

Draft OBJECTIVES OF ECPGR FOR PHASE X (2019–2023)

(agreed at the 15th Steering Committee meeting, May 2018)

Annotated by the ECPGR Secretariat with carried-out activities and accomplished indicators

April 2023

LONG-TERM GOAL

Stakeholders in Europe collaboratively, rationally and effectively conserve *ex situ* and *in situ* PGRFA, provide access and increase sustainable use.

OBJECTIVES

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1	<u>To efficiently conserve and provide access to unique germplasm in Europe through AEGIS and the European Collection</u>
2	<u>To provide passport and phenotypic information of actively conserved European PGRFA diversity <i>ex situ</i> and <i>in situ</i> through the EURISCO catalogue</u>
3	<u>To improve <i>in situ</i> conservation and use of crop wild relatives</u>
4	<u>To promote on-farm conservation and management of European PGRFA diversity</u>
5	<u>To promote use of PGRFA</u>

OBJECTIVE 1

AEGIS: the European Collection efficiently conserves and provides access to unique germplasm in Europe

Outputs	Activities	Responsibility	Indicators	Assumptions
1.1 New membership agreements & Associate Member Agreements signed	1.1.1 Continue discussions with ECPGR members on AEGIS membership and Associate Membership Discussion was continued with France and Spain; France produced a draft Letter of Intent, which was approved by the ECPGR Steering Committee. The final French ministerial signature is pending	1.1.1 National Coordinators with support of Secretariat	1.1.1.1 Number of Membership Agreements One new agreement (Serbia); Total 35 1.1.1.2 Number of Associate Member Agreements Three new agreements; Total 68	- Funds for conservation and the promotion of utilization, and qualified personnel are available at the national level (see also outputs 1.5 / 1.6) - ECPGR member countries share the AEGIS vision

1.2
European Collection
represents the
European *ex situ* PGR
diversity

1.2.1
Identification of new European
Accessions for inclusion into
AEGIS

Task included in the following
Grant Scheme Activities of
Phase X and ongoing of Phase
IX:

- AEG-VIT-IS: 28 *Vitis*
candidates identified
- EUBRASWILD: ongoing
- CUCURBITLOCAL:
ongoing
- EUROPE.BERRIES:
preliminary work carried
out in view to identifying
AEGIS candidates in
future characterization
- BIDIFFERENT: ongoing
- IMPROVLOLIUMCOL: At
the start of the Activity,
171 accessions of the
project GrassLandscape
were flagged as AEGIS. At
the end of the Activity, 231
accessions were flagged as
AEGIS and 113 others
were expected to be
flagged soon (agreement
given by genebank
curators). Other accessions
from France (83) and Spain

1.2.1
Associate Members and
National Coordinators

1.2.1.1
Number of new accessions
flagged as part of AEGIS

Since the start of Phase X:
23,377 new accessions as of
19.04.2023
Total 70,426 (+49.7%)

1.2.1.2
Percentage of the national
collection analyzed for
eligible accessions to be
included into AEGIS

unknown

Outputs	Activities	Responsibility	Indicators	Assumptions
	<p>(80) are pending these countries to enter AEGIS</p> <ul style="list-style-type: none"> • EUGRAINLEG: 9 <i>Lathyrus</i> accessions from Bulgaria included as part of AEGIS • EUROMAPCOLLECTION: 241 accessions from 57 species identified for inclusion as part of AEGIS from Bulgaria, Germany, Portugal and Romania. • EURO-POTATOES: Objective to Identify and document new European Potato accessions for inclusion into AEGIS. • EXPLODIV: Objective to select Grain Legumes local accessions for inclusion into AEGIS • GARLI-CCS: Unique garlic accessions will be determined with the aim to make them accessible through AEGIS • SYLVESTRIS: Potential to include <i>Vitis sylvestris</i> accessions into AEGIS 			

1.2.2
Verification of the European
Collection by crops in terms of
representation of the *ex situ*
PGR diversity

Partially carried out through
the Grant Scheme, as per
indicators, summarizing Phase
X actions

1.2.2
Respective Crop
Working Groups

1.2.2.1
Number of
recommendations made by
WGs to improve
representation

- 1) *Allium* (potato onion)
[SafeAlliDiv]
- 2) Barley [Barley C&E data
and HordEva]
- 3) Beta (*Patellifolia*)
[GeDiPa]
- 4) *Brassica* (*B. oleracea* and
wild brassica)
[CochevaBras]
- 5) Forages (*Lolium* and
others) [ImprovLoliumColl;
ForageDataAccess and
Forages 2020]
- 6) Grain legumes (*Lathyrus*)
– [EUGrainLeg]
- 7) Leafy vegetables (*Lactuca*
Crop Wild Relatives)
[CCLeafy]
- 8) Medicinal and Aromatic
Plants
[EUROMAPCOLLECTION]
- 8) *Prunus* (Cherry) [Prunus
alignment] [EU.Cherry]
- 9) Wheat (wheat and rye)
[TRISECA] [TRAID]

