



PRIVATE PUBLIC PARTNERSHIPS FOR THE USE OF PLANT GENETIC RESOURCES FOR FOOD AND AGRICULTURE

PHASE II

**Report of the First workshop,
12–13 October 2017, Rome, Italy**

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The European Cooperative Programme for Plant Genetic Resources (ECPGR) is a collaborative programme among most European countries aimed at contributing to national, sub-regional and regional programmes in Europe to rationally and effectively conserve *ex situ* and *in situ* Plant Genetic Resources for Food and Agriculture and increase their utilization (<http://www.ecpgr.cgiar.org/>). The Programme, which is entirely financed by the member countries, is overseen by a Steering Committee composed of National Coordinators nominated by the participating countries and a number of relevant international bodies. The Coordinating Secretariat is hosted by Bioversity International. The Programme operates through Working Groups composed of pools of experts nominated by the National Coordinators. The ECPGR Working Groups deal with either crops or general themes related to plant genetic resources (documentation and information and *in situ* and on-farm conservation). Members of the Working Groups carry out an agreed workplan, based on specific ECPGR objectives, through ECPGR-funded activities and/or with their own resources.

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Contents

Executive summary	iv
Welcome and Private Public Partnerships project background	1
Welcome by ECPGR Secretariat	1
Overview of the Private Public Partnerships project and related webpages	1
Introduction of agenda and objectives	1
Plenary presentations	2
The national programme for the evaluation of genetic resources in cereals (EVAII) – a model for a private public partnership	2
The Nordic Public Private Partnership on pre-breeding	3
Data management in large French Public-Private Projects	4
Scope, goal, objectives and comparative advantage of a European PGRFA Evaluation Network	5
Structure of a European PGRFA Evaluation Network	6
Framework documents for a European PGRFA Evaluation Network	6
Standards and methods for evaluation within a European PGRFA Evaluation Network	7
Terms of reference (ToRs) for the selection of exemplar crops	8
Annexes	10
Annex I. List of participants	11
Annex II. Workshop agenda	13
Annex III. Revised scope, goal, objectives and comparative advantages of a European PGRFA Evaluation Network	15
Annex IV. Revised structure of a European PGRFA Evaluation Network	16
Annex V. Elements of a Memorandum of Understanding	17
Annex VI. Acronyms and abbreviations	18

EXECUTIVE SUMMARY

A voluntary contribution was provided by Germany to ECPGR for a second phase of the Private Public Partnerships project “Increasing ECPGR knowledge and opportunities on Private Public Partnerships (PPPs) for the use of Plant Genetic Resources for Food and Agriculture (PGRFA)”. The first project phase, carried out from February to July 2017, included as key activity a workshop on PPPs, held in Bonn, Germany, 7-9 June 2017, at which a draft proposal developed by the German Federal Office for Agriculture and Food (BLE) for a European PGRFA Evaluation Network was discussed and recommendations for next steps agreed. The ECPGR Secretariat was requested to develop a concept note for implementing a preparatory phase towards the establishment of such Network.

This preparatory phase towards the establishment of a European Evaluation Network was implemented during the second phase of the PPP project from August 2017 to March 2018. The aim of this second phase is the development—based on the recommendations made at the Bonn workshop—of a framework required to start operating a European Evaluation Network.

A Task Force and an Advisory Group were established, and a legal advisor was contracted to support the work. The groups should meet twice during two workshops and otherwise work via email and virtual meetings. The first workshop took place 12–13 October 2017 in Rome, Italy.

Objectives of this first workshop were the following:

- Define scope, objectives and draft structure of a European PGRFA Evaluation Network;
- Define and agree on the type of framework documents (e.g. Memorandum of Understanding (MoU), draft standard agreements, consortium agreements, else); discuss outlines of documents and required steps to finalize them;
- Prepare a first list of type of standards and methods for evaluation to be harmonized;
- Enlist criteria relevant for the selection of model crops and outline a procedure for their selection.

The main results of the workshop regarded the decisions to develop a MoU and start first approaches to crop communities. It was agreed that a MoU would be appropriate to establish the framework of the Network. The MoU should be kept as simple and straightforward as possible. It should serve as umbrella for the Network and therefore be signed by the ECPGR Steering Committee and European Seed Association (ESA) as constituting European bodies, as they represent the two major stakeholder groups, i.e. the genebanks and breeders. Upon constitution of the Network, ECPGR could actively seek to involve genebanks, while ESA could reach out to their members to invite breeders and evaluators to join. The MoU should include as Annex a Letter of Commitment to be signed by all joining members, which sets out exactly the responsibilities of and benefits for the partners. This Letter of Commitment should have a certain duration and be flexible among crops, as different crops will require different specifications. ESA should be briefed and actively involved in the MoU development.

