Seed Diversity and Access in Europe:
Pathways to a Common Vision

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“To see things in the seed. That is genius.”
Lao Tzu
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Acronyms

CSB  Community Seed Bank
ECE  European Community Exchange
GDF  Global Diversity Foundation
GE  Genetic Engineering
GEN  Global Environments Network
GMO  Genetically Modified Organism
NBT  New Breeding Techniques
OSS  Open Source Seeds
Q&A  Questions and Answers

Multimedia links

GDF blog post on the event
Blog post by ECE participant Lina Lasithiotaki
Short video of the event
GoogleDrive folder where all relevant documents are located, including the slides from keynote speeches and other presentations

Acknowledgements

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All images in this report are the work of Inanc Tekguc.
Introduction

Seeds are the source of life and the means of survival for most organisms on our planet. They are essential for us to fulfil our basic needs: food, health and, in some cases, shelter. Yet the seeds we depend on for our wellbeing are increasingly under threat from multiple forces. To name just a few: creeping corporate control of agriculture, climate change, loss of agricultural practices and associated knowledge, and consumer habits that do not value diversity or organic production.

The movement to conserve and protect seed diversity and access to seeds in Europe is rich and diverse. Activists, practitioners, farmers, academics, artists, seed breeders (amongst many others) operate and collaborate in a variety of contexts and ventures. They engage in grassroots initiatives such as community seed banks, local seed networks, and seed savers associations, multi-scalar organic seed breeding projects, as well as high-level policy advocacy to protect farmers’ rights and the genetic integrity of seeds. In this context of plurality and multiplicity of interventions and collaborations, it is not always clear where the European ‘seed movement’ is headed, whether it shares common objectives or what these may be. A recent survey of a sample of actors working on seeds at the European level revealed a common need: to meet, exchange and network with other European ‘seed actors’ to develop new collaborations and a broader, more inclusive vision for the future.

To respond to this need, and building on its expertise in convening mutual learning and exchange events, Global Diversity Foundation (GDF) organised the first European Community Exchange (ECE) on Seed Diversity and Access. Barcelona was selected as the venue for this 5-day event given ease of accessibility from all European centres and the presence of engaging local initiatives around seeds that could host field visits.

The ECE was built around four key themes (see the full programme in Annex 1):

- Community seed banks
- Seeds as commons
- Genetic engineering
- Participatory on-farm breeding

These themes were chosen by our Advisory Committee (see below), composed of individuals working on some of the most pressing areas of work for the European seed movement. The Advisory Committee worked with GDF to organise interactive workshop sessions on each of these themes. Workshop sessions were interspersed with inspiring keynote speeches, informative and engaging fieldtrips, and unscheduled time for informal discussion and sharing.

The well-attended event exceeded the expectations of most participants. One particularly salient piece of feedback was that while a number of participants knew each other from prior collaborations, many were also meeting for the first time. Gathering in one place, these different sub-groups of the European seed movement created an effervescent atmosphere characterised by animated debate, enthusiastic exchange of ideas and practices, and peer-to-peer learning. During the ECE’s conclusion, many participants agreed that this should be the first of a series of such exchanges, given that the European seed movement, in all its productive diversity, is primed to expand existing collaboration, whilst building robust new ones to achieve its common vision of seed diversity and access.
Participants, Advisory Committee and Organisers

Given the great number of actors working on seeds in Europe, many of whom GDF did not know or had not worked with prior to the ECE, we established a process for participant selection based on snow-ball sampling. The process was first used to create an Advisory Committee, members of which, in turn, helped identify the broader participant list. We invited over 40 individuals to the ECE, and welcomed thirty-three to Barcelona. The Advisory Committee, participant list, and associated individual biographies are provided in Annex 2. The chief function of the Advisory Committee was to help us identify potential participants, define the topics for discussion and refine the programme. The committee also contributed substantially to the creation of a rich Themes and Actions Matrix (see Annex 3) by completing a two-stage survey on the current state of the ‘seed movement’ in Europe. This matrix provided a summary analysis of the principal areas of intervention on seeds in Europe and associated actions organisations and initiatives are taking – or believe ought to be taken – in different spheres, at varying scales, with diverse stakeholders and for specific target audiences. This matrix represents a systematic repository of information, ideas and case studies to support the work of the seed movement in Europe: a resource that is open for continuous improvement.

Organisers

Global Diversity Foundation

GDF believes that our future depends on our respectful engagement with the vast biological and cultural diversity of Earth. GDF works at the local level with communities through its Regional Programmes, and at the international level with environmental changemakers through the Global Environments Network (GEN), which gathers and connects inspiring leaders who are actively seeking solutions to environmental, social and political problems. This Community Exchange was organised under the aegis of GEN, and all participants at the ECE will automatically become members of the network, gaining access to tools and opportunities for mutual learning and growth. It was organised by GEN European Programme Coordinator Ugo D’Ambrosio and facilitated by GEN Coordinator Nessie Reid and Philipp Schober, a researcher at the University of Barcelona.

DIVERSIFOOD Consortium

DIVERSIFOOD, "Embedding crop diversity and networking for local high-quality food systems", is a four-year international project funded under the European Union’s Horizon 2020 Programme. It involves 21 organizations from 12 countries and aims to enrich cultivated biodiversity by testing and promoting underutilized or forgotten crop species. By integrating existing experienced networks and using specific and relevant cases across Europe, DIVERSIFOOD strengthens “food culture” to improve economic viability of local chains resulting in a greater diversity of produce with a cultural identity. This project evaluates and enriches the diversity of cultivated plants within diverse agroecosystems so as to increase their performance, resilience and quality through a multi-actor approach.
Sessions and discussions

In order to give the group the opportunity of delving deeply into the four themes of the exchange, each day focused on one or two of the key themes. Keynote speeches inaugurated each day’s sessions, and were followed by facilitated, interactive workshop sessions that gave participants the opportunity to explore the issues and debate at leisure. The team organised daily field visits providing participants with the opportunity to explore Barcelona’s diverse offerings, such as the botanically-rich, agricultural and seed-related spaces and initiatives, and to provide inspiring backdrops to ongoing conversations.

Day 1 – Opening Session

Introductory keynote speech

*View from a distant shore: from seeds to cultural landscapes in Morocco,* by Gary Martin, GDF Director.

ECE overview, approach and Q&A

ECE organiser Ugo D’Ambrosio welcomed all participants and gave an overview of the programme, explaining the format and describing some of the sessions, and invited questions from participants.

Getting to know each other

Participants took part in a playful ice-breaker known as the Passport Game. This involved each participant having a blank ‘passport’, which contained 6 different questions to identify them as well as a blank space for drawing a face. There were six rounds, with each round involving a participant finding a new partner and completing one of the questions. At the end, each participant was introduced to the group through their completed passport, complete with what was invariably a comedic drawing of their face!

Figure 3: Ugo D’Ambrosio presenting the programme to participants (left) and Gary Martin presenting the introductory keynote speech (right)

Figure 4: Judit Fehér and Catrina Fenton completing a round together (left) and Joanne Newton and Philipp Schober reading their partner’s passport to the group (right)
Day 2 – Community Seed Banks

Session 2.1 Collective keynote speeches

The Sardinian Germplasm Bank: seed preservation and collaborative actions for the conservation of Mediterranean Diversity by Gianluigi Bacchetta, Hortus Botanicus Karalitanus.

Community Seed Banks by Riccardo Bocci, Rete Semi Rurali and Beate Koller, Arche Noah, of the DIVERSIFOOD Consortium.

Figure 5: Riccardo Bocci, Gianluigi Bacchetta and Beate Koller giving their keynote speeches

Session 2.2 World Café on community seed banks

This session was co-organised by GDF and the DIVERSIFOOD consortium members present at the ECE and was facilitated by Nessie Reid. World Café methodology is a simple, effective, and flexible format for hosting large group dialogue, especially when a subject is complicated and/or contentious. Nessie began by welcoming and introducing the World Café process, whilst setting the context and sharing the ‘cafe etiquette’. The room was split into four café tables, each of which hosted a specific question. Split into 4 groups, each group was instructed to sit at a table and answer that question for around 10-12 minutes. When the time was up, each group was asked to move clockwise to the next table and answer that table’s question. On each table sat a scribe/host who remained the whole time, taking note of each group’s feedback and then reporting back to each new group and then at the final harvesting session.

What measures and actions would help most to improve the functioning and impacts of community seed banks?

The group highlighted the importance of cross-sector collaborations and linkages, including collaborative approaches that gather academics, consumers and growers. They also noted the importance of promoting collaborations between national gene banks and community seed banks (CSBs). Such collaborations would allow CSBs to carry out more comprehensive assessments of varieties and gather traditional knowledge around those local and traditional varieties. This would also help farmers and growers become familiar with, and involved in, the development of databases of local and traditional varieties. The group noted the importance of training and capacity-building for those working in CSBs; this would also allow CSBs to become more “professional”, and build evidence-based arguments for their work. Regarding advocacy for CSBs, the groups determined that as local

FOUR WORLD CAFÉ QUESTIONS:

1. What measures and actions would help most to improve the functioning and impacts of community seed banks?

2. What are the greatest strengths of community seed banks?

3. What are important triggers that lead to the founding of community seed banks?

4. What are the greatest challenges for community seed banks now and in the future?
initiatives for conserving seeds, CSBs need a more powerful presence at the European and International level, in decision-making fora around seeds.

