

Country Report on the implementation of
the International Treaty on Plant Genetic
Resources for Food and Agriculture
(ITPGRFA)

SWITZERLAND

05/12/2016

Article 4: General Obligations

1. Are there any laws, regulations procedures or policies in place in your country that implement the Treaty?

Please select only one option

- Yes
 No

1A. If your answer is 'yes', please provide details of such laws, regulations, procedures or policies:

> In Switzerland, the Treaty is implemented by the 916.181 Ordinance of 28 October 2015 on the Conservation and Sustainable Use of Plant Genetic Resources for Food and Agriculture (Ordonnance sur la conservation et l'utilisation durable de ressources phylogénétiques pour l'alimentation et l'agriculture (ORPGAA)), which entered into force on 1 January 2016. The ordinance regulates the role of the Swiss government in the conservation of PGRFA.

Weblink: <https://www.admin.ch/opc/fr/classified-compilation/20151992/index.html>

Since 1999, the implementation of the Global Plan of Action has been under the auspices of the National Plan of Action for the Conservation and Sustainable Utilisation of Plant Genetic Resources for Food and Agriculture (Plan d'action national pour la conservation et l'utilisation durable des ressources phylogénétiques pour l'alimentation et l'agriculture (PAN-RPGAA)).

The National Plan of Action for the Conservation and Sustainable Utilisation of Plant Genetic Resources for Food and Agriculture represents the heart of the Swiss undertakings in the conservation of PGRFA. The focus has been on the conservation and utilisation of old plant varieties and accessions for food and agriculture and on the promotion of national and international collaboration. The measures taken encompass:

- the elaboration and provision of basic information and fundamentals
- various programmes for conservation and sustainable utilisation
- awareness-raising programmes

The period 2015-2018 represents the fifth phase of the National Plan of Action.

You have attached the following documents to this answer.

[CHE 916.181 Ordonnance sur la conservation et l'utilisation durable de ressources phylogénétiques pour l'alimentation et l'agriculture.pdf](#) - Ordonnance sur la conservation et l'utilisation durable de ressources phylogénétiques pour l'alimentation et l'agriculture (ORPGAA)

You have attached the following Web links/URLs to this answer.

<https://www.admin.ch/opc/fr/classified-compilation/20151992/index.html>

2. Are there any other laws, regulations, procedures or policies in place in your country that apply to plant genetic resources?

Please select only one option

- Yes
 No

2A. If your answer is 'yes', please provide details of such laws, regulations, procedures or policies:

> Other Swiss laws and regulations applying to plant genetic resources are:

- the 451 Federal Act on the Protection of Nature and Cultural Heritage (NCHA)

(Loi fédérale sur la protection de la nature et du paysage (LPN))

<https://www.admin.ch/opc/fr/classified-compilation/19660144/index.html>

- the 451.61 Ordinance of 11 December 2015 on the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization (Nagoya Ordinance)

(Ordonnance sur l'accès aux ressources génétiques et le partage juste et équitable des avantages découlant de leur utilisation (Ordonnance de Nagoya, ONag))

<https://www.admin.ch/opc/en/classified-compilation/20150120/index.html>

- the 232.16 Federal Law on the Protection of New Varieties of Plants

(Loi fédérale sur la protection des obtentions végétales))

<https://www.admin.ch/opc/fr/classified-compilation/19750063/index.html>

- the 232.161 Ordinance on the Protection of New Varieties of Plants

(Ordonnance sur la protection des obtentions végétales (Ordonnance sur la protection des variétés))

<https://www.admin.ch/opc/fr/classified-compilation/20080201/index.html>

- the 232.14 Federal Act on Patents for Inventions

(Loi fédérale sur les brevets d'invention (Loi sur les brevets, LBI)),

<https://www.admin.ch/opc/fr/classified-compilation/19540108/index.html>

- the 232.141 Ordinance on Patents

(Ordonnance relative aux brevets d'invention (Ordonnance sur les brevets, OBI))

<https://www.admin.ch/opc/fr/classified-compilation/19770250/index.html>

- the 916.151 Ordinance on the Production and Entry into Free Circulation of Plant Propagating Material (Ordonnance on Propagating Material)

(Ordonnance sur la production et la mise en circulation du matériel végétal de multiplication (Ordonnance sur le matériel de multiplication))

<https://www.admin.ch/opc/fr/classified-compilation/19983468/index.html>

The ordinance includes aspects on niche-varieties, providing a framework to enable their sustainable use.

- the 910.13 Ordinance on Direct Payments to Agriculture

(Ordonnance sur les paiements directs versés dans l'agriculture (Ordonnance sur les paiements directs, OPD))

<https://www.admin.ch/opc/fr/classified-compilation/20130216/index.html>

3. Is there any law, regulation, procedure or policy in place in your country that needs to be adjusted / harmonized to ensure conformity with the obligations as provided in the Treaty?

Please select only one option

Yes

No

3A. If your answer is 'yes', please provide details of such adjustments and any plans to make those adjustments:

>

Article 5: Conservation, Exploration, Collection, Characterisation, Evaluation and Documentation of Plant Genetic Resources for Food and Agriculture

4. Has an integrated approach to the exploration, conservation and sustainable use of plant genetic resources for food and agriculture (PGRFA) been promoted in your country?

Please select only one option

Yes

No

5. Have PGRFA been surveyed and inventoried in your country?

Please select only one option

Yes

No

5A. If your answer is 'yes', please provide details of your findings, specifying species, sub-species and /or varieties, including those that are of potential use.

> Switzerland has made big efforts to survey and inventory PGRFA. In the early period of the framework of the National Plan of Action on the Conservation and Sustainable Use of PGRFA, important foundations were established as part of the first measure (elaboration and provision of basic information and fundamentals). Literature studies were used to determine whether varieties and accessions are of Swiss origin and/or whether the material is of national, cultural or local significance and value. The available diversity has been provisionally secured and traced. For the time being, the inventory has been completed to a large extent. At present, various efforts for the characterisation of the secured material are under way. All information on the plants and on the old varieties of the collections is made publically available online in the Swiss National Database for the Conservation of Plant Genetic Resources www.bdn.ch. An interactive map of Switzerland, showing the conservation collections, can be found at <https://www.bdn.ch/conservation>.