It was furthermore proposed to proceed in parallel with two approaches. While clarifying objectives and developing the MoU (with current target deadline being the ECPGR Steering Committee meeting to be held in May 2018) that would eventually formally constitute the Network, some participants were invited in the meantime to start to informally approach crop communities (those communities represented at the workshop, e.g. wheat, grapevine, field vegetables, etc.) for exploration of interest and of possible activities compatible with the status of the MoU under development.

WELCOME AND PRIVATE PUBLIC PARTNERSHIPS PROJECT BACKGROUND

Welcome by ECPGR Secretariat

The ECPGR Secretary, L. Maggioni, welcomed the participants and thanked them for agreeing to take part in this second phase of the Private Public Partnerships (PPP) project as members of the Task Force, Advisory Group and as legal advisor. Many of the participants had already been involved in the first project phase. The Federal Ministry of Food and Agriculture, which already funded the first project phase, had made available a second voluntary contribution to support this second phase which aims to implement the recommendations developed at the PPP workshop held 7-9 June 2017 in Bonn¹ and to develop a framework for a European PGRFA Evaluation Network. All participants then introduced themselves briefly (the list of participants is provided as Annex I).

Overview of the Private Public Partnerships project and related webpages

I. Thormann, ECPGR Secretariat, introduced the participants to the PPP project background and content of the project phases.² During the first project phase (February–July 2017), a PPP knowledge base was developed.³ A PPP workshop was held 7-9 June 2017 in Bonn, Germany, where experiences from existing PPPs were shared, a draft proposal for a European PGRFA Evaluation Programme prepared by BLE was discussed and recommendations for next steps to work towards such a network were formulated. The aims of the current second project phase (August 2017–March 2018) would be to prepare a framework for a European PGRFA Evaluation Network, i.e. propose a network structure, draft network documents (such as a Memorandum of Understanding (MoU) and cooperation agreements), discuss how the harmonization of standards and methods for evaluation should be dealt with in the project and how exemplar crops should be selected to test the network structure, and develop recommendations to the ECPGR Steering Committee on how the work on the Network could become a permanent part of the ECPGR Secretariat's work.

Introduction of agenda and objectives

I. Thormann introduced the agenda and described the objectives that the workshop aimed to achieve. These were the following:

- Define scope, objectives and draft structure of a European PGRFA Evaluation Network;
- Define and agree on the type of framework documents (e.g. MoU, draft standard agreements, consortium agreements, else), discuss outlines of documents and required steps to finalize them;
- Prepare a first list of type of standards and methods for evaluation to be harmonized;
- Enlist criteria relevant for the selection of model crops and outline a procedure for their selection.

¹ Workshop report available at http://www.ecpgr.cgiar.org/fileadmin/templates/ecpgr.org/upload/PPP_WORKSHOP/REPORT/PPP_workshop_report_FINAL_28072017.pdf

² The presentation is available at http://www.ecpgr.cgiar.org/fileadmin/templates/ecpgr.org/upload/Presentations/PPPII/PPP_project_overview_Thormann.pdf

³ Knowledge base available at <http://www.ecpgr.cgiar.org/resources/private-public-partnerships/ppp-knowledge-base/>

The agenda was structured accordingly around these four major aspects that should be discussed (scope and structure, framework documents, standards and methods, and selection of crops). No comments were made on the agenda, included in this report as Annex II.

PLENARY PRESENTATIONS

Three presentations describing two PPP examples and data management aspects in major French PPPs were presented during the workshop.⁴ Their content and some comments received after the presentations are summarized in the following.

The national programme for the evaluation of genetic resources in cereals (EVAII) – a model for a private public partnership

