The EU program HORIZON2020 for Research and Innovation in agriculture and biodiversity

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The challenge
From uniformity to diversity

50,000 plants edible
Few hundred used
15 90%
4 66%

2016
Collect → Conserve → Use → Breeding

Ex-situ

Diversity

CWRs
Collect Conserve Use Breeding for uniformity

What impact on diversity on farmers' fields and nature?
Biodiverse agricultural landscapes in which cultivated land is interspersed with uncultivated areas such as woodlands, pastures and wetlands have been, or are being, replaced by large areas of monoculture, farmed using large quantities of external inputs such as pesticides, mineral fertilizers and fossil fuels. (FAO, 2019)
Plant breeding paradox

“Thus, paradoxically, plant breeding has been undermining the very genetic basis on which it rests, leading to an overall phenomenon of de-diversification or genetic erosion. Plant breeders have become aware of this situation and have attempted to rectify it by broadening the genetic basis of their cultivar gene pool. However, it remains that the genetic diversity represented in the elite gene pools is only a small fraction of that present in the entire gene pool of crop plants. Hence, there is an enduring concern about the disappearance of genetic diversity over the long term.” (Gepts, 2006)
Agricultural Research under HORIZON 2020

- H2020 is the EU financial instrument for research from 2014 – 2020
- Budget for agricultural research significantly increased as compared with FP7

1. Health, demographic change and wellbeing
2. Food security, sustainable agriculture, marine and maritime research and the bioeconomy (about 3.5 bn €)
3. Secure, clean and efficient energy
4. Smart, green and integrated transport
5. Climate action, resource efficiency and raw materials
6. Inclusive, innovative and reflective societies
7. Secure societies

Total: About 70bn €

Annette Schneegans
European Commission, DG AGRI
“to contribute to securing sufficient supplies of safe, healthy and high quality food and other bio-based products, by developing productive, sustainable and resource-efficient primary production systems, fostering related ecosystem services and the recovery of biological diversity, alongside competitive and low carbon supply chains.”
The concept of “multi-actor approach”, a practical translation of the interactive innovation,

Concept introduced for the first time in the Horizon 2020 work programme 2014-2015 under the Societal challenge addressing agriculture and forestry

Preparatory Actions I & II

https://www.geneticresources.eu

The aim of PAI was to deliver inputs on how to improve communication, knowledge exchange and networking among all the actors potentially interested in activities related to the conservation of genetic resources in agriculture.

The objective of PAII was to better understand the stakes of European neglected genetic resources in agriculture and to tap onto their economic potential. PAII provided inspiring examples of how to make the conservation and encourage farmers and other stakeholders to engage in similar projects across the EU.
Crop wild relatives

In situ

nature

agriculture

Agrobiodiversity

On farm

Networks
New actors for new agricultures
NEW RENAISSANCE..
Why

Demand driven factors

Agronomic factors

Social dimension

Environmental aspects

Rejection of conventional agriculture and the need of repositioning agricultural production in its social environmental context.
Role of free actors! (innovation brokers)
Distinctive characteristics

Farming systems

What

Traditional processing

Nutritional qualities

Diversity!
Where

Locality
(art de la localité)

Cultural heritage

Where

Linkages with the specific territory

Niche market

Embedded in places!
The implementation of the initiatives is often a secondary activity.

Relation with time is the key point in the process of valorisation (e.g. time for being traditional, time for the local development process).
New relationships/alliance between agriculture and nature actors

Natural parks should be areas where experimenting innovative policies and practices on farming, to be then applied outside these areas...
Those who are not afraid of hunger, are afraid of food.

E. Galeano
Thanks