What are the greatest strengths of community seed banks?
A fundamental strength is that CSBs represent a community-led, bottom-up approach to seed conservation. They can be established and maintained at low cost and are adaptable and flexible to the needs of the users. In this sense, they are able to change and evolve depending on needs and circumstances. Given this flexibility, they also have much greater political freedom to engage with the wider world – something corporate seed companies do not have. They can also act as knowledge banks, and represent a self-replicating model, as they are open for sharing with other prospective CSBs.

What were important triggers that led to the founding of community seed banks?
Lack of access to good seeds and to a greater diversity of interesting, local and traditional varieties is an important trigger. This is due to the disappearance of older or prior networks of seed exchange, the reduction in the number of farmers still saving seeds, and the increased dependence of farmers on corporate seeds. Another important trigger is the desire to ‘build community’ through creating seed-based initiatives with like-minded people. In this sense, CSBs are also often created as a reaction against corporate power and control over seeds, and a desire for seed (and food) sovereignty. The greater their number, the greater their political power.

Where do you see the greatest challenges for community seed banks in the present and in the future?
The principal challenge mentioned was financial instability: funding is mostly obtained in 3-year cycles which is not long enough to ensure sustainability. Volunteers and short-term staff contracts mean that there is a fast staff turnover and it takes time to train and re-train people. There are often issues with organisational leadership and development: we must encourage intergenerational knowledge transfer and transition in CSB leadership and management. Finally, an important challenge discussed was the lack of awareness in the general public around the threats to seeds and the challenges that farmers and growers currently face.
Session 2.3 Fishbowl and final harvest on community seed banks

A fishbowl is a facilitation technique that is used to encourage the broadest possible participation in group discussions without losing discussion depth and detail. Four to five chairs are arranged in an inner circle, which is ‘the fishbowl’ whilst the remaining chairs are arranged in concentric circles outside the fishbowl. The DIVERSIFOOD team were initially selected to fill the seats in the fishbowl, while the rest of the group sat on chairs outside, observing. The rules are (1) one chair in the fishbowl is always left empty to permit anyone to join the conversation and (2) if someone sits on the empty chair, someone already in the fishbowl must leave in order to always leave an empty chair available. The facilitator, Nessie Reid, introduced the four key questions which had previously been discussed in detail during the World Café. The audience listened to the discussion taking place in the fishbowl and were invited, in turns, to step into the fishbowl to join the discussion when they felt it appropriate.

The CSB fishbowl discussion covered a great variety of topics. It began with a discussion of the emergent awareness surrounding seeds and CSBs in European countries, with the recognition that an increasing number of groups, including amateur growers and community growers, are creating their own CSBs with varying degrees of success. This led to a discussion about how many CSBs operate at the margin of legal frameworks (both national and international), which is not an ideal scenario. One of the key challenges CSBs face is quality control and the conditions that seeds are kept in. CSBs do not always measure sanitary quality of seeds and this can have implications for the CSB (its recognition, success and usefulness) further down the line. Mostly, approximative measures are used; more rigorous systems of quality control need to be in place and training is urgently needed to improve the quality of seeds. The Irish Seed Savers organisation gave the example that if the seed exchanged through their seed-sharing programme is of low/bad quality (e.g. moulds or mildew are present on the seeds) then the organisation is held responsible, rather than the farmer/the seed producer who has produced the seed. This can act as a deterrent to those wishing to set up a seed-saving company or cooperative. The discussion then touched on the social role of CSBs. Participants noted that if farmers know one another, they are highly likely to exchange seeds. But if they do not, CSBs have a role as ‘community brokers’ between farmers.

The discussants made the point that it is important to make the distinction between landscape conservation, home-gardeners and commercial production: the differences between the needs of each sector influence the type of seeds produced and shared, their quality, and the routes to market these seeds will take. We need over-arching goals for CSBs but equally we need different specific objectives depending on the market/use of the seed in question. The question of the target audience is fundamental when establishing a CSB or even when considering the CSB strategy more broadly in the landscape of decision-making around seeds in Europe.
As part of the final harvest process, participants were asked to contribute one key question or discussion point to each of the following topics, on post-it notes:

**KEY QUESTIONS REMAINING AFTER THE WORKSHOP**

- How many CSBs are needed in a region/country/Europe?
- How do CSBs fit into the wider system of food production?
- How to bring all the stakeholders together to participate?
- How do we protect our food supply from corporate control?
- As a membership organisation, how can we maintain a loyal membership base which we need for financial and practical support, whilst reconciling this with Open Source Seed?
- What is the difference between CSBs and seed saving organisations?
- How can we empower farmers to take leadership roles in crop biodiversity conservation?
- How do we create a network of learning from one another’s experiences?
- Who is the audience for a CSB in my context?
- CSBs are very young when looking from a historical perspective. Are they a ‘flash-in-the-pan’, or do they represent a long-term, robust and recognised system/strategy for protecting our seeds?
- What are the functions that CSBs fulfil? What is the right form of activity to provide this?
- What will happen if CSBs are successful and go to scale? How big is ‘too big’? How do we avoid CDBs losing their integrity? What is the right form of organisation to ensure this?

**KEY FINDINGS LEARNED DURING THE WORKSHOP**

- There is a strong CSB network that already exists in Europe (DIVERSIFOOD finding)
- We need an efficient platform for networking and sharing experiences
- Most organic farmers are not using organic seeds. A real shock! All initiatives are welcome, but we are far away from the solution
- We have a lot of practical experiences that we need to share but don’t always know how to do that
- How easy it is to slip into clichés when you are trying to explain complex issues – communication can be really hard
- Circumstances are very different throughout Europe, especially between Mediterranean and northern countries.
- Different stages of organisational development require targeted and differentiated support
- There are many more CSBs in Europe than I realised
- Same ideas and actions flowing across Europe regarding seeds
- Lots of inspiration for my future projects
- There are many different methods to achieve the same goal – how do we work together?

**ESSENTIAL ‘TO-DO’ LIST AFTER THE WORKSHOP**

- Create a communication lab/hub
- Replicable European project on Participatory On-farm Breeding
- Dialogue with traditional plant breeder (academic) so they can recognise the Participatory Plant Breeding work done by farmers as valid and collaborate with PPB to make a partnership
- Keep an on-going communication with ECE delegates
- Share practical advice/methods around quality control/operational activities, especially around seed sanitary levels
- Identify trends to orientate the Pathway to a Common Vision (ex-Roadmap)
- Recognise/embrace the complexity/politics – both internally and externally - of the situation
- Develop a vision for the next 20-30 years
- Unite the voices of the grassroots seed movement
- Work out an education programme for seed saving and POFB
- Sharing practical wisdom
Day 3 – Seeds as Commons

Most of the day was spent at the Botanical Garden in the heart of Montjuïc Park, in south Barcelona giving participants the opportunity to interact outdoors and discover the garden’s living collection. The focus of this day’s topic was the newly-developed Open-Source Seed Licence and consisted of a speech by Johannes Kotschi followed by an interactive workshop.

Session 3.1 Keynote speech

*Seeds as commons: a way forward*, by Johannes Kotschi, AGRECOL.

Johannes’ keynote speech focused on the concept of seeds-as-commons as indispensable for the maintenance and generation of plant genetic diversity in agriculture. Seeds as commons are increasingly under threat through privatisation of seeds and market concentration of the seed sector. Privatisation and market concentration are greatly enhanced by laws that secure intellectual property rights, whereas seeds as commons receive almost no legal protection. The Open-Source Seed (OSS) Licence offers an alternative to this; a route to redressing this imbalance. It prevents crop seeds from being subjected to patents and plant variety protection, ensuring they are maintained as a commons. In order to translate this legal mechanism into a strategy, a new European service provider has been created: *OpenSourceSeeds*, which supports plant breeders in licensing their varieties and helps seed producers and farmers to use them as a commons, unrestricted by intellectual property rights.

Session 3.2 Workshop: seeds as commons in the European context

For this workshop, participants were split into four groups, and each group was assigned a table, a different question (see box to the right) for discussion and forty minutes to do so. On each table was a scribe/host who documented the group discussion and then a reporter fed back to the wider group during the final harvesting session. This session was facilitated by Nessie Reid and Johannes Kotschi.

During recent decades, complex European legislation on the registration, certification and marketing of plant reproductive material has been largely detrimental to small farmers. The current policy scenario increasingly privileges the commodification of seeds, primarily benefiting corporate agribusiness while leaving aside small producers and consumers within local networks.

The debate surrounding Open Source Seed (OSS) licensing, both during this interactive session and following the keynote speech, was lively. Many participants expressed their enthusiasm for OSS licensing as a tool to maintain seeds as commons, to give force to our collective goal of bringing about a ‘sharing society’ whilst protecting knowledge, practice and innovations that are commonly owned. In fact, on the following day of the exchange, OSS licensing was brought up again in the context of a publicly-funded breeding programme in Catalonia which was seeking new
ways of protecting the varieties it was developing and yet wished to step away from the patent process.

However, not all actors in the European ‘seed movement’ present were in agreement with licensing approach. Some consider it too complicated, others question why a licence is needed to protect seeds as a commons, preferring instead the “open-access” approach which allows a completely uncontrolled and free use of seeds. Thirdly, the fact that the licence approach focuses exclusively on newly bred varieties, could draw the public and policy-makers’ attention away from the need to protect existing varieties. This is especially concerning in a world where the number of independent plant breeders is dwindling whilst corporate control over seeds is increasing. Others are concerned that the financial and technological input required to monitor, control and enforce such OSS licenses may be too high to counter-balance the benefits of such an approach. The debate was very lively and will no doubt continue well into the future as the seed movement grapples with diverse challenges from the corporate agribusiness sector.