F. Ordon, Julius Kühn-Institute (JKI), Quedlinburg, Germany

To improve resistance to diseases, plant breeders rely on the genetic diversity present in plant genetic resources, e.g. stored in genebanks. In the past, huge amounts of evaluation data have been collected, e.g. for wheat and barley in Germany. But data collected in different years in tests with changing standards and methods cannot be reliably compared over years. Therefore, the EVAII programme was established in 2001 to resolve this problem. EVAII currently consists of 16 private cereal breeding companies mostly organized in the German Federation for Plant Innovation (GFPi) and 4 scientific institutions, and is coordinated by the JKI. EVAII was founded as a public private partnership (PPP) with the aim to provide plant breeders with accelerated access to resistant genetic resources of wheat and barley. To achieve this, an expert working group consisting of members both from JKI and plant breeding companies involved in the programme meets each year to discuss on the current importance of pathogens and to set priorities for the next year's evaluation programme. Based on this decision, genetic resources for which respective information on resistance is available, are ordered, propagated at the JKI and then provided to the partners for field testing. Field tests and evaluation are conducted in a standardized manner including resistant and susceptible checks. To manage propagation, sending of seeds, and to store data, an information system was created for EVAII which allows the coordinator to automatically create lists of propagated lines and tested lines and to upload respective data. All partners can search the system for information by crop, year, disease, location and a combination thereof. Furthermore, simple statistics are currently implemented. In the first three years results are available to EVAII partners only and become public afterwards. EVAII has been working successfully for more than 15 years with some changes in participants, and the database currently consists of more than 65 000 data points.

EVAII is proposed as a blueprint for a European Evaluation Network. It fulfils the basic demands for an evaluation system and does not require too much additional work from the private partners. The infrastructure is in place and working, and could easily be transferred to different crops and extended to other countries.

Considering in particular that EVAII has been running for over 15 years, some new features should be integrated, such as:

⁴ The presentations are available from <http://www.ecpgr.cgiar.org/resources/private-public-partnerships/ppp-workshop-phase-ii/presentations-given-at-the-first-workshop-ppp-project-phase-ii/>

- Implementation of molecular data (GBS, Chip data etc.)
- Implementation of screening protocols for more complex traits
- Implementation of tools for genome wide association studies (GWAS)
- Implementation of tools for marker development.

This poses some challenges, starting from the requirement to agree with which system to genotype accessions.

Some explanations and comments to the presentation:

- EVAII is an open system, some of the initial partners are not participating anymore and new partners have joined over the years;
- Breeders, in particular small and medium-sized enterprises (SMEs) are under a lot of pressure, generated by the corporate concentrations ongoing in the seed industry, as well as by climate change. New sources of diversity are needed and we should make use of this momentum;
- Extension to more complex traits, e.g. drought tolerance – which is likely to become as important as disease resistances with the changing climate – is very challenging, as they are much more complicated to score. The development of common protocols would be a huge and complicated task. Therefore we should here focus on disease resistances and morphological traits;
- The cooperation agreements are binding, but it can happen that one partner does not produce data in a certain year and this is understood and tolerated, without any penalties.

The Nordic Public Private Partnership on pre-breeding

A. Hägnfelt, Nordic Genetic Resource Center (NordGen), Alnarp, Sweden

The Nordic Public Private Partnership (PPP) on Pre-breeding was set up in 2011 on the basis of a commission from the Nordic Council of Ministers (NCM) to investigate how to promote Nordic plant breeding. The preparations started already in 2007 and the Nordic PPP was anchored as a long-term project at the yearly NCM meeting in 2008. Funds for pre-breeding were earmarked for long-term commitment. All breeding companies were contacted and asked to be members in the Nordic PPP. A steering committee was appointed, consisting of 10 persons assigned between countries, breeding entities and Nova universities with one chair and a chair from NordGen.

Key features of the PPP Agreement are:

- 50/50 funding of the PPP
- Contributions from the Nordic countries are pooled
- Private breeding companies and public breeders are participating project-by-project
- Broad definition of pre-breeding
- Participation from plant breeding research and institutes
- Steering Committee with representation from all five countries, plant breeding entities and academia
- Open Calls from the second phase (2015-2017).

Requirements for project proposals and the tasks of the NCM, NordGen, the steering committee, partners and universities are provided. Important pitfalls to avoid in similar actions are to have unclear requirements, to lack criteria about partner eligibility and

transparent and fair distribution of public funding among partners. The Nordic PPP is like a cogwheel. Today it is running quite well, but it took some time before the cogs ran smooth.

Some comments and explanations received after the presentation:

- Neither in this presentation nor in the preceding one there has been mention of non-governmental organizations (NGOs), farmers or farmer associations. This raises a question of governance and decision-making within the PPPs.
- Another question we need to ask is at which farming system we look at. The southern European farming systems are much more complex than those addressed in the presentations, and the approaches presented seem to be unlikely to work in southern Europe, where countries are much more diverse.
- Four projects are currently ongoing within the Nordic PPP: barley, ryegrass, apple and phenotyping (which includes two components).
- Crops had initially been selected by the NCM to start the PPP. Breeders were then invited to present projects for the selected crops. In this way a sort of top-down approach was matched with a bottom-up process.