Outputs	Activities	Responsibility	Indicators	Assumptions
1.3 European Accessions properly maintained	1.3.1 Maintenance of AEGIS accessions in good viability condition through multiplication and safety-duplication unknown	1.3.1 Respective Associate Members	1.3.1.1 Number of AEGIS accessions multiplied/rejuvenated and safety-duplicated unknown 1.3.1.2 Percentage of AEGIS accessions not requiring multiplication/rejuvenation and safety-duplication unknown	
1.4 Issues limiting access to material explored and addressed (e.g. phytosanitary issues)	1.4.1 Survey of issues impacting on the possibility to access material For phytosanitary issues, workshop held in 2021 as part of GenRes Bridge 1.4.2 Investigate ways to improve access to material subject to identified issues For phytosanitary issues, workshop held in 2021 as part of GenRes Bridge	1.4.1 Relevant WG members and AEGIS Associate Members 1.4.2 Relevant WG members and AEGIS Associate Members	1.4.1.1 Published survey results Phytosanitary workshop (here) Related webinars published (here) 1.4.2.1 Published recommendations for solutions Phytosanitary workshop (here)	

Outputs	Activities	Responsibility	Indicators	Assumptions
1.5 Options and opportunities for a cryopreservation network explored	1.5.1 Organize a meeting to identify cryopreservation needs and aims and consider setting up a dedicated network Meeting of Cryopreservation WG scheduled for 3-4 May 2023	1.5.1 Relevant WG members; Secretariat	1.5.1 Recommendations published; Framework for a cryopreservation network defined 1.5.2 Number of vegetatively propagated accessions cryopreserved	Pending after the meeting of May 2023 Estimate will be available from the report of the meeting of May 2023
1.6 AEGIS Quality System (AQUAS) operational	1.6.1 Transparency: preparation and online provision of genebank manuals Five new manuals were prepared in Phase X (IPGR, Bulgaria; JKI, Siebeldingen, Germany; SVGB, Suceava, Romania; RIPP, Slovakia and CRF, Spain) and two were updated (CRI, Prague, Czech Republic; CGN, The Netherlands)	1.6.1 Associate Members and Secretariat	1.6.1.1 Number of online genebank manuals	Fourteen genebank manuals are published on the AEGIS website

Outputs	Activities	Responsibility	Indicators	Assumptions
	<p>1.6.2 Standards: agree on crop-specific genebank standards</p> <p>One new standard was near finalization in Phase X (Berries)</p>	<p>1.6.2 Crop WGs</p>	<p>1.6.2.1 Number of new or updated crop-specific standards</p> <p>Crop-specific standards have been published by nine Working Groups</p>	
<p>1.7 Capacity-building schemes for Associate Members (AMs) operational</p>	<p>1.7.1 Identify capacity-building needs, including training of AMs (continuing activity)</p> <p>No specific action has been organized, but various trainings are organized as part of the AGENT project, to train in efficient data curation, data mining, digital genebank and genebank genomics</p>	<p>1.7.1 Associate Members; National Coordinators; WGs; Secretariat</p>	<p>1.7.1.1 Number of AMs needs identified</p> <p>1) multiplication of soybean accessions in the Bulgarian genebank</p>	<p>Capacity for conservation and the promotion of utilization are available at the national level</p>
<p>1.8 Funds mobilized to help Associate Members to implement AQUAS</p>	<p>1.8.1 Undertake fundraising among potential donors to improve Associate Members' capacities</p> <p>This specific fundraising was not undertaken by the Secretariat</p>	<p>1.8.1 National Coordinators; ExCo; Secretariat</p>	<p>1.8.1.1 Volume of dedicated grants available for capacity development of Associate Members</p> <p>none at ECPGR level - Unknown at national level</p>	

Outputs	Activities	Responsibility	Indicators	Assumptions
	<p>1.8.2 ECPGR-mediated characterization, evaluation and/or phenotyping/genotyping of AEGIS accessions</p> <p>Characterization, evaluation and phenotyping take place as part of the EVA activities</p>	<p>1.8.2 Associate Members; National Coordinators; WGs; Secretariat</p>	<p>1.8.2.1 Number of AEGIS accessions characterized/evaluated via ECPGR</p> <p>In total, 14,748 of the AEGIS accessions have C&E data in EURISCO.</p> <p>At least 1,047 AEGIS accessions are being characterized through the EVA Network</p>	
	<p>1.8.3 ECPGR-mediated regeneration of AEGIS accessions</p> <p>Multiplication takes place as part of the EVA activities (as Single Seed Descent lines)</p>	<p>1.8.3 Associate Members; National Coordinators; WGs; Secretariat</p>	<p>1.8.3.1 Number of AEGIS accessions regenerated via ECPGR</p> <p>At least 1,047 AEGIS accessions multiplied (partly as Single Seed Descent lines)</p>	
	<p>1.8.4 ECPGR-mediated safety duplication of AEGIS accessions</p> <p>No activity</p>	<p>1.8.4 Associate Members; National Coordinators; WGs; Secretariat</p>	<p>1.8.4.1 Number of AEGIS accessions safety duplicated via ECPGR</p> <p>None under formal safety-duplication arrangement</p>	

Outputs	Activities	Responsibility	Indicators	Assumptions
1.9 Visibility of AEGIS accessions improved	1.9.1 Increase visibility of AEGIS accessions available under the terms and conditions of the International Treaty AEGIS website provides the list and examples of available accessions	1.9.1 Associate Members; Secretariat	1.9.1.1 Number of AEGIS accessions and samples provided to users At least 1,047 AEGIS accessions provided to the EVA Networks 1.9.1.2 Percentage of AEGIS accessions provided to users compared to the total number of AEGIS accessions Unknown 1.9.2.1 Number of AEGIS accessions and samples to different categories of users Unknown	
1.10 AEGIS system evaluated	1.10.1 Develop a questionnaire together with users for feedback from users Not developed	1.10.1 Secretariat; users; AEGIS Associate Members	1.10.1.1 Number of filled-in questionnaires received N/A	