The OSS session was followed by a delicious lunch provided by Natura Comestible, a local wild foods catering company. The group was then introduced to the Director of the Botanical Garden, Josep Maria Montserrat. Before returning to the ECE venue for a final session on Genetic Engineering, Dr. Montserrat took the group on an inspiring tour of the living collections in this beautiful garden.
Session 3.3 Workshop: Keeping seeds Genetic Engineering (GE)-Free and ecological

Lawrence Woodward, co-founder of Beyond GM, opened this workshop with an overview of the current and ever-changing Genetic Engineering ‘scene’. He provided insights into emerging complexities in this field, including less obvious genetic modification such as gene editing and other New Breeding Techniques (NBTs). Participants were split into three groups and each addressed one theme, as described below. The workshop was facilitated by Lawrence and Pat Thomas (also from Beyond GM), with support from Nessie Reid.

Ecological breeding and seed production

The questions under discussion were:

- Can totally separate and discrete breeding and seed supply systems be established? In other words, one GE breeding and supply system and one non-GE system?
- Is it desirable and/or necessary?
- What would be the responsibilities of breeders, seed multipliers, seed maintainers, suppliers, farmers and citizens in this scenario?
- What trade-offs are involved?
- Are we prepared to accept the decline in the availability of diverse plant material to reach this goal?

The group responded that two separate breeding/supply systems would not be possible because coexistence of these two contrasting systems is simply not possible; the group considered the question of monitoring at length. The group discussed the lack of feasibility of post-hoc empirical tests of genetically engineered varieties and the fact that there is no legal obligation for disclosure about whether a variety is genetically modified or not when there is patent protection.

GE-Free plant material

The questions under discussion were:

- Is any GE contamination or the use of genetic engineering techniques tolerable?
- What would be acceptable to achieve this? Registration?
- Defined, discrete and controlled regions? Investigative sampling regimes? Who pays?
- What are the key requirements for a GE-Free seed supply chain?

The group decided that their preference was for zero contamination but agreed that if there is contamination, then it should be at the lowest level possible and perform accompanied by labelling and text. They similarly agreed that all GE products must be labelled so that consumers are making informed choices. They discussed the need to reduce the space for GE in the marketplace. In this context they discussed the predominant narrative, which presents NBTs as a panacea for feeding the world in an “environmentally friendly” manner. The group concluded that we urgently need to develop a counter-narrative that gives force to the GE-Free movement. Biodiversity is meaningful to many people, so it was discussed as a starting point for a new, counter-narrative. The group also touched on the need for a regional (as opposed to a national) approach to the GE issue in order to reduce cross-contamination between GE and non-GE crops, which don’t “respect” national boundaries.

New plant Breeding Techniques/New Genetic Engineering Techniques

The question this group tackled was: are any of these NBT’s acceptable? If not, why not? Respond to the narratives of their proponents, that is: “these methods are cheap, do not have to be corporate delivered (backyard, small company GE); they can be compatible with local scale and precise enough for local adaptability: they can reduce outside inputs – especially pesticides.” The group discussed both the need for research on the potential negative impacts of GE and NBT’s in tandem with the need for the precautionary principle, especially given that it may take time to establish whether these NBT organisms might have an environmental impact. For this, the group decided that we would need to ensure that public money goes towards science that is not biased towards the development of GE. Again, the topic of
developing a narrative of ‘shame’ around GE, like that which has emerged around the use of plastic bags, came up, although it was also noted that GE is a much more abstract concept than plastic bags making it more difficult for citizens to take responsibility for making choices on this topic. The group also concluded that regulation must be ‘unavoidable’ rather than optional for NBTs – it was concluded that much greater transparency is needed on this highly political topic. Concerns were also raised as this is a technology that could be used for bio-warfare. Ultimately the group concluded that like ‘traditional’ GE, NBTs should be labelled and there should be great transparency and information, this way the public has agency and knowledge in order to make an informed choice and ultimately live with the consequences of this choice.

Figure 11: ECE participants in action
Day 4 – Participatory on-farm breeding

The day began with a field trip to the Parc Agrari del Baix Llobregat (Lower Llobregat Agrarian Park), a large, ancient and fertile floodplain that produces food for Barcelona. It represents a cultural, economic and ecological heritage site located in one of the most populated areas of Catalonia. It works to maintain traditional agricultural systems and local varieties, to improve the wellbeing and health of the population in the metropolis and provide opportunities for training and employment to young Barcelonians.

Figure 12: Learning about the Parc Agrari from its managers (left) and enjoying an organic coffee break in the park (right)

Session 4.1 Keynote speech

Plant genetic resources conservation and plant breeding activities at the Miquel Agustí Foundation by Joan Casals, Miquel Agustí Foundation.

Figure 13: Joao Casals, Executive Director of the Miquel Agustí Foundation, presents the Foundation’s tomato breeding project (left) as participants listen attentively (right)

Following the keynote speech, which sparked an interesting debate about varietal protection, patents, and OSS licensing, participants were taken on a tour of the foundation’s experimental fields before heading out to lunch in El Prat del Llobregat, located on the delta of the Llobregat river, a site which is also known for its traditional agricultural varieties such as the blue-legged chicken. After lunch, participants headed homewards for a final workshop session on participatory plant breeding.
Session 4.2 Workshop: Collaborative research for community-based seed breeding and innovative diversity-based breeding methods

This session was facilitated by Philipp Schober and took the format of a role-playing game. Each participant assumed a specific character and was asked to imagine they were setting up a participatory breeding programme. All participants were divided into four groups of five people with each member playing a fictional character, including: 1) a breeder, 2) a small-scale farmer, 3) a miller/baker, 4) a responsible consumer and 5) a doctor. Each group was accompanied by a breeding specialist who provided advice and expertise to their discussions and brain-storming. Each group was asked to pick a single crop and discuss how it could be genetically improved.

The following guidelines were given to help steer their ideas and processes:

- Set good project objectives
- Think about resource allocation
- Choose your germplasm well
- Think about your selection criteria and breeding methods
- Remember to reflect on intellectual property rights issues that may arise

**Group 1: Wheat.** This group’s objective was to develop a niche market for a wheat variety with an exceptional nutritional profile with responsible consumers as a target audience. The group decided this rare wheat variety with low expected yields would be managed by a small-farmer/breeder cooperative and was set up in order to select progenies (outcomes of breeding events) to be sown on specific fields provided by the participating farmer. The selection of this particular wheat variety was based on its ability to adapt to local climatic conditions and to the needs and particularities of small-scale farming practices. For the later stages of variety development, the miller/baker was asked to pre-test the seed harvest for milling and baking properties. The doctor, who privately participated in order to analyse the nutritional advantages of the product, was also invited to evaluate the nutritional quality of the product.

![Figure 14: Simone presenting the results of her group’s participatory breeding programme (left) and participants discussing the challenges of participatory plant breeding projects (right)](image)

**Group 2: Rye.** This group’s objective was to successfully market rye as a cereal to use in baking products. The group decided this would be established in conjunction with a company as a client and distributor of products, which also acted as a financial donor to the project. The group decided that a breeder/farmer cooperative needed to be established with Eastern European farmers as their target group. This is because there is a higher acreage of rye in this region and so this felt like a natural target group. Given that cultivated rye is an outbreeder (cross-pollinated), it mixes easily with other...
varieties so isolation facilities (designated fields) were deemed necessary. Furthermore, to increase consistency of the harvest, specific genetic lines which proved to be genetically successful and resilient would be selected and used as the chosen open-pollinated variety. The finished variety would be owned by the researcher/breeder cooperative and exclusive rights to it would be granted to the company.

**Group 3: Tomato.** The group’s objective was to develop a new tomato variety to tempt local, ethical consumers. Participants decided to adapt their roles and changed to: 1) a farmer, 2) researcher/advisor, 3) marketing manager, 4) consumer and 5) shopkeeper. The group imagined that the cooperative of stakeholders (who owned the breeding programme) had decided to go down the route of a ‘field-to-shop’ approach, and they decided their target group would be environmentally-aware consumers who prefer to buy local and consider themselves to have ‘exceptional taste’. Based on these objectives, a tomato ideotype (i.e. the idealised appearance of a plant variety) was created. The farmer then initiated a conversation on which best genetic varieties the group ought to choose, in cooperation with the researcher/breeder who gave advice on pedigree breeding. She also gave advice on cultivars appropriate as parents for genetic cross-breeding. Marketing of the finished variety was carried out by the marketing manager who chose specific distribution channels and the shopkeeper who recognised the potential positive gains from stocking this variety.

**Group 4: Lettuce.** Their objective was to develop an outstanding open-pollinated purple lettuce variety with wild attributes offered exclusively to a high-end restaurant. This last group of three members decided to adapt their roles to: 1) a breeder 2) a farmer and 3) specialist chef. The group decided this variety of lettuce would be strictly organic and available year-round, mainly as a leaf lettuce which would require the reduced likelihood of the lettuce “heading” (rolling their leaves into tight lettuce heads at maturity) before time. The group thus decided a cooperative between a breeder and two organic farmers should be established. The main objectives, besides the purple colour and a slightly bitter taste of leaves, were vigorous growth, weed competitiveness, disease resistance against botrytis, low-input compatibility, which are all necessary attributes for thriving in organic farming conditions.