Data management in large French Public-Private Projects

A. Adam-Blondon, Unit of Research in Genomic-Info (URGI), INRA, France

Data management has been organized across six 2012-2020 large PPP projects, and the principles for data management were set up by the public and private partners together. The INRA GnpIS information system would be used for the integration of heterogeneous public and private data and the development of GnpIS between projects would be optimized.

GnpIS is a multispecies integrative information system dedicated to plant and fungal pests. It bridges genetic and genomic data, allowing researchers access to both genetic information (e.g. genetic maps, quantitative trait loci, association genetics, markers, polymorphisms, germplasm, phenotypes and genotypes) and genomic data (e.g. genomic sequences, physical maps, genome annotation and expression data) for species of agronomic interest.

The data managements plans described in the PPP consortia agreements are implemented in the system's tools and data management processes. Furthermore the PPPs develop a suite of tools aiming at facilitating the insertion and integration of partners' data in GnpIS. This approach has been efficient to advance data standardization. The data were required to be FAIR, i.e. Findable, Accessible, Interoperable and Reusable.

This was achieved in the following way:

- Use of international (meta)data standards as much as possible (Reusability)
- Use of a consistent identification system for key objects for interoperability: plant material, genes, markers, phenotypes (Interoperability)
- Develop search web tools based on generic data models, especially when dispersed in different information systems (Findability and Accessibility)
- Keep the link between the data sets and their authorship (ex. using digital object identifier (DOI) (Findability + authorship)).

The Wheat Information System was then illustrated more in detail as example, to show how data from different partners working on wheat can be made FAIR and presented in a joint system. The presentation concluded that making data FAIR depends to a large extent on community management, i.e. interactions within and between the various groups, which

are the developers, the ontology and standards' specialists, data managers and the data producers.

A need for the identification and long-term maintenance of 1) searchable central repositories of standards and ontologies for agriculture, and 2) FAIR tools for data managers/developers for automatic formatting or format validation is identified.

SCOPE, GOAL, OBJECTIVES AND COMPARATIVE ADVANTAGE OF A EUROPEAN PGRFA EVALUATION NETWORK

The first session addressed the formulation of the scope, goal, objectives and comparative advantage of a European PGRFA Evaluation Network. A draft text had been developed as basis for the discussion.

The following draft scope was provided in the document: "The scope of the European PGRFA Evaluation Network includes – beyond evaluation – pre-breeding, as well as genotyping and the development of markers, as long as they remain at a pre-competitive level".

This scope statement had been drafted at the June workshop. It was considered by the participants that the list of activities 'beyond' evaluation was unclear, in particular the addition "as long as they remain at a pre-competitive level". The term phenotyping was considered to be missing.

Keywords that should be included in a scope statement were proposed to be genotyping, phenotyping, marker development and pre-breeding. A rewording to "develop and link phenotypic and genotypic data with the aim to develop genotypic markers / information for the enhanced use of PGRFA" was suggested but not further discussed.

The term "pre-competitive" included in the draft scope required some explanations. The plant material in the pre-competitive phase of breeding is freely available, along with the data relating to this material. It can for example include the evaluation of parental lines and work with material up to the F2 generation. Genetic resources used in this phase are not marketed. It could be described as the phase "before the real race for variety development starts". The extent to which pre-breeding will be involved depends very much on the specific crop. Given the new technologies available today, breeders might do more pre-breeding in the future.

It was agreed that the scope of the Network should be the evaluation in a broad sense. Further comments and suggestions regarding a re-wording of the scope statement included:

- Use of the term 'smart evaluation'
- Include explicitly the evaluation in different environments
- Mention genotyping as it is very important
- We should be innovative and include new partners, e.g. farmers.

Two alternative goal statements were included in the draft document. The first statement was preferred and agreed upon with the substitution of the term 'use' with 'usability'. The agreed goal statement is the following: "To increase and improve the usability of traits and genetic diversity present in PGRFA in Europe in crop improvement".

It was observed that the term usability should include collecting and conservation, as it is important to make available all naturally occurring diversity.

Ten objectives were listed in the draft document. Some were considered to be rather mode of operation than real objectives and should be removed. The objectives number 3, 4 and 5 were considered the most important ones and should come as first objectives. In general,

objectives should be grouped, e.g. those relating to information and data management. It was stated that both access to the material and access to the data are important for the sustainable use of characterization and evaluation (C&E) activities for the purpose of breeding. It was suggested to include as additional objectives the integration with other European networks, such as the phenotyping network, and the development of new tools, ideas, projects etc. Legal document support was suggested as additional objective, but it was argued that this should rather be dealt with on a needs basis, involving experts, rather than as objective itself.