Outputs	Activities	Responsibility	Indicators	Assumptions
	<p>1.10.2 Evaluate results of the questionnaire and develop recommendations for improvement</p> <p>N/A</p>	<p>1.10.2 Secretariat; users; Associate Members</p>	<p>1.10.2.1 Results of the questionnaire and recommendations published</p> <p>N/A</p>	
<p>1.11 System of genebank peer review established and functioning</p>	<p>1.11.1 Set up system of mutual peer review of ECPGR national genebanks and AEGIS Associate Members</p> <p>Proof on concept tested within the framework of GenRes Bridge & continued in a wider setting within the framework of AGENT</p> <p>1.11.2 ECPGR-coordinated peer reviews performed and reported</p> <p>See above</p>	<p>1.11.1 ExCo, based on pilot project led by CGN; Secretariat; National Coordinators</p> <p>1.11.2 Secretariat; selected peer reviewers</p>	<p>1.11.1.1 Principles of the system agreed and published</p> <p>Proof of concept described on the AEGIS AQUAS website (here)</p> <p>1.11.2.1 Number of peer-reviewed genebanks</p> <p>Three peer-reviewed via GenRes Bridge and six via AGENT. Three more planned in 2023. Reports available from AEGIS website (here)</p>	<p>Consensus of national genebanks/AEGIS Associate Members to undergo mutual peer review</p>

Outputs	Activities	Responsibility	Indicators	Assumptions
<p>1.12 Options for the integration of <i>in situ</i> and on-farm conservation into AEGIS explored and AEGIS used as European <i>in situ</i> and on-farm conservation official designation system</p>	<p>1.12.1 Wild Species Conservation in Genetic Reserves (now 'Crop Wild Relatives') WG-mediated discussion and recommendations concerning integration</p> <p><i>Guidelines for integrated in situ and ex situ conservation of plant genetic resources were developed by Farmer's Pride</i></p>	<p>1.12.1 Wild Species Conservation in Genetic Reserves WG members, Secretariat and Farmer's Pride project</p>	<p>1.12.1.1 Discussion Report and Recommendations published</p> <p>Guidelines for integrated in situ and ex situ PGR conservation</p>	
	<p>1.12.2 On-farm Conservation and Management WG-mediated discussion and recommendations concerning integration</p> <p><i>See 1.12.1</i></p>	<p>1.12.2 On-farm Conservation and Management WG members, Secretariat and Farmer's Pride project</p>	<p>1.12.2.1 Discussion Report and Recommendations published</p> <p><i>See 1.12.1.1</i></p>	

OBJECTIVE 2

The EURISCO catalogue provides passport and phenotypic information of actively conserved European PGR diversity *ex situ* and *in situ*

Outputs	Activities	Responsibility	Indicators	Assumptions												
2.1 All National Focal Points (NFPs) update national <i>ex situ</i> inventories effectively and timely	2.1.1 Identification of National Inventory (NI) PGRFA accessions to be included in EURISCO <i>Ongoing activity</i>	2.1.1 National Focal Points, in consultation with ECPGR members	2.1.1.1 Number of yearly updates of national inventories in EURISCO <table border="1"> <thead> <tr> <th>Year</th> <th>No. of passport updates</th> </tr> </thead> <tbody> <tr> <td>2019</td> <td>40</td> </tr> <tr> <td>2020</td> <td>38</td> </tr> <tr> <td>2021</td> <td>49</td> </tr> <tr> <td>2022</td> <td>22</td> </tr> <tr> <td>2023</td> <td>8 (ongoing)</td> </tr> </tbody> </table> 2.1.1.2 Increase in the number of accessions in EURISCO <i>Additional 102,072 accessions between January 2019 and April 2023</i>	Year	No. of passport updates	2019	40	2020	38	2021	49	2022	22	2023	8 (ongoing)	- ECPGR member countries are able to invest in the establishment and/or improvement of data repositories, including for high-quality C&E data - ECPGR member countries are prepared to share their data - Genebanks and National Focal Points are able to adopt DOIs
Year	No. of passport updates															
2019	40															
2020	38															
2021	49															
2022	22															
2023	8 (ongoing)															

Outputs	Activities	Responsibility	Indicators	Assumptions
	<p>2.1.2 Improving quality of data in EURISCO (including taxonomic data as well as coverage and precision of descriptors; inclusion of DOIs)</p> <p>Ongoing activity</p>	<p>2.1.2 National Focal Points, in collaboration with genebanks and WG members</p>	<p>2.1.2.1 Increase in the average number of filled-in descriptors in EURISCO</p> <p>No time series are collected for this purpose, since they would not represent data quality. A passport completeness index could rather be developed</p> <p>2.1.2.2 Number of descriptors updated for data quality improvement (including taxonomic data)</p> <p>This information is not collected</p> <p>2.1.2.3 Number of accessions with DOI</p> <p>230,645</p>	

Outputs	Activities	Responsibility	Indicators	Assumptions
	<p>2.1.3 Training of National Focal Points (how to compile, maintain, update and upload National Inventory)</p> <p>Online training workshop organized in 2021 and bilateral trainings on ad hoc basis – GRIN Global training organized in October 2022. Next training scheduled for September 2023.</p>	<p>2.1.3 EURISCO Coordinator; Doc&Info WG</p>	<p>2.1.3.1 Number of National Focal Points trained</p> <p>No trainings in 2019, 2020 and 2022.</p> <p>22 NI representatives trained in 2021.</p>	

