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Networking, partnerships and tools to enhance *in situ* conservation of European plant genetic resources

European network for *in situ* conservation and sustainable use of plant genetic resources

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1.0 Executive summary

The overarching goal of the Farmer's Pride project was to establish a European network for *in situ* conservation and sustainable use of plant genetic resources¹. To achieve this goal, it is necessary to establish a self-sustaining network structure with appropriate governance in place to underpin its long-term sustainability. Despite the huge efforts of the Farmer's Pride consortium, this goal was not fully achieved during the project lifetime because the consortium was unable to secure the commitment of a European agency willing to provide the governance necessary to secure the long-term sustainability of the Network. This report details the progress made towards its establishment, outlining key achievements of the Farmer's Pride project. It includes the views of seven key subject experts representing the diverse plant genetic resources stakeholder groups on the importance of the Network and the progress made by the Farmer's Pride project, as well as on how we might move forward with its establishment. The report concludes with a proposal for taking forward the establishment of the Network and the potential roles of the ECPGR² Crop Wild Relative Working Group and IUCN³ Crop Wild Relative Specialist Group in this regard. In summary, the next steps defined by these two key expert stakeholder groups are:

1. Continued lobbying of European agencies on the value of plant genetic resources (PGR) in crop improvement and food security, arguing that *ex situ* approaches alone are inadequate to effectively conserve plant genetic diversity, and therefore, the urgent requirement is for the application of a complementary *in situ* approach to conservation and that greater efficiency of *in situ* PGR conservation of resources themselves and the people managing those resources can be achieved by a network approach.
2. Systematically building self-sustaining national *in situ* PGR conservation networks in as many European countries as possible. There appears to be some financial support already being provided for this approach by national agencies – therefore, they are more likely to provide the necessary long-term governance.
3. Presentation of the national *in situ* PGR conservation networks to European agencies, stressing the additional value of a regional network to support the national structures—the regional network growing organically from multiple national PGR *in situ* networks. Thus, a European regional agency could be persuaded to provide the network governance structure and the regional *in situ* network would form a network of networks structure enhancing the national *in situ* conservation efforts.

The establishment of the European network for *in situ* conservation and sustainable use of plant genetic resources is critical to ensure the continued availability of conserved plant genetic resources for use by the seed sector and farmers in crop improvement in Europe. Ultimately, its fundamental value is in bringing together actors across the region to support PGR conservation and sustainable use, and in raising awareness among the different stakeholders on the interdependency and shared responsibility of countries for conservation and use of PGR and the increasing value of genetic diversity *in situ* (on-farm and in the wild) to safeguard our food security, adapt to climate change, and help to restore wider biodiversity. Members of the ECPGR Crop Wild Relative Working Group and IUCN Crop Wild Relative Specialist Group are committed to collaborate to ensure the Network is established for the benefit of all Europeans.

¹ See farmerspride/network/

² European Cooperative Programme for Plant Genetic Resources

³ International Union for the Conservation of Nature

2.0 Introduction

Crop wild relatives and locally adapted crop varieties ('landraces' or 'farmers' varieties') are rich sources of genetic diversity which provide vital ecosystem services to society by helping to build resilience in agriculture and ensuring food, nutrition, and economic security. The conservation of these plant genetic resources (PGR) *in situ*—that is, in their natural habitats in the case of wild species or in the locations where they are cultivated in the case of landraces/farmers' varieties—with backup in *ex situ* facilities to provide access to material by plant breeders and farmers—is essential to maintain this diversity which is continually adapting to local environmental conditions. However, *in situ* PGR conservation, with complementary *ex situ* conservation, is currently unplanned and uncoordinated, and to streamline and strengthen our efforts, we need effective and permanent support mechanisms in place.

The Farmer's Pride project brought together key actors to lay the foundations for lasting *in situ* conservation and sustainable use of PGR in Europe by planting the seed and nurturing the growth of a new regional network of sites, populations, and conservation and use stakeholders, which builds on existing regional, national, and local networks, and relevant initiatives and policies. This report describes the activities undertaken towards establishing the network and presents recommendations for next steps.

3.0 Establishing the European *in situ* PGR network

3.1 Developing the network concept and proposal

In the context of the Farmer's Pride project, discussions about the concept of the network began at the kick-off consortium meeting in December 2017 and were a major focus of the project's first two stakeholder workshops—Workshop 1, October 2018 in Denmark, and Workshop 2, October 2019 in Greece. Following Workshop 1, the white paper 'Proposal for the establishment of a European network for *in situ* conservation and sustainable use of plant genetic resources'⁴ was prepared, and this was further developed to produce the document, 'European network for *in situ* conservation and sustainable use of plant genetic resources—in cultivation and in the wild: A proposal'⁵, which was published in eight languages⁶.

Stakeholder Workshop 1⁷

At Workshop 1, 56 participants representing a diverse range of stakeholder groups convened to discuss and develop the concept of the network, make recommendations for its structure and functioning, and prepare a roadmap for next steps in its development. The workshop proceedings were carried out in three sessions: 1) Network stakeholders; 2) Network operation; and 3) Network governance and policy. Key messages arising from the workshop were:

Network stakeholders

- The wide and diverse range of PGR stakeholders presents a challenge for the successful establishment and long-term operation of a European network. There must be a strong motivation for stakeholders to join the network, therefore, effective means of communicating the purpose of the network and benefits of becoming a network partner tailored for all stakeholder groups will be paramount. It will also be essential to define clear roles for all stakeholders, include a balanced

⁴ Read the white paper here: [D4.1 Network proposal.pdf](#)

⁵ Read the proposal here: [Farmers Pride Network Concept English.pdf](#)

⁶ See [farmerspride/network/](#)

⁷ Read the report here: [Farmers Pride Workshop 1 Report.pdf](#)

representation of the different stakeholder groups, imbue a sense of ownership, and promote collaboration and cross-sectoral cooperation.