Six comparative advantages were proposed in the draft document. It was suggested to remove the words “not easily accessible” from the first advantage, as this was considered an unclear formulation which requires explanations. It was suggested to group advantages and to include as additional advantage the transfer of knowledge and ideas between communities.

It was agreed that the Task Force will work out a revised scope statement, objectives and comparative advantages to be circulated to the group for input. The revised document is included as Annex III and also available online.⁵

STRUCTURE OF A EUROPEAN PGRFA EVALUATION NETWORK

A draft structure had been shared with workshop participants and was discussed at the workshop. Regarding the crop expert groups it was suggested to also reflect whether there could be a unique crop expert group rather than one for each PPP. Furthermore it should be taken into consideration that ECPGR already has crop-specific working groups that can play a role. Possible missing elements were suggested: a body that develops projects, a legal group and a support group for information management. The project development and legal aspects should be dealt with by the coordination unit, if necessary seeking ad hoc expert advice. It was agreed to include the support group on information management in the structure just underneath the coordination unit. The revised structure is included as Annex IV and also available online.⁵

FRAMEWORK DOCUMENTS FOR A EUROPEAN PGRFA EVALUATION NETWORK

I. Thormann introduced briefly the subject. Different types of documents are used in private public partnerships and serve at different levels. At a general level to express the interest to collaborate, a Memorandum of Understanding or a Memorandum of Cooperation is used. Significantly more detailed are collaboration or cooperation agreements, or contracts that set out very precisely what the activities are, roles and responsibilities of the partners, and other relevant details. Naming of the documents regulating the collaborations varies. Some PPPs use tailor-made material transfer agreements (MTAs), when the standard MTA of the Treaty's Multilateral System cannot be used. The German PPP EVAII, that was suggested as a blueprint for further activities, uses the SMTA of the Treaty's Multilateral System. Tables of common sections found in example MoUs and example collaboration agreements shared by

⁵ European Evaluation Network documents
<http://www.ecpgr.cgiar.org/resources/private-public-partnerships/european-evaluation-network-documents/>

Task Force and Advisory Group members with the ECPGR Secretariat had been prepared as support for the discussion.

It was agreed that a MoU would be needed to establish the Network, but that this document should be kept as simple and straightforward as possible. The suggested core group to sign the MoU would be the ECPGR Steering Committee and ESA. In the preamble of the MoU it should be mentioned how many partners are represented by ECPGR and ESA. Afterwards ECPGR could actively seek to involve genebanks in the Network, and ESA could reach out to their members to involve breeders and evaluators in the Network. It was furthermore suggested that the MoU should include in an Annex a letter of commitment to be signed by all joining members, which sets out exactly the responsibilities of and benefits for the partners. This should have a certain duration and be flexible among crops, as different crops will require different specifications.

Szonja Csörgö, Director Intellectual Property and Legal Affairs at ESA, is part of the project Task Force and will be briefed about the workshop results and need to be involved in the development of the MoU. The MoU will need to be approved during the next ECPGR Steering Committee meeting that will take place in May 2018. In good time before this date the final text of the MoU should be ready. Gerald Moore indicated that he could present a draft version of the MoU by end of November 2017.

The table with elements of a MoU, including the additions made during the workshop is included as Annex V to this report.

STANDARDS AND METHODS FOR EVALUATION WITHIN A EUROPEAN PGRFA EVALUATION NETWORK

A. Adam-Blondon gave a presentation on Data management in large French Public-Private Projects (for details about this presentation, see section above) to introduce the topic. Data management and standardization was considered a very important component within the Network and single PPPs. There are different layers of data management and sharing. Within a PPP, harmonized protocols and methods are required to share the crop-specific data among partners. The data should also be made available to global systems such as EURISCO and the Global Information System of the ITPGRFA (GLIS) and therefore need to match international standards. The FAIR principle should be adopted for the global data level (FAIR = Findable, Accessible, Interoperable, Reusable). It was flagged that it is still very difficult to gather data on the use value of PGR. The discussions can be summarized as follows:

Guidelines for each crop community/project

- Work on harmonization of evaluation protocols and good practices
- Data management plan describing the data flow with responsibility of all the partners, when the data are private, when they become public
- Have the objective to feed EURISCO with the relevant data and to make it linkable with data that might have to be stored in other repositories
- If other repositories than EURISCO have to be identified, pay attention to the sustainability of these additional resources.