Outputs	Activities	Responsibility	Indicators	Assumptions												
2.2 C&E data in EURISCO included, with high quality and wide coverage	2.2.1 Identification of available C&E data and their inclusion into EURISCO German-funded support given to identify existing C&E data of wheat, barley and maize	2.2.1 National Focal Points and delegates to upload C&E data	2.2.1.1 Number of European accessions with C&E data in EURISCO Out of the 2,085,448 accessions documented in EURISCO, 91,383 have C&E data. 2.2.1.2 Number of updates of C&E data sets in EURISCO per year													
			<table border="1"> <thead> <tr> <th>Year</th> <th>No. of passport updates</th> </tr> </thead> <tbody> <tr> <td>2019</td> <td>5</td> </tr> <tr> <td>2020</td> <td>6</td> </tr> <tr> <td>2021</td> <td>14</td> </tr> <tr> <td>2022</td> <td>2¹</td> </tr> <tr> <td>2023</td> <td>1 (ongoing)</td> </tr> </tbody> </table>	Year	No. of passport updates	2019	5	2020	6	2021	14	2022	2 ¹	2023	1 (ongoing)	
Year	No. of passport updates															
2019	5															
2020	6															
2021	14															
2022	2 ¹															
2023	1 (ongoing)															

¹ This is C&E data from collaborative projects involving different countries and holding institutes. The execution of such updates is very time consuming and requires a lot of communication with the partners involved.

Outputs	Activities	Responsibility	Indicators	Assumptions
	<p>2.2.2 Training of National Focal Points and selected C&E data providers in gathering and uploading C&E data</p> <p>Online training workshop organized in 2021</p>	<p>2.2.2 EURISCO Coordinator; Doc&Info WG</p>	<p>2.2.2.1 Number of National Focal Points and selected C&E data providers trained on uploading C&E data</p> <p>No trainings in 2019, 2020 and 2022. 22 NI representatives in 2021</p>	
<p>2.3 Inclusion of relevant <i>in situ</i> CWR data in EURISCO realized</p>	<p>2.3.1 Identification of CWR <i>in situ</i> populations/sites qualifying for inclusion in EURISCO in each country</p> <p>German-funded project (2021-2023) is covering this activity for eight pilot countries</p>	<p>2.3.1 National Focal Points, Wild Species Conservation in Genetic Reserves WG, in consultation with ECPGR members</p>	<p>2.3.1.1 Number of <i>in situ</i> CWR data sets qualifying for inclusion in EURISCO identified in each country</p> <p>N/A</p> <p>2.3.1.2 Number of <i>in situ</i> PGRFA data sets included in EURISCO</p> <p>N/A</p>	<p>Crop wild relative (CWR) genetic reserves are formally established (see also output 3)</p>

Outputs	Activities	Responsibility	Indicators	Assumptions
	<p>2.3.2 Development of an agreed minimum <i>in situ</i> data exchange format on the basis of existing CWR descriptor lists</p> <p>Data exchange format has been developed as part of German-funded project</p>	<p>2.3.2 Chairs of Doc&Info WG and Wild Species Conservation in Genetic Reserves WG and <i>in situ</i> National Focal Points</p>	<p>2.3.2.1 Minimum <i>in situ</i> data exchange format agreed by National Coordinators</p> <p>Data standards agreed by EURISCO Advisory Committee. Agreement by NCs is pending</p>	
	<p>2.3.3 Inclusion of first <i>in situ</i> data into EURISCO</p> <p>Expected in 2023</p>	<p>2.3.3 EURISCO Coordinator and <i>in situ</i> National Focal Points</p>	<p>2.3.3.1 Number of PGRFA <i>in situ</i> data included in EURISCO</p> <p>N/A</p>	
	<p>2.3.4 Training of <i>in situ</i> National Focal Points on gathering and uploading <i>in situ</i> data</p> <p>Expected in 2023</p>	<p>2.3.4 EURISCO Coordinator Doc&Info WG; Wild Species Conservation in Genetic Reserves WG</p>	<p>2.3.4.1 Number of <i>in situ</i> National Focal Points trained</p> <p>N/A</p>	

Outputs	Activities	Responsibility	Indicators	Assumptions
2.4 Users' expectations explored and functionalities of EURISCO increased	2.4.1 Perform users' surveys; analyze results and formulate recommendations for improvements Ongoing activity by EURISCO Coordinator	2.4.1 EURISCO Coordinator, Doc&Info WG and Wild Species Conservation in Genetic Reserves WG with support from National Focal Points; users	2.4.1.1 Number of respondents to survey The collection of additional requirements/change requests takes place primarily in direct contact with users and in discussions at workshops	
	2.4.2 Adapting or adding database functions The operation and development of EURISCO are based on annual work plans agreed with the EURISCO Advisory Committee and the ECPGR Secretariat	2.4.2 EURISCO Coordinator; Doc&Info WG	2.4.2.1 Number of adaptations realized A total of 70 versions and sub-versions of the public EURISCO web interface have been completed since 2014, 26 of which since 2019. The range of functions changed in each case varies greatly	

OBJECTIVE 3

In situ conservation and use of crop wild relatives are improved via inventory, prioritization, management of populations representing the European crop wild relative (CWR) diversity and mechanisms to facilitate access