Currently, the inventoried PGRFA can be classified into three categories, depending on the stage of their characterization and identification of their (potential) use.

a) Varieties and accessions which have been surveyed and inventoried in Switzerland and which are currently designated for conservation (conservation status 'yes') can be found in the Swiss National Database for the Conservation of Plant Genetic Resources following weblink:

[https://www.bdn.ch/search/?searchable_text=&search_in=var&list_type=&category=&has_photos=1&has_file_s=1&CROPNAME=&VARCONSERVSTAT=yes&owner=&public=.](https://www.bdn.ch/search/?searchable_text=&search_in=var&list_type=&category=&has_photos=1&has_file_s=1&CROPNAME=&VARCONSERVSTAT=yes&owner=&public=)

b) Varieties and accessions, which might be considered for conservation, but which could not yet be identified (conservation status 'maybe'), are listed in the Swiss National Database under the weblink:

[https://www.bdn.ch/search/?searchable_text=&search_in=var&list_type=&category=&has_photos=1&has_file_s=1&CROPNAME=&VARCONSERVSTAT=maybe&owner=&public=.](https://www.bdn.ch/search/?searchable_text=&search_in=var&list_type=&category=&has_photos=1&has_file_s=1&CROPNAME=&VARCONSERVSTAT=maybe&owner=&public=)

c) Varieties and accessions which have currently been designated not to be conserved can be found in the Swiss National Database under the weblink:

[https://www.bdn.ch/search/?searchable_text=&search_in=var&list_type=&category=&has_photos=1&has_file_s=1&CROPNAME=&VARCONSERVSTAT=no&owner=&public=.](https://www.bdn.ch/search/?searchable_text=&search_in=var&list_type=&category=&has_photos=1&has_file_s=1&CROPNAME=&VARCONSERVSTAT=no&owner=&public=)

All varieties and accessions which have been inventoried, i.e. which have been either a) considered for conservation, b) might be considered for conservation or c) have not been designated for conservation can be found in the Swiss National Database under the weblink:

[https://www.bdn.ch/search/?searchable_text=&search_in=var&list_type=&category=&has_photos=1&has_file_s=1&CROPNAME=&VARCONSERVSTAT=maybe&VARCONSERVSTAT=no&VARCONSERVSTAT=yes&owner=&public=.](https://www.bdn.ch/search/?searchable_text=&search_in=var&list_type=&category=&has_photos=1&has_file_s=1&CROPNAME=&VARCONSERVSTAT=maybe&VARCONSERVSTAT=no&VARCONSERVSTAT=yes&owner=&public=)

You have attached the following Web links/URLs to this answer.

<https://www.bdn.ch/conservation>

5B. If your answer is 'no', please indicate:

Any difficulties encountered in surveying or inventorying PGRFA;

Any action plans to survey and inventory PGRFA;

The most important PGRFA that should be surveyed and inventoried

>

6. Has any threat to PGRFA in your country been identified?

Please select only one option

yes

No

6A. If your answer is 'yes', please indicate:

The species, subspecies and/or varieties subject to such threats;

The sources (causes) of these threats;

Any steps taken to minimise or eliminate these threats;

Any difficulties encountered in implementing such steps;

> In Switzerland, threats to PGRFA were identified in field collections, as well as in in vitro collections.

In field collections, there has been a threat to apples (*Malus domestica*) and pears (*Pyrus communis*) due to fire blight. Duplicate material was, however, available to save the genetic material for conservation.

In in-vitro collections, the relocation of collections to a new laboratory, which faced power supply problems, posed a threat to potato (*Solanum tuberosum*), strawberries (*Fragaria* sp.), raspberries (*Rubus idaeus*) and blackberries (*Rubus fruticosus*).

In order to minimise or eliminate such threats in the future, further duplications were taken.

7. Has the collection of PGRFA and relevant associated information on those plant genetic resources that are under threat or are of potential use been promoted in your country?

Please select only one option

Yes

No

7A. If your answer is 'yes', please provide details of the measures taken:

> The majority of the threatened PGRFA are in collections for conservation (collections de conservation). The mentioned threats occur within these collections.

8. Have farmers and local communities' efforts to manage and conserve PGRFA on-farm been promoted or supported in your country?

Please select only one option

Yes

No

8A. If your answer is 'yes', please provide details of the measures taken:

> In Switzerland, the National Plan of Action for the Conservation and the Sustainable Use of Plant Genetic Resources for Food and Agriculture (Plan d'action national pour la conservation et l'utilisation durable des ressources phylogénétiques pour l'alimentation et l'agriculture (PAN-RPGAA)) orientates itself on the Global Plan of Action for PGRFA of the FAO. The National Action Plan PAN-RPGAA is implemented in collaboration with various private and public organisations involved in the conservation of PGRFA. Under a collaborative umbrella, public-private partnership projects are undertaken with the aim to collect, conserve, characterise and sustainably use plant genetic resources for food and agriculture. This includes also on-farm conservation. Since 1999, projects can be submitted by conservation organisations. Information on projects within the framework of the PAN-RPGAA is publically available and can be retrieved following the weblink <http://www.bdn.ch/pan/>.

Examples of projects include the PAN-RPGAA legume exhibition garden at the Zurich University of Applied Sciences (ZHAW) in Waedenswil (<https://www.zhaw.ch/de/lsvm/ueber-uns/offene-hochschule/gaerten-im-grueental/sortenschaugarten>), the Erschmatt exhibition garden on cereal crops in the Valais Alps (<http://www.erschmatt.ch/wordpress/en/natural-and-cultural-heritage>), the online information platform Fundus Agri-Cultura Alpina for traditional knowledge on the use of autochthone varieties and breeds in the German-speaking alpine region (<http://fundus-agricultura.wiki/>), and the ex situ conservation and characterisation of forage grasses.

Since Switzerland is regarded as hot spot for forage and fodder species diversity, the involvement of farmers may play a more important role in the future with regards to the in situ conservation in intensive to semi-intensive grassland. The goal is the long-term conservation of the major genotypes in designated in situ conservation sites by farmers. The knowhow of the farmer for the fodder production in the particular location of the conservation site plays an important role for genotype diversity.