This role-play technique allowed participants to imagine different scenarios of participatory plant breeding techniques, whilst sharing their diverse expertise as they played different character roles. It was also instrumental in equipping participants with a deeper understanding of the complexity of creating such a programme, whilst simultaneously helping clarify the steps needed in the process of setting up such a programme. ECE participants later reported that this technique helped make participatory plant breeding more approachable for people who are not experts in the field.
Participant assessments and lessons learned

Participant assessments

During the final day of the ECE, participants took part in an evaluation and feedback session, followed by a group discussion on next steps. For individual evaluations, the “hand exercise” technique was used, giving everyone an opportunity to reflect on the ECE and put their thoughts down on paper in a few sentences. This exercise requires participants to draw an outline of their own hand and answer a specific question in each of the fingers. The GDF team chose this evaluation technique because while it is light-hearted in character it elicits succinct yet essential feedback from participants. It also ensures people are not intimidated with completing an evaluation report at the end of almost five days of workshops.

Thumb: what did you like the most about the meeting? Most participants were very positive about the diversity of individuals and organisations invited and the networking opportunities this offered. They noted the usefulness of sharing different visions and goals, acquiring new perspectives and knowledge on key topics, and developing thoughts on how to take first steps into new fields of inquiry, research and action. Moreover, participants appreciated the overall organisation of the event and in particular the workshops and field trips. They appreciated the relevance of the activities, the interactive format and facilitation, and the peer-to-peer learning opportunities. They also reserved a special mention for the politeness and availability of all participants and the organising team.

Index: what would you like to point out? A relatively common answer to this question was the participants’ surprise at the degree of disagreement that occurred during sessions, and what some termed “intense” dynamics, between participants at the event. While this was viewed by some as a natural and expected aspect of constructive discussion, others pointed to the importance of working towards common goals and highlighting the intersections of our chosen pathways and commonalities in our visions. The need for ongoing discussions and the development of a ‘community’ was seen as important. One person called for a re-definition of the important issues in the European seed movement whilst another individual noted the importance of participatory evaluation of the event, and another pointed to the need for further meetings that have a wider scope to include a broader set of groups and actors.

Middle finger: what did you not like about the meeting? Most participants said they felt overwhelmed by the packed five-day programme which had a daily time schedule reaching into the late evening. Some comments criticised an apparent lack of clarity about final objectives of the meeting whilst others outlined what they saw as competitiveness and/or an unwillingness to participate on the part of some participants, lamenting there was an air of ‘been there, done that’. It was also noted that some small groups of people chatted during sessions, which many participants reported to be distracting and disturbing as well as phones ringing and some individuals spending time on their phone or laptop during sessions. GDF took note of this and subsequent to the ECE thought it would be useful to establish ‘terms of agreement’ for participants at such events, including
on the topic of mobile and laptop use and respect for speakers and discussants. A few evaluations asked for more crop- and seed-related field visits.

**Ring finger: what will you remember?** The answers provided were very positive and highlighted the optimism within the group dynamic, camaraderie and participants’ willingness to share. Special mentions of certain workshop sessions, conversations, cultural exchanges and shared moments of laughter were made. Participants highlighted certain field visits as being of particular significance and learning, such as the Parc Agrari del Baix Llobregat and the Agròpolis Scientific Park (the experimental fields of the Miquel Agustí Foundation). One participant also noted that the meeting had inspired them to look to a future career in the field of seeds!

**Little finger: what little detail would you like to highlight?** The details participants mentioned were primarily connected to the warm hospitality of the Catalans and their excellent cuisine, as well as GDF’s refreshing facilitation. Some also mentioned the importance of discussions held between sessions, inspiring conversations had during meal times and the interpersonal relationships built.

**Lessons learned**

At GDF we feel the individual evaluations are essential for us to adapt our approach in future events. As organisers, we also drew out some lessons learned from our own experience.

**The importance of the spectrum of participants.** Building on some of the participant evaluations, we found that one of the more important lessons learned is the need for a wide diversity of participants and backgrounds. Bringing new actors into the mix (and not simply organising a meeting where everyone already knows each other) creates new and unexpected opportunities for learning, debate, forging new partnerships and collaborations and knowledge exchange. Having said that, if we were to bring different types of actors to the table, some of which may for example not have a strong focus on seeds, they would still need to have a foundational awareness of the basic issues in order to be able to contribute productively to discussions. Finding the right balance between diversity and common goals is key.

**Invitation process.** Although we were extremely pleased with the level of participation of all of those present at the ECE, we believe that in an event such as this where participants are selectively invited, there is always the possibility of complacency. Thus, in future events, we plan to ask that upon accepting their invitation, invitees provide is with a 500-word summary expressing their interest in the event and what they hope to bring to it and to get out of it. This, we hope, will help them define in advance the level of commitment and individual capacity they are able to bring to the event. We will also ask participants to adhere to a basic set of agreements around mutual respect and attention (see above).

**Flexibility and adaptation to group dynamics.** Although the mix between keynote speeches, workshops and field trips seemed to satisfy most participants, the packed and ambitious agenda led to participants getting tired and perhaps overwhelmed with the amount of information and activity occurring on a daily basis. In future events, we may consider reducing activities and travel time and provide more opportunities for informal discussions and networking, as well as reducing the length of the overall event.
Figure 15: ECE participants in action
Pathways to a Common Vision

The original proposal for the ECE included the practical output of a ‘Roadmap for seed diversity and sovereignty’ in Europe. Discussions during the event however revealed that the concept of a roadmap was too prescriptive for a group of actors so diverse. Moreover, some present felt uncomfortable with the unqualified use of the term ‘sovereignty’. We therefore adapted the title of our process to ‘Pathways to a Common Vision for Seed Diversity and Access’.

The concept of ‘pathways’ was coined as a term for capturing the idea that different actors in the European seed movement are walking separate paths to achieve a shared common vision. The term ‘access’ evolved from ‘sovereignty’ over the course of the ECE as it was considered more inclusive for all participants present. During a session on the Pathways process facilitated by Gary Martin, participants were encouraged to envision which paths they would like to walk to achieve specific objectives that lead to the realisation of our common vision, whilst also determining where their pathways intersect. They were encouraged to think of the roadblocks on their proposed pathway and how they could address them. To visually represent this, participants were encouraged to imagine the roots of a tree (see graphic below), with each root representing a new pathway that may well intersect with others at different points in order to reach the trunk. It is here, at the trunk, where each pathway’s individual objective lies. The pathway may encounter roadblocks, and similar to tree roots that often encounters stones or cement, the pathway finds ways to deal with such obstacles, sometimes by incorporating them into the root matter, and other times by growing around them. The common vision we are all aiming for is represented by the vibrant and life-affirming crown of the tree.

Figure 16: Gary Martin presenting the Pathways to a Common Vision proposal

Figure 17: The figure of a tree illustrates the Pathways to a Common Vision concept
Discussions during the event resulted in some participants proposing ideas for pathways:

<table>
<thead>
<tr>
<th>Pathway</th>
<th>Description</th>
<th>Proponent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mentorship</td>
<td>Organisation of mentorship opportunities and processes for emerging activists and initiatives to be supported by seasoned seed-related professionals and organisations</td>
<td>GDF</td>
</tr>
<tr>
<td>Community Seed Banks</td>
<td>To be described by proponent</td>
<td>Arche Noah</td>
</tr>
<tr>
<td>Open Source Seeds</td>
<td>To be described by proponent</td>
<td>Agrecol</td>
</tr>
<tr>
<td>GM/NBT Advocacy</td>
<td>To be described by proponent</td>
<td>Beyond GM</td>
</tr>
<tr>
<td>Organic Seed Production</td>
<td>To be described by proponent</td>
<td>Demeter (?)</td>
</tr>
<tr>
<td>Networking</td>
<td>To be described by proponent</td>
<td>ProSpecieRara (?)</td>
</tr>
</tbody>
</table>

Based on the discussions in Barcelona, the following timeline for a ‘Pathways process’ is proposed:

At the conclusion of this process, we expect to have produced a ‘living document’ that can be used as a reference and as a basis for organising collaborations. This can be continuously updated as pathways are developed or evolve, encounter challenges or opportunities and intersections.
Annex 1: ECE on Seed Diversity and Access - Full Programme

Saturday, September 23rd
Welcome and introductions
Morning Arrivals at University Residence (UR), Barcelona
13:30-15:00 Lunch (UR)
15:00-16:00 Registration
16:00-16:20 Inauguration of the event
16:20-17:15 Opening keynote speech “View from a distant shore: from seeds to cultural landscapes in Morocco” by Gary Martin (GDF Director)
17:15-17:45 Coffee Break
17:45-18:30 ECE Overview, approach and open discussion
18:30-19:45 Participants’ introductions
20:30-22:00 Welcome dinner (Velódromo, Muntaner 213), by bus (about 15’)

Sunday, September 24th
DIVERSIFOOD Joint Activity on Community Seed Banks
08:00-08:45 Breakfast (UR)
08:45-09:30 Collective keynote speech on “Community seed banks” by DIVERSIFOOD consortium, Gianluigi Bacchetta (UNICA)
09:45-11:15 Workshop 1. World Café on “CSB” - DIVERSIFOOD consortium- GDF joint activity
11:15-11:45 Coffee Break (UR)
11:45-13:05 Visit 1. Field activity at the Palau Reial gardens by Nessie Reid (GDF) and Ugo D’Ambrosio (GDF)
13:05-14:45 Lunch (Mussol Diagonal, Diagonal 488)
14:45-16:45 Workshop 2. Fishbowl and harvest on “CSB” - DIVERSIFOOD consortium- GDF joint activity.
16:45-17:15 Coffee Break
17:15-19:00 Pathways session 1. Introductory session by GDF team
19:00- Dinner at UR (included) / Self-organised dinner (not included)