Outputs	Activities	Responsibility	Indicators	Assumptions
3.1 National crop wild relative (CWR) conservation strategies produced	3.1.1 Identify official national conservation authorities <i>Known national <i>in situ</i> focal points and contact details database being prepared</i>	3.1.1 National Coordinators, CWR WG members	3.1.1.1 Lists of official national conservation authorities available <i>List of protected area authorities and Plant Genetic Resource Centre partners under preparation</i>	<p>Note: the “assumptions” listed apply to the whole set of items</p> <ul style="list-style-type: none"> - Funds for European level <i>in situ</i> activities are available - Funds for national <i>in situ</i> conservation management of PGR are available - Collaboration between CWR WG members and official national authorities and, as appropriate, other stakeholders is viable and all partners are willing to share data
	3.1.2 Generation of national CWR checklists <i>Promoted by CWR WG members and EC-funded projects²</i>	3.1.2 – 3.1.6 CWR WG members with official national conservation authorities and EC-funded Farmer’s Pride project	3.1.2.1 Number of national CWR checklists produced <i>All countries in Europe have developed national CWR checklists</i>	

² Magos Brehm, J., Kell, S.P., Thormann, I., Maxted, N. and Dulloo, E., (2017a). Template for the Preparation of a Technical Background Document for a National Strategic Action Plan for the Conservation and Sustainable Use of Crop Wild Relatives. doi:10.7910/DVN/VQVDFA, Harvard Dataverse, V1. Available here: <https://dataverse.harvard.edu/dataset.xhtml?persistentId=doi:10.7910/DVN/VQVDFA> (accessed 04.01.19).

Outputs	Activities	Responsibility	Indicators	Assumptions
	<p>3.1.3 Prioritization of CWR checklists</p> <p>Promoted by CWR WG members and EC-funded projects³</p>			<p><i>Note: the “assumptions” listed apply to the whole set of items</i></p>
	<p>3.1.4 Production of national CWR inventories</p> <p>It is planned as part of the German-funded “In situ CWR in EURISCO” project (here)</p>		<p>3.1.4.1 Number of national CWR inventories produced</p>	<ul style="list-style-type: none"> - There is access to sustainable use of <i>in situ</i> conserved CWR germplasm located in genetic reserves - European policy is developed to support the establishment and operation of the integrated European strategy for CWR conservation - The European Commission facilitates the long-term monitoring of the integrated European strategy for CWR conservation
	<p>3.1.5 Diversity and gap analysis of national priority CWR taxa</p> <p>Promoted by CWR WG members and EC-funded projects</p>			<ul style="list-style-type: none"> - Barriers to accessing CWR germplasm by user communities are removed and the use of

³ Magos Brehm, J., Kell, S., Thormann, I., Gaisberger, H., Dulloo, M.E. and Maxted, N., (2017b). Interactive Toolkit for Crop Wild Relative Conservation Planning version 1.0. University of Birmingham, Birmingham, UK and Bioersity International, Rome, Italy. Available at: www.crowildrelatives.org/conservation-toolkit/ (accessed 04.01.19).

Outputs	Activities	Responsibility	Indicators	Assumptions
	<p>3.1.6 Definition of national CWR conservation actions</p> <p>Implementation of CWR population management guidelines produced by Farmer's Pride (here)</p>			<p><i>Note: the "assumptions" listed apply to the whole set of items</i></p>
	<p>3.1.7 Production of national CWR conservation action plans</p> <p>Promoted by CWR WG members and EC-funded projects⁴</p>		<p>3.1.7.1 Number of national CWR conservation action plans produced</p> <p>The Ministry of Agriculture of Spain has developed the 'National Strategy for Conservation and Utilization of Crop Wild Relatives and Wild Food Plants'</p>	<p>CWR germplasm promoted, encouraged and facilitated</p> <ul style="list-style-type: none"> - Cooperation between the conservation and user communities is improved - Coordination between <i>in situ</i> and <i>ex situ</i> conservation managers is operational - The Most Appropriate Crop Wild Relative Population (MAWP) concept will be supported at national level

⁴ Magos Brehm, J., Kell, S.P., Thormann, I., Maxted, N. and Dulloo, E., (2017c). Template for the Preparation of a Technical Background Document for a National Strategic Action Plan for the Conservation and Sustainable Use of Crop Wild Relatives. doi:10.7910/DVN/VQVDFA, Harvard Dataverse, V1. Available here: <https://dataverse.harvard.edu/dataset.xhtml?persistentId=doi:10.7910/DVN/VQVDFA> (accessed 04.01.19).

Outputs	Activities	Responsibility	Indicators	Assumptions
	<p>3.2.3 Production of regional (European) CWR inventories</p> <p>Revised checklist and prioritized inventory available via Farmer's Pride</p>		<p>3.2.3.1 Regional (European) CWR inventories produced and endorsed by CWR WG members</p> <p>Regional (European) CWR inventory produced by Kell et al. (in preparation)</p> <p>Inventory of priority European CWR containing 863 taxa (here)</p>	<p><i>Note: the "assumptions" listed apply to the whole set of items</i></p>
	<p>3.2.4 Diversity and gap analysis of regional (European) priority CWR taxa</p> <p>Analysis of taxonomic and ecogeographic diversity undertaken by EC Projects (e.g. Farmer's Pride)</p>		<p>Results of initial analysis produced by Rubio Teso et al. 2021 (here)</p>	