- Benefits to stakeholders from participation in a future network include: i) improved access to and exchange of a greater breadth of PGR and associated knowledge; ii) increased opportunities for collaboration on research, development, marketing and advocacy initiatives; iii) greater recognition of their specific roles in PGR conservation and sustainable use and added value for their activities; and iv) collective awareness-raising of the value of conservation and sustainable use actions towards influencing a supportive policy environment.
- Transparency regarding the end-use of PGR and building trust between stakeholders will be fundamental to the success of the network. In particular, there is a need to build bridges between the so-called ‘formal’ and ‘informal’ sectors, as well as to recognize Farmers’ Rights in policies underlying the operation of the network.

Network operation

- A European network should as far as possible build on existing infrastructures (e.g. stakeholder and site networks, relevant organizations/institutes, policy frameworks and legislation), whether at subnational, national, or international level. However, it must also cater for the inclusion of individuals, whether farmers, plant breeders, landowners, or other interested stakeholders. Understanding the strengths and weaknesses of existing infrastructures, as well as commonalities between them, will be fundamental for the successful establishment and long-term operation of the network.
- Acknowledging that there are divergent communities involved in crop wild relative (CWR) and landrace conservation, options for administration of a European network include: i) one secretariat that provides services for conservation and sustainable use of PGR, whether CWR or landraces; ii) the establishment of two networks which would operate through a joint platform; and iii) administration under one umbrella organization with parallel bodies managing activities for CWR and landrace conservation and sustainable use respectively.
- Formal recognition and long-term funding of a future network will be essential for its success. As a community, we need to lobby national and European policymakers, stressing the need for permanent funding for its sustainable operation.
- Agreement on good practices for PGR conservation and sustainable use and harmonization of management standards should be sought as far as possible. Sharing of information and experience and the establishment of an evidence-base of best practice and associated guidelines will be important in this regard.
- Central to the operation of the network will be the need for good information availability, management, and visibility, and any system used should cater for network members to share and exchange information.

Network governance and policy

- As a tentative first step and vision for a future coherent and sustainable network, a draft concept for governance of a European network, primarily from the point of view of CWR conservation and sustainable use was prepared and discussed. Participants agreed that this required further development and consideration regarding the integration of governance for the part of the network relating to the conservation and sustainable use of landrace/farmers’ varieties and for presentation and discussion at the next workshop.
- There are opportunities for using existing policies and legislation to support the operation of a future network as well as a need for new policies and legislation specifically for PGR conservation and

sustainable use. Of particular note is the need for legislation to protect landraces/farmers' varieties and to enable new markets for farmers' products. Political recognition of Farmers' Rights in line with Article 9 of the International Treaty on PGRFA is also essential.

- Economic incentives are one mechanism for improving the implementation of existing international policies and legislation. However, few mechanisms exist for PGR, funding is very limited, and administrative costs can be high.
- The costs and benefits of *in situ* conservation need to be understood so that this can be conveyed to policymakers. This includes the recognition of non-market, private and public values of PGR, such as food and nutrition security, safeguarding the environment, income generation, improved livelihoods, and protecting agricultural landscapes and bio-cultural heritage.
- Conditions for access and use of PGR in the future network need to be clear. Existing laws and mechanisms are complex and off-putting for some stakeholders. In this regard, a guide to sharing and using PGR could help to explain the complicated rules to encourage and support stakeholders who otherwise may feel excluded.

Stakeholder Workshop 2⁸

At Workshop 2, 62 participants representing a diverse range of stakeholder groups convened to discuss and make decisions on the development and establishment of the network. The workshop proceedings were carried out in three sessions: 1) Network sites/populations; 2) Network governance, policy and communications; and 3) Roadmap for establishment of the network. The key activities and outcomes of the workshop were:

Network sites/populations

- Standards and procedures for CWR and landrace sites/populations, with a particular focus on inclusion criteria, management standards and procedures for nomination and adoption in the network were discussed and a timeline of actions for taking these standards forward was prepared.
- Promoting and enabling the use of material conserved in the *in situ* network, with a particular focus on the elements required for improving access and increasing the use of *in situ* diversity was discussed. Considering the roles of the various actors involved, the elements of such a system and how they could be created or improved were described.

Governance, policy and communications

- Four key elements of the future governance of the *in situ* PGR network were discussed: i) European organizations or agencies that could provide the over-arching management of the network; ii) collaborating organizations that could be included in a network management committee; iii) the process to follow for initial inclusion of sites/populations in the first 12 months of the establishment of the network; and iv) the definition of roles of a governing body in the management of the network.
- Concrete policy actions needed to sustain the European network were identified, and the need to ensure that there is a direct long-term European commitment to provide the necessary governance structure and funding was agreed.
- A communications plan (including timeline) to support the establishment and long-term success of the network was proposed. Recommended actions included setting up a communications group, mailing list, and sending regular e-newsletters, developing a network website, and agreeing a communications plan for the Farmer's Pride final dissemination conference and network launch.

⁸ Read the report here: [D5.1 Farmers Pride Workshop 2 Report.pdf](#)

Roadmap for establishment of the network

- Participants built on the outcomes of the previous sessions to agree a way forward in establishing the network. It was concluded that a public version of the ‘white paper’ is needed to engage stakeholders in their home countries and within their own professional networks. A task force was established to consider the options and produce a draft concept note in consultation with the External Advisory Board and other project collaborators. A proposal for a stakeholder consultation process was discussed and it was agreed that a clear timeline for the establishment of the network would be produced. The workshop participants agreed that the network establishment process should address a number of issues, including political attention and funding, incentives to nominate sites, levels of engagement, building trust, and network coordination.

Following Workshop 2, the concept and proposal for the establishment of the network was developed, published in eight languages⁹, and promoted by the Farmer’s Pride collaborators.