Guidelines for the Network

- Helping EURISCO to move towards being FAIR in collaboration with existing European infrastructures (ELIXIR, EMPHASIS) and international initiatives or infrastructures (GLIS, BrAPI, WheatIS, CropOntology...)

- Provide a file repository for additional information to be stored as files: cooperation agreements, MoU, SMTA, protocols, etc.
- Develop actions for training and capacity building on data management, protocols and data standardization.

TERMS OF REFERENCE (TORs) FOR THE SELECTION OF EXEMPLAR CROPS

The aim of this session was to discuss criteria that are relevant for the selection of exemplar crops and identify a procedure for the selection of crops.

The following major topics, which were proposed by the session chair, A. Charcosset, were discussed and key points are listed:

- 1) Potential impact of project in an overall variety development process
 - Perception of missing diversity by breeders (priority 1)
 - Perspective of improved varieties for European growers through a better evaluation to choose PGR to (i) help the choice of growers in view of direct cultivation (e.g. Apple collections) or (ii) initiate new (pre)breeding cycles
- 2) Importance of final objectives
 - Biotic / abiotic environmental adaptation
 - Quality
 - Diversification of production
- 3) Representation of diverse situations
 - Breeding / evaluation organization: repartition of roles, diversity of actors (including public, farmers), size of breeding companies, (priority 1)
 - Diversity of breeding and growing systems
 - Type of varieties : autogamous (inbred lines) / allogamous (hybrids) / clones
 - Traits: major genes / polygenic
 - Cultivation zones
- 4) Readiness to get committed / novelty / synergy with other actions
 - Readiness to proceed in a first step / type of action without guaranteed external money
 - Availability / legitimacy of coordinators relative to expected timeframe
 - Stimulating action of interest to both private (broad sense) and public partners
 - Readiness to harmonize PGR catalogues within species
 - Readiness to share data
 - Possibility to implement protocols during expected timeframe (including availability of materials)
 - AEGIS status of accessions recommended; PPP results should help to nominate more AEGIS accessions.
 - Appropriate management of phytosanitary issues
- 5) Reciprocal commitment of Network and participants to crop-specific actions
 - Commitment towards contacted groups to be clear
 - Transfer of know-how
 - Commitment to help for MTA/MoU establishment for the crop-specific projects

- Funding of meetings to start the crop networks? → it is agreed that funding of meetings to start the networks would be beneficial. This is consistent with the mandate of ECPGR.
- Perspectives to apply for additional funding and risk (time spent), ex. H2020? → the general impression is that there is risk here to create confusion. Networks should be viable without this support
- Commitment for help with data management
- Use of EURISCO as preferred information system.

Two additional criteria, i.e. value added to existing information / synergy with existing projects and readiness to build additional actions if external funds become available were not discussed in detail.

In a final discussion on criteria and timeline the following points were made:

- Selection of crops can be envisaged in very different ways: opportunistic, call for proposal, based on established criteria... A call for proposal was considered too complex.
- It was agreed that there should not be an initial limit to the number of crops or networks. They should rather be as many as possible (provided they fit with given criteria).

Two ways of proceeding were proposed:

- (i) clarify first objectives and documents (with target deadline the ECPGR meeting in May 2018) and then work on the constitution of networks
- (ii) start immediately to explore possibility to constitute networks in order not to lose time.

It was agreed to conduct both approaches in parallel.

Regarding (ii), it was suggested to carry out first informal checks with existing crop communities of crops with representatives at this workshop. The idea would be to advance elaboration of actions at a level compatible with the status of the MoU, in order to proceed rapidly after the MoU would be signed and the Network framework be established. Crops envisaged for this first step are wheat, grapevine, maize, field vegetables (carrot, brassica) and barley. Additional crop communities will be contacted after the finalization of the framework documents.