Outputs	Activities	Responsibility	Indicators	Assumptions
	<p>3.2.5 Elaboration and agreement of regional (European) CWR conservation actions</p> <p>European strategy for CWR conservation and sustainable use developed by Farmer's Pride</p>		<p>Preparatory documents by Farmer's Pride here</p>	<p><i>Note: the "assumptions" listed apply to the whole set of items</i></p>
	<p>3.2.6 Production of regional (European) CWR conservation strategy, including CWR conservation action plans</p> <p>See above</p>		<p>3.2.6.1 Regional (European) CWR conservation action plans produced and endorsed by CWR WG members</p> <p>Preparatory documents by Farmer's Pride here</p>	

Outputs	Activities	Responsibility	Indicators	Assumptions
3.3 Integrated European strategy for CWR conservation produced	3.3.1 Drafting of integrated European strategy for CWR conservation strategy, integrating national and regional level activities Not yet completed	3.3.1 CWR WG	3.3.1.1 Integrated European strategy for CWR conservation published	<i>Note: the “assumptions” listed apply to the whole set of items</i>
	3.3.2 Agreement on regional (European) and national MAWPs to form European <i>in situ</i> network Concept developed as part of Farmer’s Pride, to be implemented by future EC-funded projects	3.3.2 National government agencies responsible for PGR conservation in association with ECPGR National Coordinators and members of the CWR WG	3.3.2.1 List of agreed regional (European) and national MAWPs for inclusion in the <i>in situ</i> network published Not yet available. Substantial progress made at the regional level by the Farmer’s Pride project, to be implemented by future EC-funded projects	

Outputs	Activities	Responsibility	Indicators	Assumptions
3.4 National and European MAWP networks established	3.4.1 Official designation of national and regional (European) MAWPs at national level <i>Germany officially designated genetic reserves at national level and other countries (Lithuania, Spain, UK) are in the process of doing so</i>	3.4.1 National government agencies and authorities responsible for PGR conservation and utilization	3.4.1.1 List of officially designated national and regional (European) MAWPs published <i>Not yet available</i>	Assumptions <i>Note: the “assumptions” listed apply to the whole set of items</i>

Outputs	Activities	Responsibility	Indicators	Assumptions
<p>3.5 National and European MAWP Networks operational</p>	<p>3.5.1 Active conservation management of national and regional (European) MAWPs</p> <p>Implemented in genetic reserves in Germany and beginning to be established in other countries.</p>	<p>3.5.1 National official authorities for <i>in situ</i> conservation and local administrators and landowners</p>	<p>3.5.1.1 Periodic reports submitted to European Topic Centre for Biodiversity indicating national and regional (European) MAWP conservation status and conservation management actions</p> <p>N/A</p> <p>3.5.1.2 Adherence to minimum quality standards for genetic reserve conservation of CWR</p> <p>Germany took into account as far as possible the minimum quality standards provided in publications</p>	<p>Note: the “assumptions” listed apply to the whole set of items</p>

Outputs	Activities	Responsibility	Indicators	Assumptions
3.6 Germplasm of National and European MAWPs networks effectively utilized	3.6.1 Germplasm samples collected and actively managed <i>ex situ</i> <i>The number of CWR seed accessions collected and stored in the national genebanks has increased, although the process of backup <i>in situ</i> MAWP <i>ex situ</i> has yet to begin.</i> ⁶	3.6.1 National PGR genebanks	3.6.1.1 Number of germplasm accessions of MAWPs collected and actively managed <i>ex situ</i> <i>unknown</i>	Assumptions <i>Note: the “assumptions” listed apply to the whole set of items</i>
	3.6.2 MAWP germplasm characterized through <i>ex situ</i> regeneration <i>Not done, pending deposition of MAWP <i>in situ</i> samples in linked <i>ex situ</i> collections</i>	3.6.2 National PGR genebanks and plant breeding research institutes	3.6.2.1 Number of MAWP germplasm accessions characterized <i>N/A</i>	

⁶ Maxted, N., (2021). The conservation and use of CWR: the *in situ* perspective. *Crop Wild Relative*, 13: 32-35.

Outputs	Activities	Responsibility	Indicators	Assumptions
	3.6.3 Access to MAWP germplasm facilitated <i>Not done, pending e.g. deposition of MAWP in situ samples in linked ex situ collections</i>	3.6.3 National official authorities for <i>ex situ</i> and <i>in situ</i> conservation and utilization of PGRFA	3.6.3.1 Number of MAWP germplasm accessions provided to users <i>N/A</i>	Assumptions <i>Note: the “assumptions” listed apply to the whole set of items</i>
	3.6.4 MAWP germplasm evaluated <i>Not done, pending facilitated access to MAWP germplasm</i>	3.6.4 National plant breeding research institutes and public and private plant breeding companies	3.6.4.1 Number of MAWP germplasm accessions evaluated <i>N/A</i>	

Outputs	Activities	Responsibility	Indicators	Assumptions
	3.6.5 MAWP germplasm utilized in crop improvement programmes <i>Not done, pending facilitated access to MAWP germplasm</i>	3.6.5 Public and private plant breeding companies	3.6.5.1 Number of MAWP utilized in crop improvement programmes <i>N/A</i> 3.6.5.2 Number of MAWP utilized successfully for crop improvement <i>N/A</i>	Assumptions <i>Note: the “assumptions” listed apply to the whole set of items</i>

OBJECTIVE 4 **On-farm conservation and management of European PGRFA diversity is promoted**