Monday, September 25th
Seeds as commons, GE-free seeds
08:00-09:00 Breakfast (UR)
09:00-09:30 Transport to the Botanical Institute of Barcelona
09:30-09:45 Introduction to the IBB and JBB by Ugo D’Ambrosio (GDF)
09:45-10:30 Keynote speech on “Seeds as commons: The way forward by Johannes Kotschi” (AGRECOL)
10:30-11:00 Coffee break with informal presentation on “Knowledge as commons & CONECT-e” by Petra Benyei (ICTA)
11:00-12:45 Workshop 3. Seeds as commons in the European context: Challenges and opportunities by Johannes Kotschi (AGRECOL) and Ida Westphal (Stiftung Mercator)
13:15-14:30 Lunch with wild food plants (catered by M. Enrich) (IBB-JBB)
14:30-15:45 Visit 3. Living collections of the Botanical Garden of Barcelona by Josep Mª Montserrat (JBB)
16:00-16:30 Transport to UR
16:30-18:15 Workshop 4. “Keeping seeds GE-free and ecological” by Patricia Thomas (Beyond GM) and Lawrence Woodward (Future Sustainability)
18:15-18:45 Coffee break
18:45-19:45 Pathways session 2 (Optional). Co-creating the pathway framework
19:45- Dinner at UR (included) / Self-organised dinner (not included)
22:00-23:00 Optional- Pyromusical (Avinguda Reina Maria Cristina, Festes de la Mercè)
Tuesday, September 26th
Participatory on-farm breeding and multiplication
08:00-09:00 Breakfast (UR)
09:00-09:30 Transport to el Prat del Llobregat
09:30-10:50 Visit 4. Visit to the Baix Llobregat Agrarian Park centre (Can Comas) and arboretum by Park representatives
10:50-11:15 Snack break (Can Comas)
11:15-11:40 Transport to Viladecans
11:45-12:30 Visit to the Agropolis experimental farms by FMA representatives
12:30-13:15 Keynote speech on “Plant genetic resources conservation and plant breeding activities at the Miquel Agustí Foundation” by Joan Casals/Joan Simó (FMA)
13:20-13:40 Transport to downtown el Prat
15:30-16:00 Transport to UR
16:15-18:00 Workshop 5. “Collaborative research for community-based seed breeding and innovative diversity-based breeding methods” by GDF team
18:30-18:30 Coffee Break
18:30-19:30 Pathways session 3 (Optional). Co-creating the pathway framework.
20:30-22:30 Farewell dinner at La Balsa (Carrer de la Infanta Isabel, 4)

Wednesday, September 27th
Conclusions and next steps
08:00-09:00 Breakfast (UR)
09:00 -10:30 Pathways session 4. Moving forward
10:30-11:00 Coffee break
11:00-11:45 Evaluation and concluding remarks
12:00- Departures from UR
Annex 2: ECE Participant list, Advisory Committee and biographies

**ECE Participant list**

The Advisory Committee was composed of the individuals whose names are coloured in red, in addition to Dr. Jack Kloppenburg from the University of Wisconsin who was not present at the exchange.

<table>
<thead>
<tr>
<th>NAME</th>
<th>ORGANIZATION</th>
<th>COUNTRY</th>
</tr>
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<tbody>
<tr>
<td>Andreas Biesantz</td>
<td>Demeter</td>
<td>Germany</td>
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<tr>
<td>Beate Koller</td>
<td>ARCHE NOAH</td>
<td>Austria</td>
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<td>Béla Bartha</td>
<td>ProSpecieRara</td>
<td>Switzerland</td>
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<tr>
<td>Gianluigi Bacchetta</td>
<td>Università degli Studi di Cagliari</td>
<td>Italy</td>
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<tr>
<td>Joanne Newton</td>
<td>Irish Seed Savers Association</td>
<td>Ireland</td>
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<tr>
<td>Johannes Kotschi</td>
<td>AGRECOL</td>
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<td>Klaus Rapf</td>
<td>ARCHE NOAH</td>
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<td>Marie-Eve Levert</td>
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<td>Ximena Cadima</td>
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<td>Lawrence Woodward</td>
<td>Future Sustainability</td>
<td>UK</td>
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<tr>
<td>María Carrascosa</td>
<td>Red Andaluza de Semillas/Red de Semillas &quot;Resembrando e Intercambiando&quot;</td>
<td>Spain</td>
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<td>Patricia Thomas</td>
<td>BEYOND GM</td>
<td>UK</td>
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<tr>
<td>Signe Voltelen</td>
<td>SLOW / Living workshops &amp; urban farming</td>
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<td>Stefan Doeblin</td>
<td>Sementes Vivas</td>
<td>Portugal</td>
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<tr>
<td>Xènia Torras</td>
<td>Xarxa Catalana de Graners//Red de Semillas &quot;Resembrando e Intercambiando&quot;</td>
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<td>Ricardo Bocci</td>
<td>Rete Semi Rurali</td>
<td>Italy</td>
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<tr>
<td>Ester Casas</td>
<td>Associació de Varietats Locals i Les Refardes/Red de Semillas &quot;Resembrando e Intercambiando&quot;</td>
<td>Catalonia</td>
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<tr>
<td>Catrina Fenton</td>
<td>Garden Organic/Heritage Seed Library</td>
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<td>Louise Windfeldt</td>
<td>Danish Seed Savers</td>
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<td>Lina Lasithiotaki</td>
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<td>Ida Westphal</td>
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<td>Philipp Schober</td>
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<td>Airy Gras</td>
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<td>Gary Martin</td>
<td>Global Diversity Foundation</td>
<td>USA</td>
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<tr>
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<td>Emily Caruso</td>
<td>Global Diversity Foundation</td>
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<td>Nessie Reid</td>
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<td>Inanç Tekguc</td>
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<td>Madayo Kahle</td>
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<tr>
<td>Nathalie Blomjous</td>
<td>Salvia Foundation</td>
<td>Netherlands</td>
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</tbody>
</table>

**Participant biographies**

Andreas Biesantz  
Since 2001, Andreas has been involved in policy work for Demeter International at the EU in Brussels in the field of organic/biodynamic agriculture and organic plant breeding. His team is currently conducting a project entitled “Promoting organic plant breeding in Europe” (2016-2018). In 1989 he completed a PhD in natural sciences at the Technical University of Berlin (Faculty of Agriculture, Field Crops Department) on plant productivity and quality in wheat genetic resources of Mediterranean countries. Until 2001 he worked as a scientist and lecturer at the Technical University of Berlin and at the University of Ankara (Turkey) in the area of international agricultural research with a specialization in agronomy, crop science, genetics and plant breeding.

Beate Koller  
Beate is a biologist and chief executive of ARCHE NOAH, a seed savers’ association in Central Europe. She has been engaged with ARCHE NOAH - which today has 14,000 members - for almost 20 years. Responsible for management and fundraising, she has initiated numerous ARCHE NOAH projects around crop collections and the seed savers’ network, which includes participatory as well as training and awareness raising activities.
Béla Bartha
After finishing his studies in Biology (Archaeoethnobotany) Béla Bartha worked as a manager for public relations and coordinated several national exhibitions to help make scientific work more accessible for a broader public. Until 1999 he worked as a teacher in Biology at a high school in Basel. In 1995 he started his work at the foundation ProSpecieRara. Here he was responsible for public relations and developed the crop collection as well as the seed savers network around the seed bank called ‘seed library’. In 2002 he became the director of ProSpecieRara and was elected as a member of the Board of Directors of the Swiss Commission for the Conservation of Plant Genetic Resources (SKEK). Since 2002 he has represented various European NGOs in the Steering Committee of the ECPGR as an observer and for the past five years he has been a member of the managing board of the European civil society-network for farmers seeds known as Let’s liberate diversity.

Catrina Fenton
Catrina is Head of the Heritage Seed Library, the UK’s living collection of 800 heritage, heirloom and ex-commercial vegetable seeds. The library, part of the charity Garden Organic, both conserves and distributes seed to members to grow and enjoy. Before her appointment this year, Catrina was Seed Officer, maintaining the collection and supporting communities to share, grow and save seed through training, events and partnership projects. She has worked for Garden Organic for the last seven years and her previous roles have involved food growing programmes in schools and other communities. In her spare time Catrina is an enthusiastic veg grower (with mixed success) and enjoys creating seed cleaning devices. She is passionate about the role that the Heritage Seed Library has to play in both conserving seeds and promoting the seed saving skills needed to tackle the decline of genetic diversity and challenges to food security.

Ester Casas
Ester Casas is an agronomist specialized in seed production. Active member of the Red de Semillas:“resembrando e intercambiando” since 2002. For the last 14 years I have been the coordinator of Les Refardes, a certified* artisan seed company. Les Refardes is the fruit of the work done by hundreds of farmers who have transferred their seeds and all the knowledge tied to them. Les Refardes is not important in billing, but it is an organizational and political proposal where we demand the sale of seeds by the farmers as a public act, non-violent, consent and political contrary to the law, with the purpose of favoring a change of the legal framework. Currently 4 people work in Les Refardes, and seed production is done in a network with 20 farms spread throughout the Catalan territory. We directly sell about 200 local seed varieties in local markets, ecotiendas, online (www.lesrefardes.com).
Gianluigi Bacchetta
Since 1994 Gianni has been working on geobotanical analyses of western Mediterranean areas and on biodiversity of islands concerning bioclimatology and biogeography. He has published about 350 scientific papers, most of these have been featured in international journals. He was lecturer at the Marche Polytechnic University from 2000 to 2002 and then Assistant Professor at the Faculty of Science of the University of Cagliari (Italy) from 2002 to 2006. From 2006 to 201 he was Associate Professor at the Faculty of Human Sciences at University of Cagliari (Italy) and he is currently professor and scientific director of the CCB (Centre for Biodiversity Conservation) at the Department of Life and Environmental Sciences of the University of Cagliari. He is also Director of the HBK (Hortus Botanicus Karalitanus) Botanical Gardens (University of Cagliari) and Coordinator of the Doctorate program in Environmental and Applied Botany from June 2009 and deputy director of the Doctorate program in Earth and environmental sciences and technologies.