ANNEXES

Annex I. List of participants	11
Annex II. Workshop agenda	13
Annex III. Revised scope, goal, objectives and comparative advantages of a European PGRFA Evaluation Network	15
Annex IV. Revised structure of a European PGRFA Evaluation Network	16
Annex V. Elements of a Memorandum of Understanding	17
Annex VI. Acronyms and abbreviations	18

Annex I. List of participants

First Workshop

PPP Project Phase II

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Annex II. Workshop agenda

PPP project phase II
First workshop, 12–13 October 2017
Maccarese, Rome, Italy

THURSDAY 12 OCTOBER – SAKURA MEETING ROOM		
	Welcome and introductory session	CHAIR: L. MAGGIONI, ECPGR
09.00 – 09.05	Welcome by ECPGR Secretariat	L. Maggioni
09.05 – 09.20	Introduction of participants	All
09.20 – 09.40	Overview of PPP project phases	I. Thormann, ECPGR
09.40 – 09.50	Introduction of agenda and objectives	I. Thormann
09.50 – 10.10	Presentation of example PPP scope and structure	F. Ordon, JKI
10.10 – 10.30	Presentation of example network of PPPs	A. Hägnefelt, NordGen
10.30 – 11.00	TEA/COFFEE BREAK	
	Scope, objectives and structure of network	CHAIR: J. ENGELS, BIOVERSITY
11.00 – 12.00	Discussion of scope and objectives of a European PGRFA Evaluation Network	
12.00 – 13.00	Discussion of structure of a European PGRFA Evaluation Network	
13.00 – 14.30	LUNCH	
	Framework documents	CHAIR: J. FREITAG, GFPI
14.30 – 14.40	Introduction to framework documents	I. Thormann
14.40 – 15.30	Discussion and agreement on document types	
15.30 – 16.00	TEA/COFFEE BREAK	
16.00 – 17.20	Outline and structure of documents	
	END OF WORKSHOP DAY 1	
17.30	Train to hotel	
19.30	SOCIAL DINNER	Restaurant L'isola, close to hotel

FRIDAY 13 OCTOBER – SAKURA MEETING ROOM		
	Standards and methods	CHAIR: A. ADAM-BLONDON, INRA
09.00 – 09.45	Discussion on common standards and protocols in evaluation	
09.45 – 10.30	Recommendations about standards and harmonization; options for addressing this within the network	
10.30 – 11.00	TEA/COFFEE BREAK	
	Selection of exemplar crops	CHAIR: A. CHARCOSSET, INRA
11.00 – 12.00	Discussion on criteria relevant for selection of model crops	
12.00 – 12.30	Discussion on procedure to select model crops	
	Concluding session	CHAIR: I. THORMANN
12.30 – 13.00	Wrap up and next steps	
13.00 – 14.00	LUNCH	
	End of workshop	

Annex III. Revised scope, goal, objectives and comparative advantages of a European PGRFA Evaluation Network

Scope

The scope of the European PGRFA Evaluation Network regards the generation and linkage of phenotypic and genotypic data to develop genetic markers and information for the enhanced use of PGRFA in breeding (at pre-competitive level) and research.

Overall goal

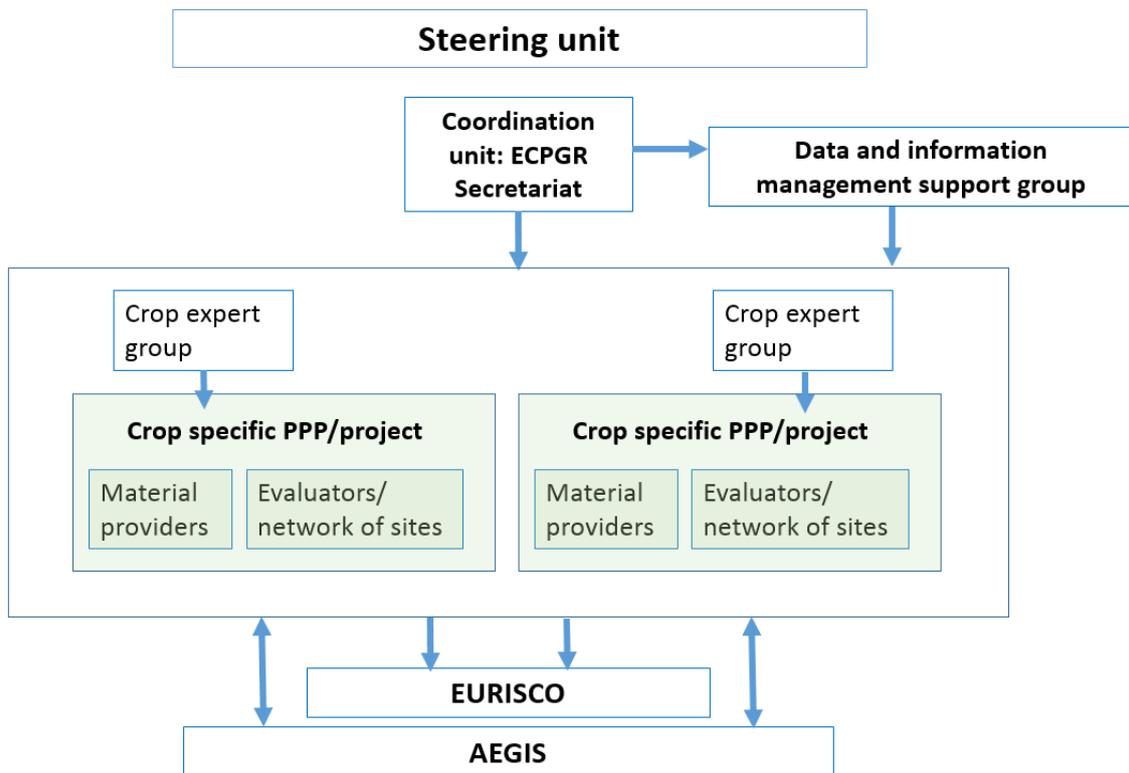
To increase and improve the use of genetic diversity present in PGRFA in Europe for crop improvement.

