has the yearly number of samples of PGRFA distributed by holders in your country increased?

	Yes	No
To domestic users		X
To foreign users		X

In the past ten years, has plant breeding capacity (e.g., the number of active breeders, and of active programmes) in your country changed?

	Less	Same	More
In the public sector		X	
In the private sector		X	

In the past ten years, has the balance between public and private sector changed in your country?

Please tick one box	
No change	X
More public	
More private	

In the past ten years, has the amount of use of PGRFA in your country changed?

	Grains and legumes			Roots and tubers		
	Less use	Same	More use	Less use	Same	More use
Fundamental research			X		X	
Breeding			X			X
Biotechnology		X			X	
Direct use in farming systems		X			X	

	Vegetables			Underutilized crops		
	Less use	Same	More use	Less use	Same	More use
Fundamental research		X				X
Breeding		X				X
Biotechnology		X			X	
Direct use in farming systems			X		X	

	Forages		
	Less use	Same	More use
Fundamental research		X	
Breeding		X	
Biotechnology		X	
Direct use in farming systems		X	

In the last ten years, have legislation and regulations been developed in your country to:

	Yes	No
Support farmers' access to improved seeds?	X	
Support the marketing diversity-rich products, including farmer varieties?	X	

CHAPTER 5

THE STATE OF NATIONAL PROGRAMMES, TRAINING AND LEGISLATION

National Programmes

In the last ten years, has your National Plant Genetic Resources Programme:

Please tick one box	
Become stronger?	
Remained the same?	X
Declined?	

In the last ten years, has programme funding for your National Plant Genetic Resources Programme:

Please tick one box	
Increased?	X
Remained the same?	
Declined?	

Education and Training

In the last ten years, has the capacity for training and education on PGRFA-related issues:

Please tick one box	
Increased?	
Remained the same?	X
Declined?	

National Legislation, Regulations and Policies

In the last ten years, has your country adopted legislation, promulgated regulations, or established policies relevant to plant genetic resources for food and agriculture?

	Yes	No
Phytosanitary matters	X	
Seed production	X	
Plant breeders' rights	X	
Others (please specify)		

Information Systems

In the last ten years, have information systems to support conservation, use and development of PGRFA been established or strengthened in your country?

Yes	No	If so, which, and how?
X		Central database for PGR has been developed and upgrading is in progress.

CHAPTER 6

THE STATE OF REGIONAL AND INTERNATIONAL COLLABORATION

In which regional and international networks does your country participate?

Action taken	If so, for which crops or species?
Crop networks	Participation in ECPGR crop networks for: vegetables, cereals, fruit, forages
Thematic networks	Participation in ECPGR thematic network: Inter-regional Cooperation, Documentation and Information Networks
Regional or world networks	SEEDNET crop networks

In the past ten years, has your country subscribed to international agreements, treaties, conventions, or trade agreements relevant to the sustainable use, development and conservation of plant genetic resources?

Yes	No	If so, which?
X		CBD, ITPGRFA, ECPGR

CHAPTER 7

ACCESS TO PLANT GENETIC RESOURCES AND SHARING OF BENEFITS ARISING OUT OF THEIR USE, AND FARMERS' RIGHTS

Access to Plant Genetic Resources

In the last ten years, have your national public and private sectors experienced difficulties in obtaining the PGRFA they need from other countries?

Yes	No	If so, what difficulties?
X		Long mailing time, from ordering date to date of delivery. Probably due to stricter security or mail regulations (for overseas shipments).

The International Treaty on Plant Genetic Resources for Food and Agriculture provides for a Multilateral System of Access and Benefit-sharing. Is your country already a Contracting Party?

Yes	No	If not, are procedures underway to accede to the Treaty? Can you give a likely date?
X		From 2006

Are procedures underway in your country to bring your relevant PGRFA into the Treaty's Multilateral System of Access and Benefit-sharing?

Yes	No	When do you expect procedures to be completed? Have you encountered difficulties? If so, which?
X		In 2009, no major difficulties are detected.

Farmers' Rights

For the first time in any binding international instrument, the International Treaty on Plant Genetic Resources for Food and Agriculture make provision, in Article 9, for countries to realize Farmers' Rights, through the following three ways, amongst others. Has your country steps taken to realize Farmers' Rights, or has it plans to do so?

	Yes	No	If so, what steps have been taken, or are planned?
Protection of traditional knowledge relevant to PGRFA		X	
The right to equitably participate in sharing benefits from the utilization of PGRFA		X	
The right to participate in making national decisions regarding the conservation and sustainable use of PGRFA	X		Representatives of farmers will be a member of the PGR committee