Ida Westphal
Ida is a lawyer with a focus on Agricultural and Environmental Law. She gained professional experience, amongst others, at the German Federal Ministry of Food and Agriculture and as a researcher in the field of environmental policy at Öko-Institut E.V. Ida studied and worked in Berlin, Potsdam, Paris and Cape Town. During her legal training, she also studied Agricultural Science in Berlin and worked as an intern to a Togolese NGO in the field of agriculture. As a Mercator Fellow, Ida is currently focusing on possibilities for alternative licensing models in the seed sector based on the open source concepts in order to counter negative ramifications of patents on seeds.

Joanne Newton
Joanne started working at Irish Seed Savers Association in 2001 with her role taking her from orchard worker to gardener and finally to Seed Bank Coordinator, curating their collection of over 600 seeds and managing the Seed Bank for over a decade. Active in conserving and maintaining the Irish varieties of Heritage seeds, paying particular attention to seeds that grow well in Ireland’s unique maritime climate, Jo created a living bank of heritage crops to share with the gardeners of today. Jo was also instrumental in developing the ‘Seed Guardians Network’, a network of seed growers who grow out and regenerate seed. Jo is very active in sharing her knowledge and keeping the skill of seed saving alive and healthy by teaching workshops such as Organic Gardening and Seed Saving courses at Seed Savers, in addition to workshops on sustainable land use.
Johannes Kotschi
Johannes is an agricultural scientist, advisor and independent consultant. For many years he has advised national and international, governmental and non-governmental organisations in rural development. Sustainable management of agricultural biodiversity, the provision of agricultural seeds and organic plant breeding are the main areas of his focus. Johannes holds a PhD in Agroecology and Organic Agriculture and he is a founding member of the NGO Agrecol – Association for AgriCulture and Ecology. During the past 5 years he and his team have developed an open-source seed licence and have launched the new service provider OpenSourceSeeds (http://www.opensourceseeds.org). Johannes lives in Marburg, Germany.

Judit Fehér
Judit is a biologist (ELTE) and she has always been passionate about biodiversity. A new world opened for her when she moved with her family to an ecovillage (Nagyszékes, Hungary) and discovered the beauty of seed diversity. Together with friends she established and coordinates a civil community network for agrobiodiversity (www.maghaz.hu). Within this platform, along with exchanging seeds and sharing experiences about them, members can read the latest news, find practical information on seed saving and organic gardening and hear about ongoing events. She created and manages an EU-funded seed bank in Nagyszékes, Hungary (EMVA support under the 53/2011 VM directive on “Ex situ conservation of plant genetic material”). She is a member of the Plant Genetic Material Council of Hungary. To promote seed diversity she is organizing workshops, courses, seed-swaps and garden tours where people can see, try, learn and taste what agrobiodiversity is in practice.

Lawrence Woodward
Lawrence was a founder and the Director of the Organic Research Centre – Elm Farm for 30 years. He advises and speaks about the principles and methods of organic agriculture to a wide range of organisations. In 2001 he was awarded an O.B.E. for services to organic farming, having played a pivotal role in the strategic and practical development of the organic sector in the UK and internationally. Positions he has held include Chairman of the British Organic Standards Committee, Chairman of the International Federation of Organic Agriculture Movements (IFOAM), Member of the Soil Association Council and Management Committee, Member of United Kingdom Register of Organic Food Standards (UKROFS) Board and the English Organic Action Plan task force. Currently he works with Beyond GM, HAWL (Homeopathy at Wellie Level), Organic Arable, the IFOAM EU Group, the Gaia Foundation (on developing an alternative seed supply system) and ORC. He has been and remains deeply engaged in articulating the underlying wholistic concepts of organic food and farming; and how they relate to food quality and health under today’s social, economic and environmental conditions.
Lily Mordechai
Lily is a social and environmental scientist who has gained significant professional experience in the fields of environmental communication and education, as well as project development and management. In 2013 she participated in a Permaculture Design Course (PDC) which sparked her interest and enriched her knowledge around innovative ways of farming and living that are inspired from working with nature. She then co-designed environmental education programs on permaculture, implemented in the Vari City Farm - an urban permaculture farm in Athens- where she worked as head of partnerships and environmental education. Since 2014 she has been working for the Mediterranean Institute for Nature and Anthropos (MedINA) and is currently involved in a newly launched project on supporting traditional agro pastoral practices in the Greek island of Lemnos which sustains impressive agrobiodiversity, harbors a wealth of crop land-races, crop wild relatives and wild herbs. Lily has a great love for the outdoors and is a keen gardener.

Lina Lasithiotaki
Lina works for Demeter-International Brussel’s Office and has been engaged with policy work on organic/biodynamic agriculture since 2013. In 2014, she started working in the area of seeds and was responsible for organising the EU policy and legislation conference in Brussels: ‘Who will own seeds?’ She continued with the ‘Seed festivals’ project coordinating different events and organizing the event ‘Love Sporoi’ (Love Seeds) in Athens. Since 2016, she is working for the project “Promoting Organic plant breeding in Europe’ (2016-2018) and is mainly responsible for the communication activities. She holds a diploma in crop science from the Agricultural University of Athens and specialised in Agronomy and Plant Breeding. She completed an MSc in Organic Agriculture with a specialisation in Marketing and Consumer Behaviour in Wageningen University, The Netherlands. In the past, she worked for ‘BIOHELLAS’ in the Certification department and was responsible for the evaluation of inspection reports for organic agriculture.

Louise Windfeldt
Louise is a horticulturist with a passion for edible plants and plant genetic resources. She is a board- member of the Danish Seed Savers and especially interested in network and cooperation to bring forward diversity in food and food-plants to the public. In her PhD she studied the Danish plant genetic environment, consisting of very different stake-holders: farmers, NGOs, breeders, companies, restaurants, museums, universities, municipalities, and authorities. Louise believes that networking and cooperation building between different – and not always aligned – interests is needed to move forward and she feels that getting involved in a European network focused on seeds makes a lot of sense in this context. Louise has been involved in different activities around gardening, plants, and seeds: urban gardening in Copenhagen and around, demonstration of old varieties of vegetables, grains, and apples at the Danish National Museum, writing and telling the public about the value of food plants .... and she loves growing her allotment garden.
Maria Carrascosa
Maria is an Agronomic Engineer with a Masters Degree in Organic Agriculture. For more than 15 years, she has focused her professional activity on the development of initiatives and actions relating to food sovereignty, agroecology, agricultural biodiversity, family farming and short supply chains. She has worked in Spain, France and Brazil. In 2005 she became manager of a cooperative of organic farmers in the south of Spain where she worked for 6 years. Since then she has also been a member of the coordination of the Red de Semillas “Resembrando e Intercambiando” (Spanish seed network). Since 2010, she has been the director of the Seed network of Andalucía where she coordinates different projects working on the collective management of cultivated biodiversity.

Neil Munro
Neil is currently Programme Manager of Seed Sovereignty of UK & Ireland, a programme whose aim is to support the development of a biodiverse and ecologically sustainable seed system in the UK And Ireland. Neil was an advisor at HDRA (now Garden Organic) before becoming the Senior Grower at the Heritage Seed Library, producing seed for an annual catalogue. In 2001 he became Head of The Heritage Seed Library, managing the department before leaving in 2004 to do an MSc in the ‘Conservation & Utilisation of Plant Genetic Resources’ at University of Birmingham. His thesis focused on assessing the Genetic Erosion of Vicia species in Syria, interviewing farmers on changing land-use and agriculture and carrying out molecular analysis of different collections of seeds collected from various sites across Syria. After several other roles, including working on a city farm teaching horticulture, he returned to manage the Heritage Seed Library in 2008, before leaving in 2017 to take his current post.

Pat Thomas
Pat is an award-winning campaigner, journalist and author. She is director/co-founder of UK group Beyond GM, whose aim is to tackle the lack of engagement of citizens – as opposed to NGOs and ‘professional activists’ – in decisions about the direction and substance of policies, technologies and structures affecting food and farming throughout the world. A former editor of the Ecologist magazine, Pat has run campaigns for Paul McCartney’s Meat-Free Monday, Compassion in World Farming and Neal’s Yard Remedies. She is a qualified psychotherapist, the author of many books for adults and children and a 2014 inductee into Who’s Who. She works regularly with the investigative film production company Ecotrust. She has been a trustee of both the Soil Association and the Organic Research Centre in the UK and is currently on the advisory board of GMO Free USA and is a trustee of the investigative media agency, Eyewitness.
Riccardo Bocci
Riccardo is the managing director of the Italian farmers’ seed network “Rete Semi Rurali” (www.semirurali.net) and is in charge of the EU project H2020 DIVERSIFOOD (www.diversifood.eu). He has been the AIA’s co-ordinator for the VIIFP project “Farm Seed Opportunities” (2007-2009) and the VIIFP project “Strategies for Organic and Low-Input Breeding and Management” (SOLIBAM – www.solibam.eu 2010-2014). He is also advisor of the Overseas Agronomic Institute (IAO - Italy) for issues relating to the International Treaty on Plant Genetic Resources for Food and Agriculture, and for the promotion of on-farm diversity management in Southern countries, including a bilateral cooperation project between Italy and Brazil (2002-2007). He also has been consultant of the Italian Ministry of Agriculture on the impact of GMOs on Italian agriculture and on the setting-up of the Italian Guidelines on Conservation of Plant Genetic Resources for Food and Agriculture.