3.2 Identifying and maximizing the engagement of PGR conservation and sustainable use stakeholders

A vital part of the process of establishing a European *in situ* PGR network is to ensure full stakeholder representation throughout the region and to build a coalition of support for its establishment. The Farmer’s Pride project consortium, along with the Farmer’s Pride Ambassadors and members of the External Advisory Board¹⁰, was designed to be representative of the full range of stakeholder groups in PGR conservation and sustainable use: farmers and growers, seed networks, genebanks, plant breeders, the private seed sector, protected area managers, and the research community, including representation at national, regional, and global levels. This strong collaborative approach enabled not only the right voices in the process of designing the network concept, but also the advantage of attracting engagement and support via the actors in each collaborator’s professional network. However, to extend the reach of the project even further, two stakeholder surveys were launched to gain a full understanding of, and document the range of stakeholders involved or with an interest in *in situ* (including on-farm) conservation and sustainable use of PGR, and to help ensure full stakeholder representation in the European network throughout the region (Box 1).

Communication, dissemination and advocacy activities have also been key to maximizing the engagement of stakeholders in the establishment of the network. These have included: the publication of a dedicated European network web page¹¹; presentations at conferences, workshops and meetings; webinars; a range of written publications, including the concept and proposal for the establishment of the network published in eight languages, policy briefs, and newsletter articles. For more details, see the Farmer’s Pride second periodic technical report, Section 2.5¹².

3.3 Developing best practices for network establishment and operation

Work carried out under other tasks in the Farmer’s Pride project have been vital for informing the development of the European network. Relevant results and outcomes include:

Crop wild relatives

- *In situ* plant genetic resources in Europe: crop wild relatives¹³

⁹ See farmerspride/network/

¹⁰ See farmerspride/who-we-are/

¹¹ farmerspride/network/

¹² [D6.8 Second periodic and final report.pdf](#)

¹³ [D1.2 In situ PGR in Europe crop wild relatives.pdf](#)

- Crop wild relatives in the Natura 2000 network¹⁴
- Crop wild relative population management guidelines¹⁵
- Crop wild relative *in situ* conservation case studies¹⁶
- Crop wild relative network showcases – analysis and best practices¹⁷
- Case studies, best practices and toolkits for *in situ* management of plant genetic resources¹⁸

Landraces

- Landrace hotspots identification in Europe¹⁹
- Landrace conservation in Europe – First localities for inclusion in a regional *in situ* PGR network²⁰
- *In situ* landraces: best practice evidence-base database²¹
- Proposed criteria for evaluating network efficiency in giving access to *in situ* landrace diversity²²
- Case studies, best practices and toolkits for *in situ* management of plant genetic resources²³

Access to plant genetic resources conserved *in situ*

- Improving access to *in situ* plant genetic resources²⁴
- Guidelines for integrated *in situ* and *ex situ* conservation of plant genetic resources²⁵
- Concept for a possible extension of EURISCO for *in situ* crop wild relative and on-farm landrace data²⁶

Costs and benefits of *in situ* conservation of plant genetic resources

- Effectiveness of existing levels of support for conservation and use²⁷
- General public's willingness to pay for agrobiodiverse-related goods and services²⁸

3.4 Gathering letters of support from institutions and organizations

Letters of support were solicited from the National Coordinators of the ECPGR, as well as from other organizations. For the network to be successful, support for its full establishment and permanent operation is vital at the national level, since network activities will be channelled through the national PGR programmes. The institutes and organizations that have submitted letters of support for the establishment of the network are also recorded in the interactive map³ (Figure 1) embedded in the web page dedicated to the European network¹¹. This currently includes eight letters of support from ECPGR National Coordinators and eleven from other organizations. The Chairs of the ECPGR *In situ* Conservation of Wild Species in Genetic Reserves and On-Farm Conservation and Management Working Groups—also the Farmer's Pride Project Coordinator and Work Package 1 Leader, respectively—are continuing to solicit support and to promote the establishment of the network in the context of ECPGR (as the proposed main governing body of the network) beyond the lifetime of the Farmer's Pride project.

¹⁴ [MS19 Crop Wild Relatives in the Natura 2000 Network.pdf](#)

¹⁵ [Crop Wild Relative Population Management Guidelines.pdf](#)

¹⁶ [Crop wild relative in situ conservation case studies.pdf](#)

¹⁷ [D1.5 CWR network showcases.pdf](#)

¹⁸ [D5.6 Case studies best practices and toolkits for in situ management of PGR.pdf](#)

¹⁹ [D1.4 Landrace hotspots identification in Europe.pdf](#)

²⁰ [D4.2 Landrace network design.pdf](#)

²¹ [ecpgr.cgiar.org/in-situ-landraces-best-practice-evidence-based-database](#)

²² [MS4 Network efficiency criteria for LR access.pdf](#)

²³ [D5.6 Case studies best practices and toolkits for in situ management of PGR.pdf](#)

²⁴ [D3.4 Improving access to in situ plant genetic resources.pdf](#)

²⁵ [D2.6 Guidelines for integrated in situ and ex situ conservation.pdf](#)

²⁶ [D2.5 EURISCO in situ extension concept.pdf](#)

²⁷ [D3.1 Analysis of effectiveness of in situ support mechanisms.pdf](#)

²⁸ [D3.2 General publics WTP for landrace conservation.pdf](#)

Box 1. Stakeholder surveys

Stakeholder survey 1²⁹

An online stakeholder survey available in ten languages was launched on 03 May 2018 and open until 01 April 2019. The project partners and Farmer's Pride Ambassadors disseminated the survey widely to potentially interested stakeholders, including members of the ECPGR; farmer, gardener and trade associations; seed-saver networks; plant breeding and seed companies; public research and technology institutes; botanic gardens; national parks; agro-NGOs; protected area managers; government ministries and other policymakers; and national PGR coordinators. The target area was geographic Europe, the EU member states, Turkey (represented as a partner in the Farmer's Pride project), the Russian Federation, and the Caucasus.

