

## Background Information



*Diversification, in order to reduce risk, is not an unfamiliar principle to investors. Why should it not be the case for the European genetic and cultural heritage in agriculture; its agrobiodiversity?*

Agrobiodiversity is the diversity of agricultural and ecosystem uses, as well as its cultural identities. It offers a treasure trove for the future. It also includes crop wild relatives, the ancestors of our cultivated plants. It is time-tested over thousands of years in millions of hands and is constantly evolving in interaction with human societies and the environment. It involves the maintenance and creation of the huge diversity of agricultural plant varieties and livestock animals that have been used as raw material by breeders during the last century.

The diversity of agricultural plant varieties and livestock animals is recognised as crucial for the future world food supplies by the UN Sustainable Development Goals (Goal 2, "Eradication of Hunger"). Today, two-thirds of the world's food depends on only six crops that are grown in monocropping production systems, a practice that increases agricultural vulnerability due to pests, climate change or market realities. Agrobiodiversity is a protection against pests and diseases, but also market volatility, its fluctuations and its instability. Breeding to maintain diversity, for different agroecosystems and between crops and within crops, not just with biodiversity, is an important strategy to turn our agriculture into sustainable production systems.

Agrobiodiversity can only be managed dynamically. Unfortunately, today it is mostly conserved *ex situ*, with little links to its management on farm. However, these different conservation efforts should complement each other. Agrobiodiversity indeed needs to be tested and constantly used (on farm) in changing environments (climate change, management conditions) to provide crop evolution and adaptation. As a living cultural heritage developed by farmers, breeders, seed savers and other local actors over generations, agrobiodiversity is closely linked to cultural traditions and social cohesion. It is both a biological and a socio-cultural resource.

European Union policies have targeted the conservation and sustainable use of agrobiodiversity in the past through several initiatives, amongst which the GENRES programmes, a few EU funded research projects, and dedicated measures of the Common Agricultural Policy, such as those targeting genetic resources in Rural Development Plans. However, these efforts have so far fallen short of addressing, let alone redressing the challenge of maintaining agrobiodiversity, as demonstrated *inter alia* in the conclusions of the Preparatory Action I on genetic resources and the evaluation of the Common Agricultural Policy on habitats, landscapes and biodiversity by the European Commission.

The dynamic management of agrobiodiversity needs more inclusiveness and more coordinated support at the European level, cascading down to local collective projects, in order to help the set-up of multiple new initiatives to both adapt to the consequences of climate change while ensuring the maintenance and the renewal of local heritage. Such a new policy approach should also bring concrete answers and develop the resilience needed to mitigate climate change effects.

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# POLICY BRIEF

Supportive Policy Frameworks for Dynamic AgroBioDiversity Management Networks  
Findings from the H2020 DYNAVERSITY project

## Summary

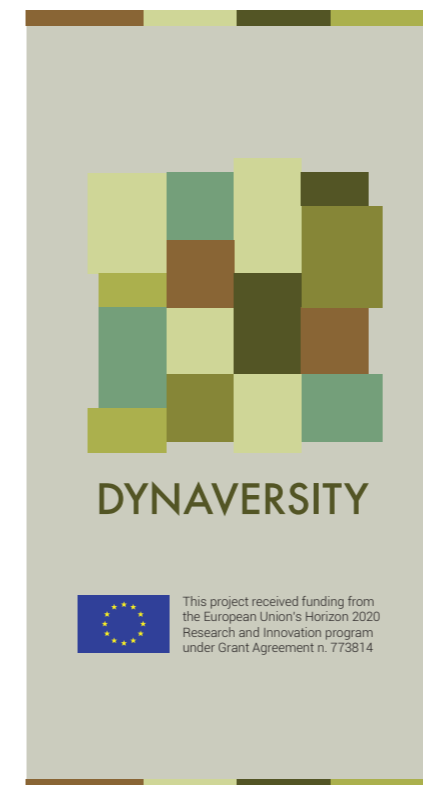
Our world is losing biological diversity, including agricultural biodiversity, at an alarming rate. Our research in the H2020 **DYNAVERSITY** project, supported by the two **Preparatory Actions** on Genetic Resources for Food and Agriculture, and the H2020 **DIVERSIFOOD** project, shows that **agricultural biodiversity, as human-made diversity, is only truly efficiently conserved and dynamically managed with the participation of a variety of local actors organised in networks and anchored in diverse social realities.**

DYNAVERSITY demonstrates that managing agrobiodiversity is a multi-dimensional and dynamic effort. It combines deeply rooted local agronomic knowledge with complex social innovations that include but are not limited to breeding, using diversity to create new diversity. These efforts also have the ambition to provide various alternatives to non-sustainable mainstream agricultural production systems, which remain one of the main drivers of agrobiodiversity loss.