9. Has in situ conservation of wild crop relatives and wild plants for food production been promoted in your country?

Please select only one option

Yes

No

9A. If your answer is 'yes', please indicate whether any measures have been taken to:

Promote in situ conservation in protected areas

Support the efforts of indigenous and local communities

9B. If such measures have been taken, please provide details of the measures taken:

> Switzerland is undertaking measures to promote the in situ conservation of crop wild relatives and of wild plants for food production.

A group of experts has come to the conclusion that 83% of the Swiss flora can be considered as wild crop relatives. 47% are counted towards the aromatic and medicinal plants, 28% as forage and fodder plants, 11% to fruits and vines, 6% to vegetables and 4% each to berries and crop plants. The crop wild relative species have been prioritised and their status of endangerment and the Swiss responsibility for their conservation was evaluated.

(https://www.bdn.ch/media/files/cms/cwr/priority/prioritäre%20CWR-Liste_v3_BDN_1.xls)

Particularly in the domain of forage plants, Switzerland hosts a great genetic diversity (Hotspot). The Swiss government is therefore considering possibilities for support mechanisms destined for farmers in order to promote the conservation of forage plants and, if applicable, the conservation of crop wild relatives.

A wealth of further information, including interactive maps, is publically available online at the Swiss National Database:

- Information on pilot projects on forage crops (including taxonomic compositions) can be retrieved by following the weblink <https://www.bdn.ch/insitu/>.

- The inventory on crop wild relatives can be found at <https://www.bdn.ch/cwr/>.

On-going projects:

- Exhibition gardens: <https://www.bdn.ch/pan/05-NAP-O05/> and <https://www.bdn.ch/pan/05-NAP-O07/>

- National Plan of Action project on wild pear *Pyrus pyraeaster* (<https://www.bdn.ch/pan/05-NAP-P30/>) and

- National Plan of Action project on medlar *Mespilus germanica* (<https://www.bdn.ch/pan/05-NAP-P34/>)

10. Are there any ex situ collections of PGRFA in your country?

Please select only one option

Yes

No

10 A. If your answer is 'yes', please provide information on the holder and content of such collections:

> Within its National Plan of Action on Plant Genetic Resources for Food and Agriculture (NAP-PGREL) and the framework provided by the National Genebank PGREL, Switzerland pursues ex situ conservation of various collections of its genetic resources through a collaboration between several private and public conservation organisations. Information on these collections, including an interactive map of Switzerland, can be found on the website <https://www.bdn.ch/conservation/>.

- Switzerland owns a more than 100-year-old national genebank, the National Genebank of Agroscope in Changins (Nyon), held by the Swiss Centre of Excellence for Agricultural Research (Agroscope). Landraces, which were collected at the beginning of 1900 are still conserved and available. The current conservation techniques allow the long-term preservation of an important number of species. The material conserved in the genebank includes the following accessions and species (accessions; species): Vine (379 ; 15), Maize (410 ; 1), Vegetables (536 ; 59), industrial crops (buckwheat, camelina, flax, hemp) (5 ; 4), Opium poppy (38; 1), Soybean (37 ; 1), Triticale (846 ; 1), Spelt (2249 ; 9), Rye (58 ; 1), Wheat (5148 ; 200), Oat (38; 1); Barley (799; 8); Aromatic and medicinal plants (28; 24).

- Next to the National Genebank, there are several private ex situ collections in Switzerland.

11. Has the development of an efficient and sustainable system of ex situ conservation of PGRFA been promoted in your country?

Please select only one option

Yes

No

11A. If your answer is 'yes', please indicate the measures taken to promote ex situ conservation, in particular any measures to promote the development and transfer of technologies for this purpose:

> The National Plan of Action for the conservation and sustainable use of PGRFA (PAN-RPGAA) is implemented together with various private and public conservation organisations in the form of public-private partnerships. The aim is the collection, conservation, characterisation and sustainable use of plant genetic resources for food and agriculture.

Since 1999, projects can be submitted by conservation organisations within the framework of the National Plan of Action (PAN-RPGAA). The collaboration with private organisations also promotes sustainable use and on-farm conservation. Information on projects within the framework of the PAN-RPGAA is made publically available and can be retrieved following the weblink <http://www.bdn.ch/pan/>.

The Swiss National Database for the Conservation of Plant Genetic Resources www.bdn.ch makes a major contribution to the promotion of ex situ conservation.

12. Has the maintenance of the viability, degree of variation, and the genetic integrity of ex situ collections of PGRFA been monitoring in your country?

Please select only one option

yes

No

12A. If your answer is 'yes', please provide details of the main conclusions of these monitoring activities
> In Switzerland, the safeguarding of the quality of the ex situ collections of PGRFA, i.e. the viability, degree of variation, and the genetic integrity, is an ongoing task. Depending on the conservation strategy, this is monitored, for example, by tracing material exchange between collections and genetic marker analysis. In order to ensure and maintain viability, the accessions maintained in the National Genebank of Agroscope in Changins (Nyon) are multiplied regularly, depending on the species. Maintaining and ensuring genetic integrity is a particular challenge for ex situ genebanks. The National Genebank is maintaining a herbarium voucher specimen collected from the initial multiplication. The cereal herbarium collection includes samples of intact spikes of each accession. During multiplication of open pollinating species, the recommended distances between two accessions are respected.

13. Has your country cooperated with other Contracting Parties, through bilateral or regional channels, in the conservation, exploration, collection, characterization, evaluation or documentation of PGRFA?

Please select only one option

- Yes
 No

13A. If your answer is 'yes', please indicate the other Contracting Parties with whom the cooperation was undertaken (where additional to cooperation through the Governing Body or Treaty mechanisms) and, where possible, details of any relevant projects:

> There are direct project-based cooperations with institutes from other Contracting Parties, for example for genetic analyses. European partnerships have been initiated to authenticate accessions, particularly ancient varieties, from the in-vitro nuclear stock of potato genotypes at Agroscope-Changins. This in-vitro nuclear stock serves to maintain potato genotypes for Swiss production and to safe-guard biodiversity within the context of the National Plan of Action. Initial genetic analyses revealed 280 unique profiles from among close to 450 genotyped accessions. 38 varieties are part of the National Genebank RPGAA (<https://www.bdn.ch/lists/1230/view/>).