Outputs	Activities	Responsibility	Indicators	Assumptions
4.1 Snapshot Inventory of the European on-farm diversity (landraces, obsolete cultivars and conservation varieties) carried out	4.1.1 Designation of National On-farm Inventory Focal Points <i>Old list exists, not updated recently. No terms of reference defined</i>	4.1.1 National Coordinators	4.1.1.1 On-line list of Focal Points ECPGR On-farm National Inventory Focal Points	
	4.1.2 Promoting agreement on data exchange format <i>A descriptor list adapted from Negri et al. 2012 was used for on-farm landraces data recording in Farmer's Pride.</i>	4.1.2 On-farm Inventory Focal Points, On-farm Conservation and Management WG members	4.1.2.1 Published data exchange format (list of descriptors and instructions) <i>Exchange format used by Farmer's Pride available here</i>	

Outputs	Activities	Responsibility	Indicators	Assumptions
	<p>4.1.3 Defining the coordination mechanism and responsibility for on-farm data gathering and compiling</p> <p><i>In situ</i> stakeholder analysis carried out in the frame of Farmer's Pride project</p>	<p>4.1.3 On-farm Inventory Focal Points and relevant stakeholders</p>	<p>4.1.3.1 Responsible manager(s) of European Inventory identified</p> <p>Farmer's Pride stakeholder analysis: Development of a European network for <i>in situ</i> conservation and sustainable use of plant genetic resources</p>	

Outputs	Activities	Responsibility	Indicators	Assumptions
	<p>4.1.4 Collecting on-farm data</p> <p>Data collected as part of Farmer's Pride, describing a total of 19,335 Landrace Cultivation Sites from 14 European countries</p> <p>Members of the ECPGR On-Farm WG collaborate directly or indirectly to register conservation varieties</p>	<p>4.1.4 On-farm Inventory Focal Points</p>	<p>4.1.4.1 On-line available on-farm data</p> <p>As part of Farmer's Pride project results:</p> <ul style="list-style-type: none"> - Best practice evidence-based database including 105 examples of <i>in situ</i> management practices and of adding value to landraces - for different crops and socio-cultural contexts - available on the ECPGR website. - Different elaborations of the 19,335 Landrace Cultivation sites available in Raggi et al. 2022. Analysis of landrace cultivation in Europe: A means to support <i>in situ</i> conservation of crop diversity. Biological Conservation, 267, 109460 <p>Some data are collected as part of the plant variety catalogue as "conservation varieties" (national and EU catalogues): species, area of cultivation, responsible for conservation, etc. (according to Commission Directive 2008/62/EC of 20 June 2008): here (select attribute 'conservation varieties')</p>	<p>- National or international funds are made available for database management and for data collecting</p>

Outputs	Activities	Responsibility	Indicators	Assumptions
4.2 European on-farm diversity and trends monitored	4.2.1 Defining simple and effective indicators of on-farm diversity and trends	4.2.1 Task Force on on-farm diversity indicators	4.2.1.1 On-line agreed indicators N/A	
	4.2.2 Analysing on-farm diversity and trends, based on agreed indicators and the European on-farm Inventory	4.2.2 Task Force on on-farm diversity indicators	4.2.2.1 Published reports of on-farm diversity analysis N/A	
	4.2.3 Establishing a knowledge base of case studies aiming to analyse genetic diversity and its trend in the field Several genetic studies on landrace diversity are published in scientific journals and could form the basis for analyzing future changes	4.2.3 On-farm Conservation and Management WG; Secretariat	4.2.3.1 Published knowledge base N/A	

Outputs	Activities	Responsibility	Indicators	Assumptions
	<p>4.2.4 Monitoring relevant initiatives aiming at refining indicators of genetic diversity and trends</p> <p>The GenRes Bridge project reviewed all indicators</p>	<p>4.2.4 On-farm Conservation and Management WG; Secretariat</p>	<p>4.2.4.1 Published reports on relevant initiatives</p> <p>Charvolin et al 2021. Indicators for monitoring the efficiency and effectiveness of conservation and management of GenRes (here)</p>	
<p>4.3 Good practices for on-farm management and conservation and adding value promoted</p>	<p>4.3.1 Provision of store of knowledge and evidence-based practices, related to successful experiences of conservation and sustainable use of landraces and other heterogeneous genetic resources in Europe</p> <p>Best practice evidence-base database prepared by Farmer's Pride</p>	<p>4.3.1 On-farm Conservation and Management WG; Secretariat</p>	<p>4.3.1.1 Store of knowledge and evidence-based practices made available on the ECPGR website</p> <p>In situ landraces: best practice evidence-base database</p>	

Outputs	Activities	Responsibility	Indicators	Assumptions
4.4 Definition of Most Appropriate Areas (MAPAs) sites of on-farm cultivated plant diversity discussed and implemented	4.4.1 Through dedicated meetings of interested country representatives, promoting agreement on criteria for definition of MAPAs containing unique landrace populations <i>Farmer's Pride promoted an <i>in situ</i> Network for conservation and sustainable use</i>	4.4.1 On-farm Conservation and Management WG; Secretariat	4.4.1.1 Agreement on the Terms of Reference for the creation of a Network of MAPAs <i>Not achieved</i>	
	4.4.2 Identification of MAPA sites for recognition at National /European level <i>Identification of hotspots of diversity carried out by Farmer's Pride</i>	4.4.2 On-farm Conservation and Management WG with appropriate national stakeholders and authorities	4.4.2.1 List of proposed MAPA sites Landrace hotspots identification in Europe 4.4.2.2 List of recognized MAPA sites at National/European level <i>N/A</i>	