The results exceeded our expectations in terms of the overall number of responses (1,022), the geographic coverage, the breadth of stakeholder organizations represented, and the interests of respondents in the *in situ* conservation and sustainable use of PGR. Fundamentally, more than 56% of respondents are interested in becoming a member of a new European network for *in situ* conservation and sustainable use of PGR. Notably, all countries in the target area were represented in the sample, and critically, representatives of all the anticipated main broadly defined stakeholder groups responded to the survey, including independent farmers, protected area managers, seed companies and policymakers.

The survey respondents have interests in all aspects of *in situ* conservation and sustainable use of PGR—from national policy development, through capacity building, improving access to material, direct utilization for own consumption or commerce, to research into stress resistance traits, new markets for neglected crops, diversification of grain-based products, and general resilience of humans and the environment. They also work with all types of PGR, including: crop landraces; crop wild relatives (CWR) and other wild species; conservation, amateur and obsolete varieties; forage and cereal mixtures; and a range of other types of heterogeneous populations.

The majority of survey respondents expressed a wish to receive further information about the Farmer's Pride project and the establishment of the European network—a clear indication of the interest in *in situ* conservation and sustainable use of PGR and of the establishment of the network. Combined with the fact that most respondents also indicated an interest in becoming a member of the network, and the range of stakeholder groups, activities and interests that the survey revealed, the results provided concrete evidence of the need for resources to not only establish the European network, but to sustain it into the future.

Stakeholder survey 2³⁰

On 16 June 2020, an online survey was launched to gather expressions of interest in joining the European network from farmers, protected area managers, gardeners, seed producers and other land managers—the custodians of crop landraces and CWR populations *in situ*. By 16 September 2021, there were 78 expressions of interest, and these are plotted on an interactive map³¹ (Figure 1) embedded in a web page dedicated to the European network³². The survey will remain open and monitored at minimum until 31 July 2022.

²⁹ Read the report here: [D1.1 Identify in situ stakeholders.pdf](#)

³⁰ bham.onlinesurveys.ac.uk/farmers-pride-network-expressions-of-interest

³¹ <https://tinyurl.com/d34n3dpp>

³² farmerspride/network/

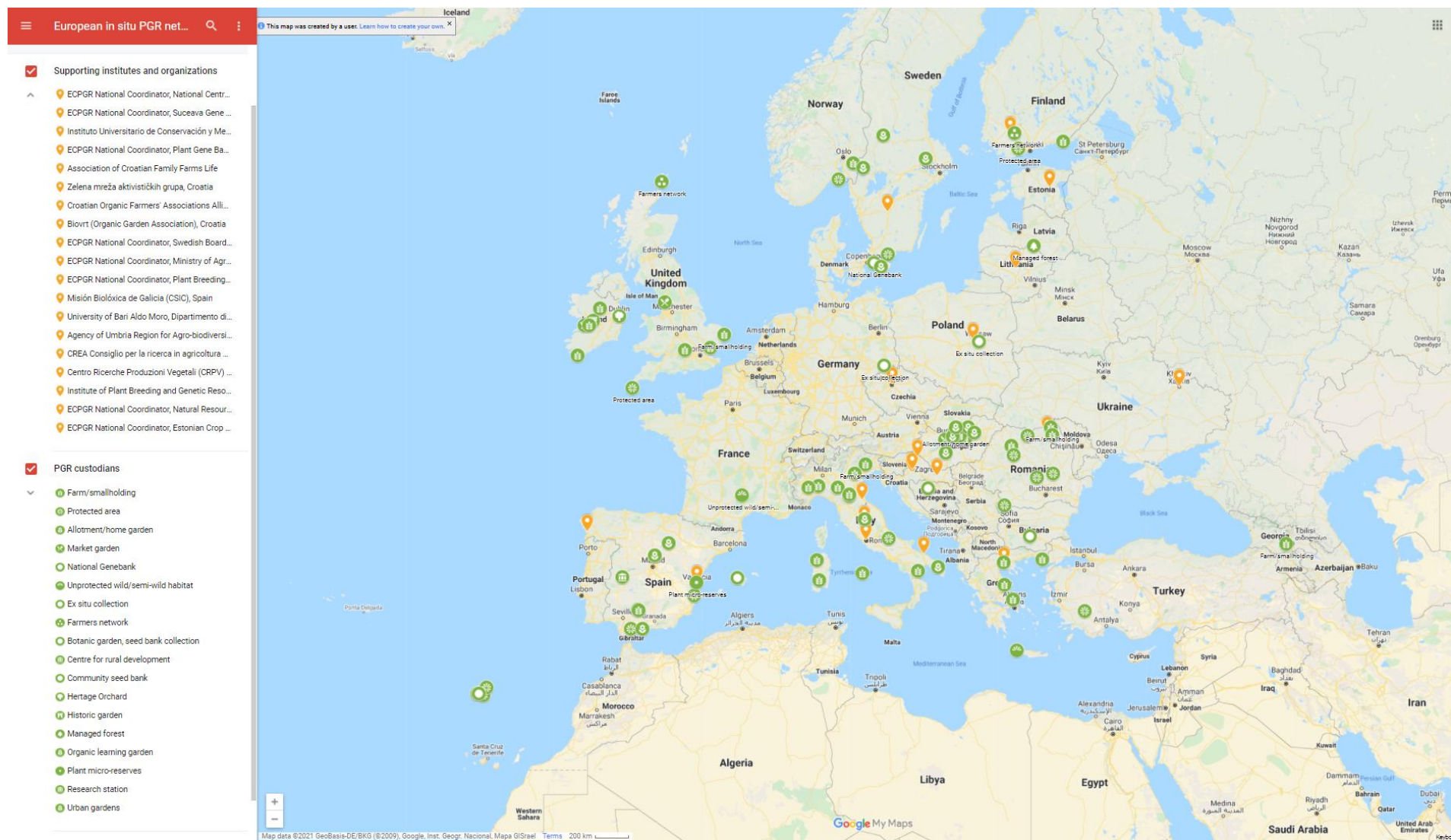


Figure 1. Interactive and dynamic map showing expressions of interest in establishing a European network for *in situ* conservation and sustainable use of plant genetic resources. Available at: <https://tinyurl.com/d34n3dpp> (Accessed 26 October 2021).