The National Genebank RPGAA, provides data to EURISCO, a European Web search catalogue, which automatically receives data from the European National Inventories (NI). It provides information at the accession level of PGR conserved in European genebanks or other collections. EURISCO is maintained on behalf of the Secretariat of the European Cooperative Programme for Plant Genetic Resources (ECPGR) (standardized multi-crop passport data) (<http://www.ecpgr.cgiar.org>). The ECPGR is a collaborative programme among most European countries aimed at ensuring long-term conservation and facilitating the increased utilization of plant genetic resources in Europe.

With regards to the Swiss Agency for Development and Cooperation (SDC), the answer to this question would be 'No'. The SDC does not cooperate with Contracting Parties through bilateral or regional channels directly. The SDC supports various projects addressing Article 5-related issues in various countries or for specific plant varieties through other channels, such as through international organizations, research institutes and non-governmental organizations, with the involvement of Contracting Parties. Art. 6-related activities addressing the Sustainable Use of Plant Genetic Resources are also supported in various projects in many different countries, as well as the promotion of Technical Assistance (Art. 8) and Capacity Building (Question 30). Some projects with a focus on Art. 6 activities also include Art. 5 activities and vice versa. It is therefore difficult to divide the projects and to allocate the activities to a specific Article in this questionnaire. The main support activities and the most important projects are listed under question 16 (Art. 7).

Article 6: Sustainable Use of Plant Genetic Resources for Food and Agriculture

14. Are there any policy and legal measures in place in your country that promote the sustainable use of PGRFA

Please select only one option

- Yes
 No

14A. If your answer is 'yes', please indicate whether such policy and legal measures include:

- Pursuing fair agricultural policies that promote the development and maintenance of diverse farming systems that enhance the sustainable use of agricultural biological diversity and other natural resources;
- Strengthening research that enhances and conserves biological diversity by maximizing intra- and inter-specific variation for the benefit of farmers;
- Promoting plant breeding efforts, with the participation of farmers, that strengthen the capacity to develop varieties particularly adapted to social, economic and ecological conditions, including in marginal areas;
- Broadening the genetic base of crops and increasing the range of genetic diversity available to farmers
- Promoting the expanded use of local and locally adapted crops, varieties and underutilised species
- Supporting the wider use of diversity of varieties and species in on-farm management, conservation and sustainable use of crops and creating strong links to plant breeding and agricultural development
- Reviewing and adjusting breeding strategies and regulations concerning variety release and seed distribution

14B. If such policy and legal measures are in place, please provide details of the measures taken and any difficulties encountered in implementing them:

> Various measures for the promotion of the sustainable use of PGRFA are supported within the framework of the Ordinance on the Conservation and Sustainable Use of Plant Genetic Resources for Food and Agriculture (Ordonnance sur la conservation et l'utilisation durable de ressources phylogénétiques pour l'alimentation et l'agriculture (ORPGAA) <https://www.admin.ch/opc/fr/classified-compilation/20151992/index.html>). Currently, Switzerland is working on a national plant breeding strategy for the time horizon 2050. This also involves working groups focusing on the sustainable and fair access to PGRFA, as well as their sustainable use in the long term.

Within the Swiss legal framework regarding plant varieties, the commercialization of productive material of most of the varieties for food and agriculture is not allowed unless the variety is listed in a (National) catalogue. Since July 2010, it is possible, however, to get varieties authorized for niche markets if they do not meet the exigencies to be listed in the National Catalogue [Ordinance on the Production and Entry into Free Circulation of Plant Propagating Material (Ordinance on Propagating Material) <https://www.admin.ch/opc/de/classified-compilation/19983468/index.html>]. So far, there have not been as many demands for locally adapted crops and old varieties as was initially expected.

Article 7: National Commitments and international Cooperation

15. Has the conservation, exploration, collection, characterization, evaluation, documentation and sustainable use of PGRFA been integrated into your country's agriculture and rural development programmes and policies?

Please select only one option

- Yes
 No

15A. If your answer is 'yes', please provide details of the integration of such activities into the agriculture and rural development programmes and policies:

> Such activities are part of the Ordinance on the Conservation and Sustainable Use of Plant Genetic Resources for Food and Agriculture (ORPGAA). According to the ordinance, projects for the sustainable use of PGRFA can complement and support rural development programmes and policies.

16. Has your country cooperated with other Contracting Parties, through bilateral or regional channels, in the conservation and sustainable use of PGRFA?

Please select only one option

- yes
 No

16A. If your answer is 'yes', please indicate whether the aim of such cooperation is to:

- Strengthen the capability of developing countries and countries with economies in transition with respect to conservation and sustainable use of PGRFA
 Enhance international activities to promote conservation, evaluation, documentation, genetic enhancement, plant breeding, seed multiplication, and sharing, providing access to and exchanging PGRFA and appropriate information and technology, in conformity with the Multilateral System of Access and Benefit-Sharing under the Treaty

16B. If, in addition to cooperation through the Governing Body or other Treaty mechanisms, your country has cooperated with other Contracting Parties directly or through FAO and other relevant international organizations, please indicate such other Contracting Parties and, where possible, details of any relevant projects:

> From the perspective of the Swiss Agency for Development and Cooperation, Switzerland does not cooperate directly with other Contracting Parties through bilateral or regional channels in the conservation and sustainable use of PGRFA (see Question 13).

Cooperation on the conservation and sustainable use of PGRFA rather takes place through relevant international organizations, such as the Crop Trust and the CGIAR System, including regular funding for the gene bank program, but also IFAD and other IFI's, GEF and GCF which might support specific Treaty-related activities.

In addition, Switzerland supports specific projects in various countries. The most relevant projects with objectives, outcomes and activities that are closely related to Article 6 and 5 are briefly summarized below. Moreover, there are several projects focusing on agricultural value chain development, the promotion of agro-ecological approaches or nutrition, which also contain activities related to Article 6, but not as main goals or outcomes. These projects are not listed.