Outputs	Activities	Responsibility	Indicators	Assumptions
	<p>4.4.3 Promoting planning and implementation of conservation/management activities within MAPAs</p> <p>Action promoted by Farmer's Pride</p>	<p>4.4.3 On-farm Conservation and Management WG with appropriate national stakeholders</p>	<p>4.4.3.1 Number of drafted/approved MAPA management plans</p> <p>N/A</p>	<p>Steering Committee agrees to consolidate ECPGR position on specific issues of ownership, access, availability, marketing, etc.</p>
<p>4.5 Obstacles to on-farm conservation and management analysed and solutions proposed</p>	<p>4.5.1 Establishing task forces of appropriate experts to study, analyze and propose solutions to issues of regional interest</p> <p>Task forces not established</p>	<p>4.5.1 On-farm Conservation and Management WG; Secretariat</p>	<p>4.5.1.1 Number of issues analyzed</p> <p>N/A</p> <p>4.5.1.2 Number of solutions to issues proposed/implemented</p> <p>N/A</p> <p>4.5.1.3 Number of Task Force recommendations endorsed by the Steering Committee</p>	

Outputs	Activities	Responsibility	Indicators	Assumptions
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4.5.2
 Exercise lobbying at the appropriate level to encourage implementation of the proposed solutions

N/A

4.5.2
 Steering Committee;
 National Coordinators;
 On-farm Conservation and Management WG;
 Secretariat

N/A

OBJECTIVE 5 Use of PGR is promoted

Outputs	Activities	Responsibility	Indicators	Assumptions
5.1 European Evaluation Network for PGRFA developed	5.1.1 Survey of existing national evaluation programmes (research partnerships between genebanks, researchers, breeders; e.g. public–private partnerships) A survey on recent, ongoing and planned public–private partnerships on use of PGRFA at national and regional level across the ECPGR countries was completed in 2017 through a German-funded project	5.1.1 ECPGR Secretariat and genebanks, researchers, breeders	5.1.1.1 Number of existing national evaluation programmes A knowledge base on PPP projects is available on the ECPGR website (here)	

Outputs	Activities	Responsibility	Indicators	Assumptions
	<p>5.1.2 Development of a concept for an European Evaluation Programme</p> <p>The concept was developed in 2017-2018 through a German-funded project</p>	<p>5.1.2 ECPGR Secretariat and genebanks, researchers, breeders supported by National Coordinators</p>	<p>5.1.2.1 European Evaluation Programme for PGRFA agreed</p> <p>EVA network established at the 15th Steering Committee meeting, May 2018. Establishment agreement here</p>	
	<p>5.1.3 Generation of evaluation data throughout the European region</p> <p>Data generated by EVA networks between 2019-2024 (through German-funded and AGENT projects)</p>	<p>5.1.3 Researchers and breeders</p>	<p>5.1.3.1 Number of crops and accessions evaluated</p> <p>Workplan of the ongoing EVA networks foresees the evaluation of up to 2,000 wheat, 1,700 barley, 617 maize, 60 carrot, 227 lettuce and 180 pepper accessions</p>	

Outputs	Activities	Responsibility	Indicators	Assumptions
	<p>5.1.4 Inclusion of evaluation data generated by the European Evaluation Programme in EURISCO</p> <p>Inclusion is ongoing as part of the EVA networks activities within the EURISCO-EVA Intranet</p>	<p>5.1.4 Partners of the Evaluation Programme and EURISCO coordinator, National Focal Points</p>	<p>5.1.4.1 Data sets available in EURISCO (see also objective 2)</p> <p>In progress and currently under 3-year embargo</p>	
<p>5.2 Facilitated use and consumption of crop species and varieties or landraces by consumers</p>	<p>5.2.1 Survey about new consumer trends and their demands regarding crop species and varieties including consumer behaviour and potential links to promote PGRFA diversity by consumption of species- or variety-based products as well as the analysis of the interests of the food industry in this matter</p> <p>No action carried out</p>	<p>5.2.1 ECPGR Secretariat, WG members, researchers, food industry</p>	<p>5.2.1.1 Survey report available</p> <p>N/A</p>	<p>Consideration of similar surveys available may influence this activity</p>

Outputs	Activities	Responsibility	Indicators	Assumptions
	<p>5.2.2 Support for the development and promotion of innovative value chains for PGRFA</p> <p>Specific action of ongoing Grant Scheme Activity 'Bidifferent' (Wheat and On-farm WGs), promoting the value chain of Binkel (<i>Triticum aestivum</i> subsp. <i>compactum</i>)</p>	<p>5.2.2 ECPGR Secretariat, WG members, researchers, food industry</p>	<p>5.2.2.1 New value chains for PGRFA established</p> <p>N/A</p>	
<p>5.3 Working Groups' structure and composition provide the entire range of expertise required for efficient (<i>ex/in situ</i>) conservation and promotion of the use/consumption of all crops</p>	<p>5.3.1 Review of WG structure and composition</p> <p>A full review was not carried out, but SC decided on a few amendments to the Network structure, with two new WGs for Berries and Maize (October 2018) and subsequently the addition of a Cryopreservation WG (February 2022)</p>	<p>5.3.1 ECPGR Secretariat, National Coordinators</p>	<p>5.3.1.1 Report of the review available</p> <p>N/A</p> <p>5.3.1.2 Working Group structure provides a platform for all relevant crops (e.g. maize and berries)</p> <p>ECPGR Network structure – Phase X amendments</p>	