3.5 The European network: current status and next steps

3.5.1 Farmer's Pride final dissemination conference

Background

A major milestone in the establishment of the European *in situ* PGR network was the convening of Session 4 of the Farmer's Pride online final dissemination conference³³, organized in association with the Genetic Resources section of EUCARPIA (the European Association for Research on Plant Breeding) and ECPGR (the European Cooperative Programme for Plant Genetic Resources). In this final conference session, the establishment of the network was promoted and debated, including aspects of governance, operation, benefits to stakeholders, and the policy framework within which the network can be rooted and sustained.

Presentations

The session began with a presentation by Professor Nigel Maxted of the University of Birmingham—Coordinator of the Farmer's Pride project and Chair of the ECPGR Wild Species Conservation in Genetic Reserves Working Group—in which he explained the concept of the *in situ* PGR network, the context and rationale for its establishment, and a proposal for network governance (Annex 1). This was followed by audience Q&A and then a presentation by Dr. Ehsan Dulloo of the Alliance of Bioversity International and CIAT (Farmer's Pride project partner) on the establishment of a regional *in situ* CWR conservation network in southern Africa. This was followed by a further audience Q&A session for both presentations.

Policy roundtable

A critical part of the session was a policy roundtable on the establishment of the European *in situ* PGR network, chaired by Geoffrey Hawtin OBE, Former Director General of Bioversity International and CIAT, and involving panellists from: the Food and Agriculture Organization of the United Nations; Euroseeds; Eurosite – the European Land Conservation Network; the European Environment Agency; the Ministry of Agriculture of the Czech Republic; the Secretariat of the FAO International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA); and the European Commission, DG Agriculture and Rural Development³⁴. The panellists' statements and audience Q&A were centred around four key questions:

1. What next steps are needed to ensure the network is established and provided with a viable long-term governance structure?
2. How do you see the network being integrated into relevant biodiversity, agricultural, environmental and genetic resources policy and legislative frameworks (at European and global levels)?
3. How best could the network be designed to support the European Green Deal, the Second Global Plan of Action on PGRFA, the International Treaty on PGRFA, and the post-2020 global biodiversity framework?
4. What new policies/legislative instruments are needed to support the network and broader PGR conservation and sustainable use in Europe?

³³ Recordings of the conference sessions can be viewed online at: farmersprideconference.org/programme/

³⁴ A full report of the policy roundtable can be found at:

[D3.6 Policy dialogues workshop to enhance in situ maintenance.pdf](#)

Key messages from the panellists' statements

Chikelu Mba, FAO

- The need to pool resources to implement actions for *in situ* conservation and on-farm management of PGRFA are critically important aspects of the work of FAO with its member organizations.
- The Second Global Plan of Action for Plant Genetic Resources for Food and Agriculture (Second GPA), developed under the auspices of the FAO Commission on Genetic Resources for Food and Agriculture (CGRFA), provides an internationally agreed strategic framework for the conservation and sustainable use of the plant genetic diversity on which food and agriculture depends. It comprises 18 interrelated priority activities to which countries commit, **four of which pertain to the *in situ* conservation and on-farm management of PGRFA. FAO, through the CGRFA, has been seeking to establish either one or two global networks to address these priority activities**, and this was discussed at the recent 10th Session of the Intergovernmental Technical Working Group on PGRFA, in which the lessons learned from the First International Multi-Stakeholder Symposium on PGRFA, co-organized by FAO, the ITPGRFA and Crop Trust were presented.
- The Working Group recommended that the CGRFA requests FAO to continue organizing such symposia as a means to **foster the development of a community of practice for *in situ* conservation and on-farm management activities that could begin to evolve into a 'network of networks'**. In this regard, **the work of Farmer's Pride in establishing a network for *in situ* conservation and sustainable use of PGRFA** (as presented by Nigel Maxted), and the establishment of a network for *in situ* conservation and sustainable use of CWR (as presented by Ehsan Dulloo), represent **critical steps towards the eventual establishment of a global network for PGRFA that are best maintained outside of genebanks. FAO is keenly interested in the establishment of a European *in situ* PGR network as the lessons learned will be critical assets in fostering the development of the envisaged global network** (or 'network of networks') to meet the commitments of the UN Member States under the Second GPA, as well as under the ITPGRFA.

Szonja Csörgő, Euroseeds

- **Conservation of genetic resources is important for plant breeders as genetic resources constitute the basis of any breeding work.** It is therefore important to conserve them in all forms—in genebanks, on-farm and in the wild.
- **Access to PGR germplasm *in situ* for use by the plant breeding sector is currently very cumbersome** as it falls under the type of national ABS laws that are established under the Nagoya Protocol. Therefore, **the main interest of the seed sector in the establishment of a European *in situ* PGR network is to find ways to improve access to the conserved genetic resources**, which are less known and thus less utilized by commercial plant breeders.
- **The conservation and sustainable use of PGR is central in the implementation of policies under the European Green Deal**, including the 'From Farm to Fork' strategy—however, there is currently no legal framework within the EU that would support such efforts.
- Currently, *in situ* PGR conservation and sustainable use efforts are undertaken at national level, are very scattered, and not undertaken consistently and to the same level across countries. **The European *in situ* PGR network is needed to improve the current situation, and to achieve this, the EU needs to increase efforts in providing the necessary policy framework.** Such a framework needs to have clear goals and to be coherent with other policies and legislation pertaining to the conservation and use of PGR. **Structures and financial resources are needed to implement such a**

policy, and the European *in situ* PGR network initiated by the Farmer's Pride project can be one of those structures.