Objectives

1. To promote and support the establishment of crop or crop group specific European Private Public Partnerships and collaborative projects to carry out targeted evaluation of PGRFA.
2. To promote and improve the digitization, harmonization, availability and exchange of existing and newly generated evaluation data of PGRFA using to the extent possible the existing EURISCO infrastructure.
3. To improve the evaluation of PGRFA through coordinated and collaborative efforts, using harmonized methods and standard protocols and the development of best practices, guidelines and tools.
4. To promote integration of the European Evaluation Network with other relevant EU infrastructures and collaborations related to the scope of the network.

Benefits

1. Increased access to genetic material from all over Europe and to its related information.
2. Structured network enabling to test across a wide range of agro-environmental areas, using the same standards and methods, and thus generating scientifically more meaningful and useful data for plant breeding.
3. Dynamic information system (EURISCO) hosting all the data with privileged access (data embargo) for partners.
4. Further strengthening and use of a well-developed and coordinated infrastructure for long-term maintenance of relevant material (AEGIS).
5. Possibility to pool resources and better exploit the diversity of growing conditions across the region.
6. Transfer of knowledge and ideas among genebank, crop and breeding communities.

Annex IV. Revised structure of a European PGRFA Evaluation Network

Annex V. Elements of a Memorandum of Understanding

The purpose of the MoU is the establishment of a European PGRFA Evaluation Network

Section	Content
Preamble (important)	Background, political context, loss of diversity, underutilized diversity, mention GLIS
Definitions (normally in the beginning)	AEGIS ECPGR EURISCO PGRFA Etc.
Article on establishment	
Objectives and goals of network	
Members	One organization that represents genebanks (ECPGR) and one that represents breeders (ESA)
Principles which members adhere to	Paragraphs about EURISCO and AEGIS (otherwise the relationship with these two entities can be described in separate sections); data sharing issues; IP issues; material transfer agreement (SMTA/MTA)
Responsibilities of members	Two signing partners to become multipliers of this initiative; regular consultations to monitor progress of the Network
Positioning within ECPGR	Will provide the secretariat
Financial resources	In principle self-funded; how to deal with potential funding?
Amendment	Based on consensus
Entering into force	Upon signature of both parties
Withdrawal	
Termination	
Annexes	Network structure; ...

Annex VI. Acronyms and abbreviations

AEGIS	A European Genebank Integrated System
BLE	German Federal Office for Agriculture and Food
C&E	Characterization and evaluation
CGN	Centre for Genetic Resources, the Netherlands, Wageningen, The Netherlands
ECPGR	European Cooperative Programme for Plant Genetic Resources
ESA	European Seed Association, Brussels, Belgium
EURISCO	European Internet Search Catalogue
FAIR	Findable, Accessible, Interoperable, Reusable
GFPi	German Federation for Plant Innovation, Bonn, Germany
GLIS	Global Information System of the ITPGRFA
INRA	Institut National de la Recherche Agronomique, France
ITPGRFA	International Treaty on Plant Genetic Resources for Food and Agriculture
JKI	Julius Kühn-Institute, Quedlinburg, Germany
MoU	Memorandum of Understanding
NordGen	Nordic Genetic Resource Center, Alnarp, Sweden
PGR	Plant genetic resources
PGRFA	Plant Genetic Resources for Food and Agriculture
PPP	Private Public Partnership
SC	Steering Committee
SLU	Swedish University of Agricultural Sciences
SMEs	Small and medium-sized enterprises
SMTA	Standard Material Transfer Agreement
ToRs	Terms of Reference