Sendy Osmičević
Sendy Osmičević studied Urban forestry. She is a member of the Croatian NGO “ZMAG” where she finished a PDC and attended the Permacultural Academy. Her focus is on practice and advocacy of sustainable solutions, education and permacultural design. Her main area of work is gardening, collecting seeds and education, and is the Program Coordinator for Food at ZMAG. Every year she organizes seed exchange and continues to gather organic seed collectors and connect them with gardeners.

Signe Voltelen
Since 2010 Copenhagen Seeds has propagated nordic heirloom varieties of kitchen garden seeds. Signe Voltelen, founder and seed activist, made it into a business in 2015 based on the seed garden nearby Copenhagen. The company’s mission is to support in situ conservation of organic, biodynamic and heirloom nordic varieties through propagation, sale and sharing practical knowledge about growing and saving seeds. As an architect with a great passion for cooking - Signe is also urban farmer and establishes gardens for housing associations and companies, facilitates projects where new urban farmers and communities grow their urban gardens. For Signe there is an obvious and close connection with growing vegetables in the city and preserving seeds: if we reestablish the lost knowledge of edible diversity, cultivation and food, we build the foundation for all the peoples of the earth to be able to take Responsibility for the future seeds are clean, free and robust - seeds for future food.
Simone Cutajar
Simone has over a decade of project management and supervision experience within the science, environmental and arts sectors. She has been involved and led a number of ethnobotanical projects in Malta with the aim of bringing together communities and collecting traditional knowledge on local seed and plant varieties. She was also the lead researcher of an ethnobotanical study with the aim to help both participants and Maltese society as a whole to appreciate the interconnectedness of our wellbeing with that of the environment, the food we eat, the soil in which it grows and the farmers who tend to the harvest. She works closely with local authorities, local NGOs and communities to help enable the setting up of a system to safeguard local genetic biodiversity by finding ways to facilitate increased interest in these seeds, to encourage farmers to start cultivating them and buyers to start requesting and buying them.

Stefan Doeblin
Stefan Doeblin is passionate about organic, biodynamic and open pollinated seeds. He founded with a team of 9 experts from 6 countries a seed company in July 2015 in Portugal to cover the Mediterranean countries over the next ten years. The company is well established in Portugal and has just set up a Spanish daughter company Semillas Vivas SL. After spending 20 years in telecoms and 7 years in renewable energy, Stefan believes we need to act more local and connect with other local centres to make the world to a better one. Life starts with seeds and we need to take a holistic approach to cover the full life cycle of the biodynamic agriculture value chain. Stefan has initiated several activities in Portugal, like the Waldorf initiative in Idanha: a Beira Community Supported Organic Food distribution in the Beira region, supporting the local Aromatic and medical herbs and the bio competence centre of Portugal. He also works in organic waste separation and fire prevention. Every year he organises an international conference in Idanha (biodynamic and organic farming Oct 2016, New Ruralism-How to revive the countryside Oct 2017).

Xenia Torras
Since I studied agricultural engineering in the University 20 years ago, I had and special interest in organic farming, being co-creator of the first students group in organic farming in ESAB (UPC Barcelona’s University). During my first 10 years in professional life, I travelled around the world (Canary Islands, Ireland, Nicaragua, El Salvador, Zaragoza…) working and participating in different projects related to organic farming and renewable energy. On my way back to Barcelona and after having my two boys, I found the opportunity to work in an organic farming NGO, L’Era (www.associaciolera.org) and being responsible for its seed bank, with the project known as Esporus (www.esporus.org). This turned out to be a real vocation in life. That was 9 years ago, and since then we have been working in seed networks at local level, Xarxa Catalana de Graners (www.graners.cat) and at country level in the coordination’s team in la Red de Semillas (www.redsemillas.info) promoting the preservation of traditional agriculture and heirloom seed knowledge, for future sustainable agriculture.
Global Diversity Foundation Staff

Airy Gras
Airy Gras. Biologist. Currently studying a PhD in the Faculty of Pharmacy and Food Science at the University of Barcelona and working in the EtnoBioFic research group (http://www.etnobiobicat.cat/). My thesis research is devoted to the study of the relationship between people and plants as well as the traditional knowledge about plants in the Catalan speaking territories. I participate in ECE as a collaborator, so please feel free to contact me if I can help you with any logistic issues.

Emily Caruso GDF Regional Programmes Director
As GDF’s Regional Programmes Director, Emily oversees field-based projects, with a current focus on the Mediterranean region. As Co-Director of the Global Environments Network, she helps oversee strategy development, event organisation, and network management. Emily is passionate about nurturing and restoring people’s relationships with nature and is deeply passionate about biocultural diversity and seed sovereignty. A few years ago, she moved with her family to a rural smallholding in Rieti, Central Italy, and created an association, Semi di Cambiamento (meaning Seeds of Change), to implement local agroecology and seed conservation projects. She is also an active member of a local educational association that has established Rieti’s first holistic, outdoors-focused, community-based school.

Gary Martin
Director of the Global Diversity Foundation, Gary Martin has been involved in conservation and ethno botanical work for over thirty years. He has engaged in applied research and training in more than forty-five countries. After studying botany as an undergraduate, he received his MA and PhD in anthropology from the University of California at Berkeley. From 1998 – 2011, Gary was a research fellow and lecturer at the School of Anthropology and Conservation of the University of Kent in Canterbury, UK. Between 2010-2012, he was a Carson Fellow at the Rachel Carson Center for Society and Environment in Munich, Germany. Since 2011, he has been the Director of the Global Environments Summer Academy and is the creator of the incipient Global Environments Network. He is a native speaker of English, speaks Spanish and French, and is learning Moroccan Arabic.
Inanc Tekguc
Coming from Cyprus, Inanc Tekguc’s perspective in photography and videography is complemented by his MA in visual anthropology from the University of Kent (UK). His interest in community-based conservation and biocultural diversity has taken him to Kenya, the Philippines, Malaysia, India and Morocco to carry out independent research, volunteer work or as part of his contribution to GDF projects. These experiences include the use of photographs and videos for geo-tagging and community mapping, inter-community training in the use of visual tools and visually documenting multidisciplinary research training and workshops. Inanc’s photo story depicting the motivations of Kenya’s Samburu tribe to take on community-based conservation earned him the second place in a global travel photography contest, World Nomads Travel Scholarship 2010, organised by National Geographic’s Jason Edwards and the World Nomad’s scholarship programme. Inanc believes in the power of dance to cross all physical and mental borders to bring people together. He has been involved in social latin dances for some years, as a photographer and a social dancer.

Nessie Reid
Nessie’s interest in seeds, and their contribution to human evolution, was sparked during her degree in Archaeology at the School of Oriental and African Studies (SOAS). She then moved to the ICCA Consortium, an international association dedicated to promoting appropriate recognition of and support to territories and areas conserved by indigenous peoples and local communities (ICCCAs). There she was involved in supporting projects involving community seed banks, the theme of seeds as commons and community-based seed breeding. She is currently manager of the Oxford Real Farming Conference: one of the key organic and agro-ecological farming conferences in the UK, where seeds form an integral part of the programme. She is Managing Editor for Biodiversity - a Journal of Life on Earth and is very passionate about preserving seed diversity both for our own food security, but also for promoting the preservation of traditional cultural practices and values that seeds can hold.

Philipp Schober
Philipp has a Master of Science in Organic Horticulture at the Department of Biological, Earth & Environmental Sciences, Institute of Plant Sciences, University College Cork, Cork/Ireland. From 2013 - 2015 he was responsible for the production of herbal medicinal tinctures from 96 medicinal plants at the Phylak Sachsen GmbH, Burgneudorf/Germany. In 2013 he was participating scientist for Sekem initiated conservation project of native honeybee Apis lamarcii in Sekem organic farm, Cairo/Egypt.
Ugo D’Ambrosio
Dr. Ugo D’Ambrosio is a Catalan biologist with international education and professional experience acquired in Barcelona, the USA, Costa Rica, the UK and more recently Morocco. He holds a PhD in Ethnobiology from the University of Kent (UK) and two masters, one in Organismic and Evolutionary Biology (University of Massachusetts), and one in Environmental Management and Leadership (University for International Cooperation). Ugo’s most recent post-doctoral work, in close collaboration with the Botanical Institute of Barcelona, the Botany Laboratory of the School of Pharmacy at the University of Barcelona and the Global Diversity Foundation, has revolved around Mediterranean ethnobotany and cultural practices of conservation both in rural and urban environments. He heads up Global Diversity Foundation’s Mediterranean Ethnobiology Programme, which currently focuses on the maintenance of High Atlas Cultural Landscapes. Ugo was a participant in the Global Environments Summer Academy 2015 in Bern (Switzerland), and after that also joined the GEN team as the Mediterranean Regional Coordinator, organising Mediterranean events and overseeing Network member engagement at the regional level. In 2017, he organised the first European Community Exchange on Seed Diversity and Sovereignty, and will be organising the first Mediterranean Regional Academy in Morocco in 2018.
### Annex 3: ECE Themes and Actions Matrix

See [this link](#) for the Googledrive file of the following table.