Tilman Disselhoff, Eurosite – the European Land Conservation Network

- In the developing the European *in situ* PGR network further, it will be vital to focus on the interests of its stakeholders who can be advocates for its cause and contribute to its functions—for example, by providing *in situ* PGR population management, training, peer to peer learning, monitoring, reporting, verification of activities, and promotion of products.
- **The network must provide services of value for its members**, such as increasing the visibility of their operations and roles in PGR conservation and sustainable use.
- **A fundamental value of a network is in providing a home for a community of practitioners and providing a sense of belonging and contributing to a larger cause.**
- The buy-in of all the relevant stakeholders is essential during the establishment of the network. It is important to know who the stakeholders are, what they expect, and what their priorities are.
- Limited resources for the operation of the network may be an issue—therefore, **the network needs to be mindful of what it can deliver and not raise too much expectation from its stakeholders.**
- **Seed funding should be available for the first few years of network establishment, and ideally a home found within an existing organization which is willing to host the secretariat during the initial phase of establishment and development.**
- A clear financial plan is required, which considers the requirement for members' fees and external sources of funding.
- **Begin the establishment of the network, even if all the details regarding its governance, funding and operations are not yet finalized**, because networks tend to grow organically and dynamically. They may begin as informal organizations and then become formalized over time.
- The political relevance of the network is important to obtain public funding. **Until the European Genetic Resources Strategy under development is adopted, the network objectives and work plan should be relevant to ongoing policy processes**, including the EU Biodiversity Strategy and the 'From Farm to Fork' strategy, both of which make reference to CWR and genetic diversity, although they are not explicit.
- **Position the network in the context of existing networks and initiatives at national and sub-regional levels to leverage resources, connect to a larger audience, and help reduce duplication of activities.**

Katarzyna Biala, European Environment Agency

- The presentations during Sessions 1–4 of the Farmer's Pride conference provide **convincing arguments for the establishment of an *in situ* PGR network in Europe—both on-farm and in the wild**—with conservation and use of genetic resources at its heart.
- The EEA aims to provide sound and reliable information to policymakers and the public. **One of the benefits and added values of the European network would be the creation of 'actionable knowledge'**, which is particularly relevant to understand what is happening *in situ* in the context of the unprecedented ongoing loss of biodiversity. However, there are **currently knowledge gaps in recording of the status and trends of biodiversity across Europe in a comprehensive, structured and evidenced-based way, one of which is related to genetic diversity, including the *in situ* diversity of crop gene pools** (landraces and CWR).
- **The Farmer's Pride project has showcased various examples of the power of networking and a structured and harmonized approach which the network proposal strongly advocates—for**

example, through the establishment of the first inventory of landraces in Europe and a regional analysis of CWR diversity, both of which provide evidence of the wealth of information available when stakeholders in different countries come together to pool their knowledge. These examples indicate **an important value of a permanent European network, which is the pooling of knowledge and provision of information on the status of PGR at regional level**, and they provide strong foundations on which to build.

- **The potential value of the Natura 2000 network for the conservation of both CWR and landrace diversity that has been highlighted is also something to build on**, especially since Natura 2000 covers 18% of the land area of the EU.
- Apart from the actionable knowledge that can be generated by a European *in situ* PGR network, its fundamental value is in bringing together actors across the region to support PGR conservation and sustainable use, and in raising awareness among the different stakeholders on the interdependency and shared responsibility of countries for conservation and use of PGR and the increasing value of genetic diversity *in situ* (on-farm and in the wild) to safeguard our food security, adapt to climate change, and help to restore wider biodiversity. **The establishment of the European *in situ* network could help to achieve these goals through knowledge and action.**

Vlastimil Zedek, Ministry of Agriculture of the Czech Republic

- **The Ministry of Agriculture of the Czech Republic strongly supports the outcome of the Farmer's Pride project regarding the establishment of a European network for *in situ* conservation and sustainable use of PGR in cultivation and in the wild.** Conservation of PGR *in situ* is essential for the continued evolution of diversity, especially for the adaptation of populations to climate change, and these resources are important for providing traits needed for future crop improvement. **Policymakers should therefore consider the importance of *in situ* PGR for the future of sustainable agriculture.**
- In the context of the preparations for the next iteration of the Czech Republic's National Programme on Conservation and Utilization of Plant, Animal and Microbial Genetic Resources Important for Food and Agriculture published by the Ministry of Agriculture, *in situ* conservation and on-farm management of PGR are listed as priority activities in the 'plan of special activities'. **Importantly, this enables the Ministry of Agriculture to transfer some extra financial resources to support these activities.**
- Another relevant national law is the Act on Conservation and Utilization of Plant and Microbial Genetic Resources Important for Food and Agriculture, which is strongly interconnected with the above-mentioned National Programme. **This law obliges participants in the National Programme to protect PGR *in situ* and this provides a basis on which to work**, depending on how the European *in situ* PGR network develops.
- **The Ministry of Agriculture of the Czech Republic would like to see the establishment of the European network as integral to the European Genetic Resources Strategy currently under development.**
- **The Ministry of Agriculture also recommends that the *in situ* PGR network is established as a new pillar of ECPGR, so that the network is embedded within the existing ECPGR governance structure.** This is important to streamline work and the use of financial resources at national level related to the conservation and sustainable use of PGR.
- **The Ministry of Agriculture also supports the close involvement of the environmental sector in implementing the work of the future European *in situ* PGR network.**