The BioCultura programme in Bolivia, which was launched in 2006, focuses on the economic, social and cultural development of the Andes' indigenous and farming communities, whilst guaranteeing the long-term preservation of local ecosystems. Tens of indigenous and farming communities (representing a tenth of the municipalities in the Bolivian Andes) have, so far, been able to benefit from the project, which is based on four specific priority objectives:

- Conserving biodiversity
- Increasing agricultural production and ensuring the population's food security
- Improving local management of natural resources
- Promoting traditional knowledge as added value

In Lao PDR "The Agrobiodiversity Initiative" (TABI) supports the conservation and sustainable economic use of agro-biodiversity (ABD) and promotes better livelihood for uplands farmers. The challenge is how to adapt the use of the country's agro-biodiversity and rice-based farming systems to meet the national development goals— including the reduction of poverty and support to rural livelihoods —to provide an attractive alternative to industrial crops. The expected outcomes are:

- Options and systems for ABD-based productive activities are designed, demonstrated and applied by upland farming communities and other stakeholders.
- Participatory forest and land use planning ensures village agricultural land and forest resource tenure and sustainable management
- Integrated spatial planning and ABD knowledge management and exchange tools support evidence based decision-making.
- Government policies promote ABD conservation and sustainable use, and land management, for improved

food security and livelihoods in upland communities.

□ - Partner institutions incorporate and use ABD tools and concepts for uplands livelihoods development
In Nepal the Vegetable Seed Project aimed to improve food security and income for the poor and disadvantaged households in remote areas of Nepal with two major objectives:

□ - farm families from poor and disadvantaged groups produce and sell quality seeds

□ - National Seed Board, Nepal Agriculture Research Council and Department of Agriculture enforce decentralized seed production and quality control through public and private institutions.

The Hill Maize Research Project (Nepal) had very encouraging achievements, such as:

□ - setting of the maize research priorities

□ - establishing participatory variety selection, validation and certification methodologies, linking research with extension for wider dissemination

□ - certification of nine improved varieties and production of 4,416 MT of improved maize seeds

□ - linking farmer's feedback to policy decisions through farmer's assessment tests over released varieties.

The project "Advocating for Agro-Biodiversity" supports small-scale farmer and farmer support organizations in the SADC region in their efforts to foster democratic debate over legal frameworks having an impact on food security, and more specifically: agro-biodiversity, farmers' rights to use, save and exchange seeds, and the diverse forms of knowledge farmers develop and maintain. This project also helps farmers in defining the role they want to see State institutions play in protecting all of the above. Expected outcomes are:

□ - A solid knowledge base on seed and soil fertility is available, and regularly accessed by small-scale farmer and farmer support organizations, policymakers and the general public in the region

□ - Regional action-research and farmer support networks with a focus on seed and soil fertility strengthened and active at national and regional levels

□ - Research and relevant information on seed and soil fertility policies, laws, regulations and programs shared among, and used by small-scale farmer and farmer support organizations in advocating and lobbying for agro-biodiversity for food security, farmers' rights and agricultural R&D in line with their priorities

□ - An innovative alert system in place, informing members of the network coordinated by the African Centre for Biosafety of new policy, legislative and regulatory initiatives related to seed, intellectual property and trade regimes in the region, and rapid response to alerts.

Strengthening Agro-biodiversity in Southern Africa: The project's goal is to strengthen food security in Southern Africa by promoting seed diversity and agro-ecological practices through an inclusive, evidence-based dialogue with governments at regional and country levels by empowered farmer's and farmer support organizations.

□ - By promoting a diversity of seed and agro-ecological practices, the project will strengthen food security in the region. It will achieve this through an inclusive dialogue at regional and country levels that take into account farmer and farmer support organizations voices in the development of policies and programmes in agriculture and food security.

□ - The project will enable the use of research and information on seed and soil fertility policies, regulations and programmes by small-scale farmers and farmer support organizations in advocating for agrobiodiversity, food security and farmers' rights. Furthermore, policies and programmes that protect and support farmer-managed seed systems are being developed and promoted so as to mitigate the environmental and social impacts of the industrial food system.

□ - Thus, the project will strengthen and sustain a dynamic regional CSO scene active on issues of seed, food and soil fertility, connecting farmers to consumers. Farmer support organizations will systematically engage national governments and regional bodies on these issues. They will also have access to protocols, laws, regulations and programmes that articulate the needs and aspirations of different segments of society to benefit small-scale farmers and their families.

Seeds and Access to Markets Project in Lesotho (5 districts), Swaziland (3 rural development associations) and Zimbabwe (3 districts) contributes to increased food and nutrition security of smallholder farmers by improving availability of and access to adequate quantities of quality seeds and planting material of suitable and diversified crop varieties. The project strengthens national and local farmer-led institutions, supports community seed and commodity production and strengthens seed and commodity distribution networks.

Expected outcomes are:

□ - Increased production of quality, nutritive, diversified seed through the establishment of viable, profitable community seed cooperatives

□ - Increased availability of affordable, quality inputs and relevant services through strengthened private sector markets

□ - Strengthened institutions of Government in place to deliver improved seed policies

□ - Increased production and sale of quality, nutritive, diversified commodities, through the establishment of viable, profitable community commodity cooperatives

The "New Seed Initiative for Maize in Southern Africa" (NSIMA) was launched for the purpose of conducting research into drought-tolerant maize varieties that can generate bigger harvests than conventional varieties, even in less fertile soil. The ultimate goals are to achieve greater food security, improved access to seed and the promotion of income for small holder farmers. At the same time, NSIMA activities involve cooperation with government and private-sector stakeholders in the maize sector to encourage seed production and trade, also for small-scale producers.

Since 1996, NSIMA has been developing maize varieties that are drought-tolerant and resist certain diseases

and adequately grow in nutrient-depleted soil. The new maize varieties are the result of hybridisation of different seed varieties in the seed bank maintained by the CIMMYT (Centro Internacional de Mejoramiento de Maíz y Trigo, in Mexico). Every year, researchers located throughout the Southern African Development Community distribute between 30 and 40 improved maize varieties whose yields and cultivation characteristics are then field-tested in cooperation with local farmers.