<table>
<thead>
<tr>
<th>THEMES</th>
<th>ACTIONS</th>
<th>Stakeholders &amp; scales</th>
<th>Lead actors</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overarching themes</td>
<td>Training &amp; Learning</td>
<td>Supporting traditional varieties and their free use and propagation (Farmers/Breeders exemption clause) as a part of agricultural heritage.</td>
<td>Training: farmers, breeders, gardeners; Awareness: Farmers, consumers Policy: national-level policy makers Connecting: Breeders, Farmers</td>
<td>Agrecol</td>
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<tr>
<td>Seeds-as-commons</td>
<td>Open source licenses (tool to reinvigorate farmers' and breeders' rights)</td>
<td>Embedding open-source seed licenses in policies to protect seeds-as-commons Free exchange and sale of non-registered seeds No division between commercial and informal seed sector</td>
<td>Traditional knowledge and variety inventories Depict economic value of seeds as commons (ecosystem services etc.)</td>
<td>Open Source Seed Initiative (Agrecol) Saatgut-Gemeingut (<a href="#">www.sektion-landwirtschaft.rg</a>) RightSeeds (Univ. Oldenburg) Kultursaat e.V./Bingenheimer Saatgut AG</td>
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<tr>
<td>International policy (food, agriculture and conservation)</td>
<td>Training for appropriate application of ABS, Nagoya Protocol and ITPGRFA</td>
<td>Awareness of suppliers/retailers/banks/foreignations to support seed-as-commons codes of practice</td>
<td>Make more efficient use of ITPGRFA (articles 5,6,9) and Nagoya Protocol</td>
<td>Build and maintaining a coherent movement via frequent exchange events towards</td>
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<td>Awareness amongst policy-makers and operators at supranational level (e.g. FAO and IPES) on the importance of seeds as common goods</td>
<td>Include seeds-as-commons in organic &amp; fairtrade certification regulations</td>
<td>Support of high impact lobbying organisations and actors</td>
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<tr>
<td>Seed-Sharing Networks</td>
<td>Agrobiodiversity and conservation</td>
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<tr>
<td>Training activities in seed production &amp; collective management and phytosanitary</td>
<td>Training for farmers and growers in conservation (CSBs) and in breeding for new diversity via rural development schemes</td>
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<tr>
<td>Regain awareness of the importance of seeds itself within the discussion of food sovereignty and variety conservation</td>
<td>Increase public understanding regarding Biodiversity loss and agricultural practices</td>
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<tr>
<td>Harmonisation of seed regulation i.e. legislative support for distribution of unregistered seeds (see above)</td>
<td>Conserve in order to create new diversity able to cope with future challenges</td>
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<tr>
<td>Connecting seed-sharing networks between each other at national and regional scales; Creating and enhancing farmers' networks as loci for the circulation of high-quality seeds and knowledge thereof</td>
<td>Acknowledging small scale farmers as the main keepers of agrobiodiversity</td>
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<tr>
<td>Learning from successful seed sharing networks to find out what makes them effective, or what could make them more effective;</td>
<td>Understanding the importance of free use of germplasm for future breeding</td>
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<tr>
<td>Local, sub-national</td>
<td>Descriptive varietal studies (Cultivation, traditional use, degree of scarcity) for managing available germplasm sources</td>
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<tr>
<td>Arche Noah; Ecoplantmed; Esporus; Irishseed savers; Prospeierara Reddesemillas; Semente Vivas</td>
<td>Multiplying knowledge on biodiversity</td>
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<tr>
<td>(see actors)</td>
<td>Training: farmers, breeders, gardeners;</td>
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<td></td>
<td>Awareness: consumers, farmers, breeders</td>
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<td>Policy:</td>
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<td></td>
<td>Connecting: Farmers, breeders, conservationists,</td>
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<td>GRAIN;</td>
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<td>Kayserlink Institut;</td>
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<td>Kultursaat e.V.;</td>
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<td>Saat:Gut e.V.;</td>
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<td></td>
<td>Sementes Vivas</td>
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<tr>
<td>Participatory action research/collaborative research</td>
<td>Training for scientists on how to approach multidisciplinary collaborative research.</td>
<td>Stimulating potential participants on collaborative action and research</td>
<td>Allow stakeholders involved in (agro)biodiversity conservation to actively participate in legislative decision making</td>
<td>Higher degree of sustainable joint-cooperation between public and private seed research/conversation institutions (e.g. public germplasm banks, seed savers organisations, universities, botanic gardens).</td>
</tr>
<tr>
<td>Determi ning conserv ation prioritie s</td>
<td>Establishing and distributing standardised seed saving methods and management practices for seed conservationists and practitioners</td>
<td>Empowering citizens to use their right in participative decision making regarding protection of natural and human heritage</td>
<td>Setting unified criteria for seed conservation in conjunction with experienced institutions</td>
<td>Conservation approaches should effectively conserve all genetic diversity</td>
</tr>
<tr>
<td>Grassroots conservation practices (innovation, development, sharing)</td>
<td>IT solutions &amp; web-based tools for professional management of collections, CSBs and seed networks;</td>
<td>Ensuring sustainability in sharing knowledge by keeping quality over quantity</td>
<td>Using efforts (Subsidies, policies) to guide priority for both ex-situ, germplasm bank-type approaches as well as In-Situ, On-Farm, dynamic conservation</td>
<td>Networking among public and private stakeholders for complementation of knowledge and practice</td>
</tr>
<tr>
<td>Production and consumption</td>
<td>Seed supply (high quality, organic, open-pollinated)</td>
<td>Training in all aspects of breeding and seed production; quality management and on-farm techniques</td>
<td>There is a need for elevated understanding among farmers, retailers, traders and consumers alike regarding the support for organically-bred (e.g. population) varieties. Consumers need be carefully approached to acknowledge that organic products seldom originate from organically bred seeds. Reduced requirements (uniformity!) and bureaucratic burden for the registration of open pollinated varieties; adjustment of variety testing according to variety type and market value. Organic products from organic seed as the central tenant. Need for a European-level (and perhaps Mediterranean-level) thematic seed network that brings together farmers, scientists, seed companies and cooperatives for a common knowledge exchange. Farmer-to-farmer field schools facilitated by experts so as to avoid the spreading of poor practice. Access to public laboratories for farmers and small-scale plant breeders (in association with basic training). Implement collaborative research that improves breeding techniques and varieties in cooperation with organic seed companies, farmers, breeders, scientists; engaged citizens, community organisation s and seed-sharing networks.</td>
<td>Implement collaborative research that improves breeding techniques and varieties in cooperation with organic seed companies, farmers, breeders, scientists; engaged citizens, community organisation s and seed-sharing networks.</td>
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<tr>
<td>Breeding ethics (what is 'natural'?!)</td>
<td>Respect farmers' natural settings i.e. the phenotypic expression of the entire plant and farm organism. Thus, teach and support farmers to create, maintain their own varieties.</td>
<td>Making clear among all stakeholders about the far reaching effects of allowed breeding techniques under organic standards (e.g. reduced variety choice)</td>
<td>-</td>
<td>Closing of loopholes regarding patents on crops derived from biologic breeding methods.</td>
</tr>
<tr>
<td>Open-pollinated seed demand - to be increased!</td>
<td>Training farmers, breeders and traders in awareness raising techniques for face-to-face encounters with consumers and broader movement-building.</td>
<td>Increase public understanding of the power of choice and linkage between consumption and conservation of varieties.</td>
<td>Establishing new food labels on products to give incentives and to specify more detailed indication of product/sourced seed origin.</td>
<td>Meaningful linkages between the organic sector and the alternative health industry.</td>
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<td>Genetic engineering</td>
<td>Reinforcing the GE resistance movement</td>
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<tr>
<td>(online, event-based, etc)</td>
<td>biodiversity in general.</td>
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<td>passionate actors during food events in appropriate settings (farmers markets, food markets, restaurants)</td>
<td>effective campaigning</td>
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<tr>
<td>Broad scale learning activities for farmers, breeders and consumers especially, regarding the link between GE crops, corporate seed monopoly and impoverishing of crop diversity and farmers rights</td>
<td>Communicating information and events via social media and other web tools</td>
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<tr>
<td>Supportive legislation benefiting GE-resistance (see below)</td>
<td>Creating bonds and action activities between specialised alternative seed related organisations and social/ecological NGOs with strong communication capacity</td>
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<tr>
<td>Acknowledgment of organic/low input agriculture as an alternative for GE-/High Input farming for feeding a growing population</td>
<td>Unbiased research and communication of health aspects of GE food impact</td>
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<tr>
<td>Policy makers, farmers, breeders, retailers, traders, consumers</td>
<td>Econexus Beyond GM</td>
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</tbody>
</table>
| Arche Noah; no patents on seeds; Pro Specie Rara; Red de Semillas | }
<table>
<thead>
<tr>
<th>Keepin g seeds GE-free</th>
<th>Understanding of food production cycles and distribution - for farmers, breeders, policy-makers, consumers</th>
<th>Robust legislation as a foundation in opposing GE-crops.</th>
<th>Serve the broad continuum from local efforts to international scale to employ connections and cooperations for effective actions opposing GE</th>
<th>Policy makers, farmers, breeders, traders and consumers</th>
<th>IG Saatgut</th>
</tr>
</thead>
<tbody>
<tr>
<td>Protecti on of consum ers' and farmers' rights</td>
<td>Training and /or learning to support in local food production (See CSA model), growing for self sufficiency etc.</td>
<td>Acknowledgment and communicatio n towards policy makers to protect farmers'/citizens' rights from corporate interests</td>
<td>Make declaration compulsory of GE resources used across all stakeholders of the food chain</td>
<td>Governmental bodies (citizen protection and rural development departments) linking up with farmer networks and social rights organisations</td>
<td>IG Saatgut Beyond GM</td>
</tr>
</tbody>
</table>