Mario Marino, Secretariat of the ITPGRFA

- The interdependency of countries on PGR is at the heart of the ITPGRFA.
- It will be essential for the European *in situ* PGR network to have a clear mandate and clearly defined roles of the different actors involved, as well as the benefits of network membership.
- **The establishment of a European coordination and information centre, as recommended in the context of the European Genetic Resources Strategy under development, will be important to support the European *in situ* PGR network, and this make a significant contribution to the foreseen global *in situ*/on-farm network(s).**
- **The European network can play an important role in providing access to PGR for farmers, as well as in promoting the role of farmers as custodians of PGR.**
- Close collaboration between *in situ* and *ex situ* PGR conservation structures and custodians will be an important aspect of the European network, and **a protocol for national genebanks and NGOs/CSOs in the region to work together would make an important contribution to its objectives.**

Annette Schneegans, European Commission, DG Agriculture and Rural Development

- **In terms of policy development, the time for making the case for genetic resources is right. There is a wide societal interest, the policy context is favourable, and we need to capitalize on this.**
- The European Green Deal has very strong climate and environment ambitions. In particular, **the ‘From Farm to Fork’ and EU Biodiversity strategies have very concrete targets to promote genetic resources.** For example, through the commitment in the EU Biodiversity Strategy to expand the Natura 2000 network to protect 30% of the EU land area, and the target to have at least 10% of agricultural land area under high diverse landscape features.
- **The Farm to Fork strategy highlights the concept of ‘seed security’, along with food and nutrition security, and under this concept promotes the enhanced access to a range of quality seed by farmers, including of local adapted varieties (landraces).** This is an important development and we now need to see how the implementation of the strategy translates into the various funding and support instruments.
- **Under the new CAP, farmers will continue to receive direct payments when diversifying crops and applying ecological practices.** The newly introduced ‘eco-schemes’ provide additional opportunities to promote (agro)-biodiversity and genetic resources (e.g. through the development of traditional varieties or the preservation of habitats for biodiversity conservation).
- In terms of the practicalities of establishing a European *in situ* PGR network, as proposed by the Farmer’s Pride project, **we should try to overcome the divide between the management of natural biodiversity and agrobiodiversity that has existed for a very long time differently, and rather see these two as a continuum.** In this respect, **the idea of using the Natura 2000 network for the conservation of both CWR and landraces is very interesting and we should follow up on this.**
- The need to integrate *in situ* and *ex situ* conservation, including implementing a novel protocol for access to PGR conserved *in situ* is very welcome, along with the concept of creating a network of networks.
- The idea of building a European network requires some further reflections (e.g. in its concrete focus). For example, which communities could be addressed first, and will the network be a community of practice or also have a coordination role?

- Existing networks should be used to best effect in this regard. As already mentioned, **ECPGR, with its strong governance structure, membership and funding could be considered as a starting point under which a new *in situ* PGR network is established.**
- Another route could be through existing NGO networks that work in the area of genetic resources.
- **The European Network of Rural Development** has a number of working groups, including on genetic resources, and a governance structure that brings together farmers and communities working in rural areas. **This is another partnership option that could be explored.**
- **It will be important to maintain the momentum created under the auspices of the Farmer's Pride project** and to stay together as a community to continue this important work. In the short term, project partners should continue looking for opportunities for funding through the Horizon Europe or other funding programmes.

Stakeholder workshop

For the final part of the session, the conference participants split into ten breakout rooms to further discuss questions 1 and 2 of the policy roundtable, and a final plenary reporting and discussion session was convened. The key outcomes of the breakout and plenary discussions are summarized below.

Question 1: What next steps are needed to ensure the network is established and provided with a viable long-term governance structure?

1. Identify who will host/lead the development of the network and continue a dialogue to take it forward.
2. Continue to engage DG Environment and DG Agriculture and Rural Development in the dialogue.
3. Build on existing structures, including ECPGR, Natura 2000, Let's Liberate Diversity, Eurosite, Euroseeds, other European networks and national initiatives, and create synergies between them.
4. Find synergies with the 'From Farm to Fork' strategy, Common Agricultural Policy (CAP), EU Biodiversity Strategy for 2030 and other regional support systems – this will be critical for long-term funding.
5. Develop a plan for short-term and long-term support mechanisms for the network (financial, expertise, political).
6. Ensure there is a clear and common understanding of the network's goals and activities.
7. Increase awareness among the nature conservation community of the diversity they are hosting – this can be supported by national genetic resources centres, which have a role in providing access to PGR conserved *in situ*.
8. Increase collaboration efforts with the managers of Natura 2000 sites, both for CWR and landrace conservation.
9. Ensure that all stakeholders are represented, and respect and identify the various needs of the network actors, as well as variation in PGR management approaches at national and subnational levels.
10. Continue with communications and awareness-raising of the importance of the network to keep up the momentum for action.

Question 2: How do you see the network being integrated into relevant biodiversity, agricultural, environmental and genetic resources policy and legislative frameworks (at European and global levels)?

1. The EU level is important, but a common European strategy is needed—therefore, the network should be integrated into policy and legislative frameworks at the European level.
2. Consider how the *in situ* PGR network can be related to the EU Biodiversity Strategy for 2030 and the From Farm to Fork strategy.
3. We have the evidence that many CWR and landraces occur in Natura 2000 sites—therefore, funding could be provided for PGR conservation within this existing structure.
4. The *in situ* network should be promoted in the context of the European PGR strategy developed in the context of the GenRes Bridge project³⁵.
5. The network could be coordinated by a future European coordination and information centre for agricultural genetic resources, as proposed in the European Genetic Resources Strategy³⁶.
6. The network (of priority sites) could be a basis for integrating cost-effective intervention mechanisms into the existing rural development policy (RDP) framework, which currently remains to provide effective support in practice. It would contribute to the implementation of the Common Agricultural Policy (CAP), particularly regarding the goals of performance rather than compliance, supporting public goods, and improved equality).
7. Access by the plant breeding community to PGR material conserved in the network needs to be linked to relevant access and benefit-sharing (ABS) policies.
8. The governance structure of the network is important. The management of PGR is at national level, while the network would be coordinated at regional level (e.g., by ECPGR).
9. The network could ensure that all stakeholders are represented under an appropriate national and European legislative framework supported by policymakers, therefore serving as a channel between protected area managers, ECPGR National Coordinators, national genebanks and the EC.