Contribution to the Pan African Bean Research Alliance (PABRA): The overall goal is to enhance food security, income and health of resource-poor farmers and urban poor in sub-Saharan Africa through research and development of the bean sub-sector. The expected outcomes are:

- - Increased and gender equitable access to high yielding bean varieties and productive integrated crop management technologies and related information
- - Increased access to micronutrient rich bean products among the vulnerable groups in a gender equitable manner
- - Increased access to profitable local and national markets in a gender equitable manner
- - Increased access to skills, information and knowledge providing enabling environment for bean research and development

The project “Improving seed systems for smallholder food security” in Bolivia, Uzbekistan, Burkina Faso, Uganda and Nepal aims to increase the availability and diversity of planting materials to smallholders to reduce vulnerability to external shocks as well as improving policy dialogue at various levels, on equity and redistribution issues regarding seed systems. Smallholders in developing countries will get political recognition for their role in germplasm conservation and get improved access to the necessary diversity of planting material needed for their families’ food security. The existing international policy framework shall be adapted to respond to the reality and the needs of smallholders in vulnerable ecosystems of developing countries. Expected outcomes are:

- - Provision of local crop diversity through seed suppliers, institutions and other national stakeholders, in large enough quantities and with the necessary quality to minimize risk for smallholders in vulnerable ecosystems
- - Smallholders are shock resilient and food secure through access to sufficient crop genetic resources
- - Seed systems and crop plant conservation policies are better connected to the realities of smallholders at local, national and global levels through enhanced policy dialogue.

The goal of the project “Food Security in Trade and Intellectual Property Regimes” is to contribute that food security in developing countries is more explicitly addressed on intellectual property agendas. To reach this overall goal the project aims at ensuring that

- - IP options that promote long-term food security are better appreciated by developed and emerging countries, and better exploited by developing countries. Policies should take into account the different needs of different stakeholders at country level: multinational companies, national seed industries and particularly smallholder farmers
- - IP negotiations on food security-relevant topics involve the participation of smallholder farmers, indigenous peoples and other vulnerable groups, public research institutions, as well as national seed companies and producers’ organizations.

Article 8: Technical Assistance

17. Has your country promoted the provision of technical assistance to developing countries and countries with economies in transition, with the objective of facilitating the implementation of the Treaty?

Please select only one option

- Yes
 No

17A. If your answer is 'yes', please provide details of the measures taken

> The projects listed under Question 16 in this questionnaire contain the provision of technical assistance to a certain extent. Depending of the project and the stakeholders involved, the technical assistance differs from project to project.

18. Has your country received technical assistance with the objective of facilitating the implementation of the Treaty?

Please select only one option

- Yes
 No

18 A. If your answer is 'yes', please provide details of such technical assistance:

>

Article 9: Farmers' Rights

19. Subject to national law, as appropriate, have any measures been taken to protect and promote farmers' rights in your country?

Please select only one option

- Yes
- No

19 A. If your answer is 'yes', please indicate whether such measures were related to:

- Recognition of the enormous contribution that local and indigenous communities and farmers of all regions of the world have made and will continue to make for the conservation and development of plant genetic resources;
- The protection of traditional knowledge relevant to PGRFA
- The right to equitably participate in sharing benefit arising from the utilisation of PGRFA
- The right to participate in making decisions, at the national level, on matters related to the conservation and sustainable use of PGRFA
- Any rights that farmers have to save, use, exchange, and sell farm-saved seed/propagating material

19B. If such measures were taken, please provide details of the measures taken and any difficulties encountered in implementing them:

> During the legislative procedure, all stakeholders and interested individuals have the opportunity to participate, express their opinion and make suggestions.

According to the federal law on the protection of plant varieties, farmers who have acquired propagating material from a protected agricultural variety put in circulation by the holder or with his or her consent, may, on their holdings, propagate the harvested material they have obtained by growing such material. The farmer's privilege applies to 23 species. Farmers do not exercise this right much, since they prefer to buy certified seed. A parallel provision is contained in the Federal Act on Patents for Inventions, which contains a farmers' privilege with regard to patented plant or animal reproduction material.

Article 11: Coverage of the Multilateral System

20. Has your country included in the Multilateral System of Access and Benefit-Sharing (MLS) all PGRFA listed in Annex 1 to the Treaty that are under the management and control of your Government and in the public domain?

Please select only one option

- All
 Partially
 None

20A. If your answer is 'all', please provide details of any difficulties encountered in including Annex 1 PGRFA in the MLS:

> Switzerland has not encountered any difficulties regarding the inclusion of Annex I PGRFA in the MLS. Difficulties could theoretically arise when material of species listed in Annex I is provided by a country not party to the Treaty. In this case, Switzerland could not share this material under the MLS.

20B. If your answer is 'partially', please provide details of:

The extent to which Annex 1 PGRFA have been included in the MLS

The crops that have been included in the MLS; and

The difficulties encountered in including Annex 1 PGRFA in the MLS:

>

20C. If your answer is 'none', please provide details of the difficulties encountered in including Annex 1 PGRFA in the MLS:

>

21. Has your country taken measures to encourage natural and legal persons within your jurisdiction who hold Annex 1 PGRFA to include those resources in the MLS?

Please select only one option

- Yes
 No

21A. If your answer is 'yes', please provide details of:

The natural or legal persons within your jurisdiction that included Annex 1 PGRFA in the MLS;

The crops that have been included in the MLS by these persons; and

Any difficulties these persons encountered in including Annex 1 PGRFA in the MLS:

> Through the process of the inventory of the PGRFA in Switzerland, the discovered accessions and varieties were included in the National Genebank. Material pursuant to Article 4 of the Ordinance on the conservation and sustainable use of PGRFA (PGRELV) entering the National Genebank is made available under the framework of the Multilateral System. In general, this means that all the material maintained in the National Genebank is included in the MLS and can be ordered. By proceeding in this way, Switzerland is also able to feed into the MLS new genetic material, which has previously not been under the management or control of the government. Furthermore, private collections can make their material available to the MLS, should the stakeholders wish to do so.