**The comprehensive, yet largely uncodified and unrecognised knowledge of agrobiodiversity management networks should thus be included into the policy mechanisms set in place to support the transition into more sustainable food production systems in Europe.**

## Recommendations

- ▶ **Recognise the contribution of dynamic agrobiodiversity management networks** to the conservation, creation and sustainable use of agrobiodiversity, including crop wild relatives, whether in the EU Biodiversity Strategy post-2020, the Farm to Fork Strategy, the seed marketing *acquis*, or within relevant tools of the Common Agricultural Policy (CAP).
- ▶ **Reconsider the existing European policy structures applicable to crop diversity**, accounting for its multi-dimensional nature, through a recognised coordination platform with strong accountability mechanisms and a clear leading institution in order to ensure policy coherence.
- ▶ **Allocate dedicated funding lines and structural support for the sustainable use of agricultural biodiversity, targeting both its conservation and dynamic management**, and provide explicit support whether non-governmental associations, research institutes or public authorities to decentralised and participatory breeding for diversity, targeting equally all stakeholders.



# Policy implications

1

## Enable dynamic and networked agrobiodiversity use and conservation

The use and conservation of biodiversity, especially agricultural biodiversity, is more sustainable and efficient when managed with the participation of local actors (whether farmers, breeders or seed savers) organised in networks and anchored into social realities. Policies thus need to build upon, encourage and enable the variety of actors active in diverse contexts, supporting their interaction and collective action. In this context, networks are precious as they connect people, allowing them to share their experience and knowledge, but also providing opportunities to exchange, conserve, use and adapt existing agrobiodiversity on the ground, thereby providing more resilience to sanitary, economic and environmental challenges.

*Links with EU Biodiversity Strategy post-2020, related common agricultural policy ("CAP") measures (eco-schemes, conditionality, rural development programmes), and various instruments, e.g. EIP-AGRI.*

2

## Drive the transformation towards more sustainable food production systems

Dynamic agrobiodiversity management networks share the desire to provide various sustainable alternatives to mainstream agricultural production systems, which have been one of the main drivers of biodiversity loss. All policy mechanisms that are set in place to support the transition into more sustainable food systems in Europe thus need to provide support for these networks and include their wide, yet largely uncodified and unrecognised knowledge.

*Links with Farm to Fork Strategy, CAP and instruments, e.g. EIP-AGRI. Ensure the full implementation of the International Treaty on Plant Genetic Resources for Food and Agriculture ("ITPGRFA").*

3

## Recognise the multi-dimensional nature of dynamic agrobiodiversity management

Agrobiodiversity management combines layered local agronomic knowledge with complex social innovation dimensions. It is therefore essential to make agrobiodiversity a common living object in all agricultural and environmental political concerns and reconsider the existing European and national governance and policy structures applicable to crop diversity. Agrobiodiversity's multi-dimensional nature could, for instance, be reflected in a coordination platform with strong accountability mechanisms and clear institutional leadership.

*Links with governance, Farm to Fork Strategy and instruments e.g. EIP-AGRI.*

4

## Build robust links between natural and agricultural biodiversity, primarily through crop wild relatives

Crop wild relatives, as ancestors of cultivated diversity, play an integral and complementary part in the sustainable and dynamic management of agrobiodiversity. Their conservation cannot be viewed as a stand-alone process creating specific 'genetic reserves', with minimal connections with already existing policies and institutions working with protected areas, such as natural parks and Natura 2000 areas. Biodiversity conservation policies and related institutions should thus envisage the sustainable use of agricultural biodiversity as a complementary tool for the conservation of crop wild relatives, working hand in hand with social actors already involved in the dynamic management of agricultural biodiversity, and those acting towards more sustainable farming systems, both within and outside protected areas.

*Links with EU Biodiversity Strategy post-2020, Nature Protection framework, targeted Common Agricultural Policy ("CAP") measures.*

5

## Support breeding for diversity, not just ensuring the availability of diversity for breeding

Our research shows that conservation and breeding are intrinsically linked. However, these activities tend to be artificially dissociated in the majority of European policies, which do not sufficiently support participatory plant breeding efforts, nor provide for an enabling policy environment for the scaling up of these efforts' results. Policies, therefore, need to explicitly support decentralised and participatory breeding for diversity, as opposed to using diversity for breeding for uniformity, through, e.g. dedicated streams in research programmes and other mechanisms such as EIP-AGRI, or through an adaptation of the seed marketing acquis that makes room for the commercialisation of the products of diversity breeding.

*Links with research policy, and the seed marketing acquis.*

6

## Ensure the full implementation of the International Treaty on Plant Genetic Resources for Food and Agriculture ("ITPGRFA")

Signed under the United Nations Food and Agricultural Organisation, the ITPGRFA is to date the most pluralistic legal framework dealing with agrobiodiversity. Besides the Access and Benefit Sharing principles and its Multilateral System, the Treaty includes essential and too often overlooked mandatory provisions for the Contracting States about sustainable use of PGRFA (Article 6), their conservation (Article 5) and farmers' rights (Article 9). These provisions call for more reliable measures such as support for participatory plant breeding, crop and farming diversification, appropriate policies for farmers' involvement in breeding and decision-making processes.

*Links with Farm to Fork Strategy, EU Biodiversity Strategy, CAP & seed marketing acquis.*