Following the discussions, and using a Mentimeter³⁷ tool, the participants were asked to briefly (in one or a few words) record their answer to the question, ‘**What do you think is the most important/critical next step for establishing the network?**’ The results are summarized in Box 2.

³⁵ genresbridge.eu/

³⁶ genresbridge.eu/resources/european-strategy/

³⁷ mentimeter.com/

Box 2. What are the most important/critical next steps for establishing the network?

Keeping up the momentum generated by the Farmer's Pride project

- Keep talking and maintain contact
- Establish an ongoing partnership to prepare a new project proposal

Continuing collaboration with existing structures

Continue working with DG Environment, Eurosite—the European Land Conservation Network, and with Natura 2000 site managers at national level to promote the importance of Natura 2000 for PGR conservation (both CWR and landraces)

Securing funding

- Obtain seed funding to kick-start the network
- Seek funding at national level and from the EC for the establishment and permanent operation of the network

Seeking the buy-in of policymakers

- Identify the specific policy areas and aspects of legislative instruments that the network will address
- Continue to engage national governmental/parliamentary policymakers, including ECPGR National Coordinators
- Continue to engage DG Environment and DG Agriculture and Rural Development

Developing and promoting the network

- Clarify the mandate, structure and scope, including the integration at national and European levels
- Identify short-term goals and milestones
- Include all stakeholders and countries in the process
- Link the network to good examples of ongoing local/national/regional initiatives
- Formulate strong incentives for network membership
- Identify a 'network champion'
- Present some 'good' genetic reserve examples
- Start small

Identifying network governance

- Continue discussions within ECPGR, especially the Executive Committee
- Develop coordination between existing networks, such as ECPGR, Euroseeds and NGO/community seedbank networks

3.5.2 Next steps

The main aim of the project was to establish the European network for *in situ* conservation and sustainable use of plant genetic resources. The consortium worked tirelessly to achieve this aim and made significant progress as outlined above towards its establishment. However, ultimately, we could not find a European agency willing to provide the governance structure for the Network. This was discussed with the Farmer's Pride Policy Officer, who acknowledged we had done everything possible to achieve this aim, but it would require significant further lobbying and time.

Although the Farmer's Pride consortium has disbanded with the completion of the project, it was primarily composed of members of the European PGR community drawn from the ECPGR Crop Wild Relative Working Group and IUCN Crop Wild Relative Specialist Group, both of which have as their short-

term goal the establishment of national, regional (continental) and global *in situ*/on-farm networks. The first regional *in situ* network was established by the IUCN Crop Wild Relative Specialist Group in the SADC region – therefore, as a community, we have already had significant success³⁸.

Since the completion of the Farmer's Pride project, the ECPGR Crop Wild Relative Working Group and IUCN Crop Wild Relative Specialist Group have developed an action plan for the establishment of the European Network involving:

1. Continued lobbying of European agencies on the value of PGR in crop improvement and food security, arguing that *ex situ* approaches alone are inadequate to effectively conserve plant genetic diversity, and therefore, the urgent requirement is for the application of a complementary *in situ* approach to conservation and that greater efficiency of *in situ* PGR conservation of resources themselves and the people managing those resources can be achieved by a network approach.
2. Systematically building self-sustaining national *in situ* PGR conservation networks in as many European countries as possible. There appears to be some financial support already being provided for this approach by national agencies – therefore, they are more likely to provide the necessary long-term governance.
3. Presentation of the national *in situ* PGR conservation networks to European agencies, stressing the additional value of a regional network to support the national structures – the regional network growing organically from multiple national PGR *in situ* networks. Thus, a European regional agency could be persuaded to provide the network governance structure and the regional *in situ* network would form a network of networks structure enhancing the national *in situ* conservation efforts.

This process is already being partially implemented via various national and EU projects for which funding has already been obtained and/or is being applied for – such as the German-funded ECPGR CWR *in situ* data structure project, the EU-funded European Research Infrastructure PRO-GRACE, the Horizon Europe proposal BRIGHTEN, and CROP WILD RELATIVE application in preparation. We anticipate that such a strategy will result in the establishment of the European network for *in situ* conservation and sustainable use of plant genetic resources. This will be critical to ensure the continued availability of and accessibility to conserved diversity (*in situ* and *ex situ*) for farmer or breeder-based utilization in crop improvement in Europe.

The Farmer's Pride project has already made significant progress in creating the foundations for the Network, including expressions of interest in joining the Network, as well as in the development of supporting information management tools. The consortium also made significant progress in addressing the link between the biodiversity and agrobiodiversity conservation communities – in particular, highlighting the potential value of the Natura 2000 network for the conservation of both CWR and landrace diversity. The Network will need to incorporate diverse stakeholder communities to maximize collaborative advantage, including biodiversity and agrobiodiversity conservation practitioners and users representing both the 'formal' and 'informal' communities. Members of the ECPGR Crop Wild Relative Working Group and IUCN Crop Wild Relative Specialist Group are continuing to collaborate to ensure the Network is established to secure the diversity needed for food, nutrition and economic security in Europe.

³⁸ cropwildrelatives.org/sadc-cwr-net/

Annex 1. Presentation by Nigel Maxted – ‘Doubling the genetic diversity available to users: implementing *in situ* PGR conservation in Europe’

[\(Click here for access\)](#)