21B. If your answer is 'no', please provide details, in particular details of any difficulties encountered in encouraging these persons to include Annex 1 PGRFA in the MLS:

>

Article 12: Facilitated access to plant genetic resources for food and agriculture within the Multilateral System

22. Has your country taken measures to provide facilitated access to Annex 1 PGRFA, in accordance with the conditions set out in Article 12.4 of the Treaty?

Please select only one option

- Yes
 No

22A. If your answer is 'yes', please provide details of such measures:

> PGRFA which entered the National Genebank according to Article 4 of the Ordinance on the conservation and the sustainable use of PGRFA (ORPGAA) are made available through standard material transfer agreements (SMTA). Annex I PGRFA are part of the MLS.

Since 2003, the National Database on the Conservation of Plant Genetic Resources (www.bdn.ch) is available as an Internet-based search information system on the material maintained in the National Genebank.

External users can retrieve information about the Genebank material (passport as well as characterization and evaluation). The data of the accessions can be downloaded. Since early 2015, an ordering system is in place, using a click-wrap method.

22B. If your answer is 'no', please provide details of any difficulties encountered in providing facilitated access to Annex 1 PGRFA:

>

23. Has facilitated access been provided in your country to Annex 1 PGRFA pursuant to the standard material transfer agreement (SMTA)?

Please select only one option

- Yes
 No

23A. If your answer is 'yes', please provide the number of SMTAs entered into:

> Since 2007, the Swiss National Genebank entered 141 SMTAs for 1821 accessions.

23B. If your answer is 'no', please provide details of any difficulties encountered in providing facilitated access to Annex 1 PGRFA pursuant to the SMTA:

>

24. Has the SMTA been used voluntarily in your country to provide access to non-Annex 1 PGRFA?

Please select only one option

- Yes
 No

24A. If your answer is 'yes', please indicate the number of such SMTAs entered into:

> Non-Annex I PGRFA stored in the National Genebank are made available under SMTAs within the context of agricultural and nutrition research, breeding, further development of the varieties or for the production of basic propagating material.

Since the National Genebank does not make a distinction between SMTAs for Annex I and non-Annex I PGRFA, no particular number for non-Annex I SMTAs can be indicated.

In the case of an intended use of non-Annex I PGRFA from the National Genebank for purposes not linked to agricultural or nutrition (as mentioned above), a specialised material transfer agreement is developed.

25. Does the legal system of your country provide an opportunity for parties to material transfer agreements (MTAs) to seek recourse in case of contractual disputes arising under such agreements?

Please select only one option

- Yes
 No

25A. If your answer is 'yes', please provide details of the relevant laws, regulations or procedures:

> If the parties choose an arbitration body in Switzerland, the Swiss Code of Civil Procedure is applicable. Part 3 of the Code deals with arbitration in particular.

- 272 Swiss Civil Procedure Code (Code de procédure civile (CPC)), 19.12.2008
<https://www.admin.ch/opc/fr/classified-compilation/20061121/index.html#a374>

26. Does the legal system of your country provide for the enforcement of arbitral decisions related to

disputes arising under the SMTA?

Please select only one option

Yes

No

26A. If your answer is 'yes', please provide details of the relevant laws, regulations or procedures:

> The opening of the arbitration decision of a Swiss arbitration body has the effect of a final and enforceable judicial decision (Article 387 Code of Civil Procedure).

According to article 194 of the Federal Law on Private International Law, the 1958 New York Convention on the Recognition and Enforcement of Foreign Arbitral Awards shall apply for the recognition and enforcement of foreign arbitral awards.

27. Have there been any emergency disaster situations in respect of which your country has provided facilitated access to Annex 1 PGRFA for the purpose of contributing to the re-establishment of agricultural systems?

Please select only one option

Yes

No

27A. If your answer is 'yes', please provide details of such emergency disaster situations and the Annex 1 PGRFA to which access was provided:

>

Article 13: Benefit-sharing in the Multilateral System

28. Has your country made any information available regarding Annex I PGRFA?

- Yes
 No

28A. If your answer is 'yes', please provide details of any information made available regarding Annex 1 PGRFA (e.g. catalogues and inventories, information on technologies, results of scientific and socio-economic research, including characterisation, evaluation and utilisation):

> All information is publically available and can be retrieved from the National Database for the Conservation of Genetic Resources www.bdn.ch.

29. Has your country provided or facilitated access to technologies for the conservation, characterisation, evaluation and use of Annex I PGRFA?

If access to technologies was provided, please provide details of the access provided.

Please select only one option

Yes

>

No

29A. If your answer is 'yes', please indicate whether your country:

Has established or participated in crop-based thematic groups on utilisation of PGRFA

Is aware of any partnerships in your country in research and development and in commercial joint ventures relating to the material received through the MLS, human resource development and effective access to research facilities.

29B. If access to technologies was provided, please provide details of the access provided:

>

30. Has your country provided for and/or benefitted from capacity building measures in respect of Annex 1 PGRFA?

Please select only one option

Yes

No

30A. If your answer is 'yes', please indicate whether such measures were related to:

Establishing and/or strengthening programmes for scientific and technical education and training in conservation and sustainable use of PGRFA;

Developing and strengthening facilities for conservation and sustainable use of PGRFA;

Carrying out scientific research and developing capacity for such research.

30B. If your country provided for and/or benefitted from such measures, please provide details:

> The activities und projects supported listed under Question 16 contain, to a certain extent, capacity building measures.

Article 14: Global Plan of Action

31. Has your country promoted the implementation of the Global Plan of Action for the Conservation and Sustainable Use of Plant Genetic Resources for Food and Agriculture?

Please note that this question differs from question 15 as it only concerns Annex I PGRFA and is more specific.

Please select only one option

- Yes
 No

31A. If your answer is 'yes', please indicate whether the implementation of the plan was promoted through:

- National actions
 International cooperation

31B. If the implementation of the plan was promoted, please provide details:

> Since 1999, the National Plan of Action for the Conservation and Sustainable Utilisation of Plant Genetic Resources for Food and Agriculture (Plan d'action national pour la conservation et l'utilisation durable des ressources phylogénétiques pour l'alimentation et l'agriculture (PAN-RPGAA)) represents the heart of the Swiss undertakings in the conservation of PGRFA. The NAP-PGREL is aligned with the Global Plan of Action of the FAO.

Since 1. January 2016, the Ordinance ORPGAA carries out the framework surrounding the implementation of the Global Plan of Action on Plant Genetic Resources for Food and Agriculture of the FAO in Switzerland in the form of the National Plan of Action.

The focus of the National Plan of Action has been on the conservation and utilisation of old plant varieties and accessions for food and agriculture and on the promotion of national and international collaboration. The measures taken encompass

- the elaboration and provision of basic information and fundamentals
 - various programmes for conservation and sustainable utilisation
 - awareness-raising programmes

The elaboration and provision of basic information and fundamentals under the National Plan of Action involved the use of literature studies to determine which varieties and accessions were of Swiss origin and/or which material had been historically of national, cultural or local significance and value. The diversity available has been traced and provisionally secured. For the time being, this task has been completed to a large extent.

Programmes for the conservation and sustainable utilisation: Across Switzerland, there are over 50 collections aiming to conserve the genetic diversity of PGRFA. The largest collection is the National Genebank of Agroscope in Changins, where over 10000 varieties are being stored. Several old varieties do no longer correspond to current cultivation practices or market needs. In order to promote the utilisation of the broad genetic diversity, the Swiss Federal Office for Agriculture can provide financial support to projects. In particular, development and breeding activities surrounding varieties for niche markets are supported, as well as the further characterisation of stored genetic material.

The awareness-raising programmes: Exhibition gardens in several regions in Switzerland aim to provide people with an impression of the diversity of PGRFA. Guided tours, courses, exhibitions and publications try to convey the significance of diversity. The Swiss Federal Office for Agriculture accepts applications for financial support for such awareness-raising projects.

The period 2015-2018 represents the fifth phase of the National Plan of Action.

Detailed information on the focus areas of Phase V can be retrieved (in German) from this weblink:

https://www.blw.admin.ch/dam/blw/de/dokumente/Nachhaltige%20Produktion/Pflanzliche%20Produktion/Kulturpflanzenvielfalt/NAP-PGREL/Schwerpunkte%20Phase%20V.pdf.download.pdf/Schwerpunkte_d.pdf

From the perspective of the Swiss Agency for Development and Cooperation (SDC), the Global Plan of Action serves as the overarching framework for the priority setting for activities supporting plant genetic agrobiodiversity.

Article 15: Ex Situ Collections of Plant Genetic Resources for Food and Agriculture held by the International Agricultural Research Centres of the Consultative Group on International Agricultural Research and other International Institutions

32. Has facilitated access to Annex I PGRFA been provided in your country to the International Agricultural Research Centres of the Consultative Group on International Agricultural Research (IARCs) or other international institutions that have signed agreements with the Governing Body of the Treaty?

Please select only one option

- Yes
 No

32A. If your answer is 'yes', please indicate:

To which IARCs or other international institutions facilitated access was provided;
The number of SMTAs entered into with each IARC or other international institution:

>

32B. If your answer is 'no', please provide details of any difficulties encountered in providing facilitated access to Annex 1 PGRFA to IARCs and other international institutions that have signed agreements with the Governing Body of the Treaty

>

33. Has access to non-Annex I PGRFA been provided in your country to IARCs or other international institutions that have signed agreements with the Governing Body of the Treaty?

Please select only one option

- Yes
 No

33A. If your answer is 'yes', please indicate:

To which IARCs or other international institutions access was provided;
The number of MTAs entered into with each IARC or other international institution:

>

33B. If your answer is 'no', please provide details of any difficulties encountered in providing access to non-Annex 1 PGRFA to IARCs and other international institutions that have signed agreements with the Governing Body of the Treaty:

>

Article 16: International Plant Genetic Resources Networks

34. Has your country undertaken any activities to encourage government, private, non- governmental, research, breeding and other institutions to participate in the international plant genetic resources networks?

Please select only one option

Yes

No

34A. If your answer is 'yes', please provide details of such activities:

>

Article 18: Financial Resources

35. Has your country provided and/or received financial resources for the implementation of the Treaty through bilateral, regional or multilateral channels?

Please select only one option

- Yes
 No

35A. If your answer is 'yes', where possible, please provide details of such channels and the amount of the financial resources involved:

> Financial resources for the implementation of the Treaty were provided by Switzerland to the following organisations:

- Crop Trust: approximately 11 Mio USD

- CGIAR: approximately 15 Mio USD / year, including 1.5 Mio for managing and sustaining crop collections (gene banks)

The financial contribution to the projects listed under Question 16 (Has your country cooperated with other Contracting Parties, through bilateral or regional channels, in the conservation and sustainable use of PGRFA?) was approximately CHF 11.4 Mio. in 2013 and approximately CHF 10.72 Mio in 2014.

36. Has your country provided financial resources for national activities for the conservation and sustainable use of PGRFA?

Please select only one option

- Yes
 No

36A. If your answer is 'yes', please provide details of such national activities and the amount of the financial resources involved:

> The financial support for measures taken within the framework of the Ordinance on the conservation and sustainable use of PGRFA (ORPGAA) is approximately 3 Mio CHF per year.

About this reporting format

37. Have you encountered any difficulties in completing this reporting format?

Please select only one option

Yes

>

No

37A. If your answer is 'yes', please provide details on such difficulties:

> For the reporting on international cooperation and ODA projects the questions are formulated to narrow (i.e. has your country cooperated with other Contracting Parties) and to detailed (i.e. questions are raised Article by Article). How to answer these questions, if projects address various issues mentioned in different Articles and these projects don't cooperate directly with other Contracting Parties through bilateral or regional channels?

37B. If you have suggestions for improvement of this reporting format, please share them:

> A future reporting format should ask the questions related to international cooperation more with an international cooperation and ODA perspective.

General remarks on the implementation of the ITPGRFA

38. You may use this box to share any advice you may have arising from your country's experience with implementation of the Treaty:

>

39. You may use this box to share any additional information that may be useful to provide a broader perspective of difficulties in implementation of the Treaty:

>

40. You may use this box to share any additional information that may be useful to provide a broader perspective of measures that could help to promote compliance:

>