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# DYNAVERSITY

## *DYNAmic seed networks for managing European diVERSITY*

Grant agreement n°: 773814

H2020 – Coordination and support action

### D 3.1

## *Consumer awareness to diversity challenges*

**Due date:** M22 (August 2019)

**Actual submission date:** 4 September 2019

**Project start date:** November 1<sup>st</sup>, 2017

**Duration:** 36 months

**Work package concerned:** WP3

**Concerned work package leader:** INRA and URGENCI

**Dissemination level:**

**PU: Public (must be available on the website)**

**CO: Confidential, only for members of the consortium (including the Commission Services)**

**CI: Classified, as referred to in Commission Decision 2001/844/EC**

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## Summary

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DYNAVERSITY is built on the double objective to enhance interactions between actors participating and to involve Alternative Food Systems (AFSs) in the management of cultivated biodiversity. More particularly, **WP3 has the objectives to increase the use of diversity in the whole food chain, as well as to more closely associate consumers to the re-diversification of food.**

In order to do so, **organisations and networks that work closely with the civil society are associated to this project.** Therefore, this deliverable has been assigned to URGENCI for its long experience in establishing direct and trusting relationships between farmers and consumers in the frame of Community Supported Agriculture (CSA).

**The underlying question of Task 3.1 was to understand how the close partnerships between farmers and consumers could be a source of social innovation for on-farm and *in situ* management of biodiversity.**

Thanks to URGENCI member organisations, **an in-depth survey questionnaire was widely spread through the URGENCI member organisations and completed online. Additional semi-structured interviews were performed,** either face-to-face or via distant communication (phone, Skype...) **in 14 European countries** (see Introduction). A total of 75 answers to the questionnaire was received, originating from CSA groups, CSA farmers, and CSA networks. Even if this data set cannot be considered to represent the full CSA movement, we nevertheless could generate sufficient data to highlight some trends on the topic. Indeed, the data obtained gives us general information on the CSA initiatives, on the species cultivated, on their way of managing diversity and also on the role of the different stakeholders in the process of enhancing cultivated biodiversity (consumers, farmers, core group members, networks...). **The analysis presented in this deliverable also includes the conclusions and findings of the discussions of a workshop on “CSA and cultivated biodiversity”** that took place during the 7<sup>th</sup> URGENCI International Symposium of CSA movements, held in Thessaloniki in November 2018.

**This deliverable provides recommendations on how to get consumers more concerned and involved in agrobiodiversity issues and at two complementary levels.**

First, **at the level of CSAs,** growing traditional or peasant varieties on the farm is a great achievement for many of the farmers responding to the survey. The respondents also seem to appreciate the process of learning required to become autonomous in terms of seed production. Furthermore, the consumers' satisfaction does matter a lot to all the farmers in our sample. Consequently, **CSA seems to be a relevant partnership scheme for farmers cultivating biodiversity, because they can have a direct experience of the satisfaction of their “eaters”.**

Secondly, **at the level of CSA networks,** we argue that **such networks (can) play a key role in helping raising awareness among consumers and farmers.** CSA networks can help developing agrobiodiversity management on the farm, by providing communication tools and materials to farmers and consumers. **A deeper relationship between local farms and CSA networks or peasant seeds networks is however needed.** Additional communication tools shall be developed to urge consumers to be more involved in on-farm biodiversity

management. Furthermore, **more training sessions on traditional/peasant varieties production and cultivation should be organised for farmers and consumers to better understand their interest for organic production.** In fact, the study also points to a need for both awareness raising and training. Training is necessary: 1. For the farmers to be able to multiply the seeds and select the plants, thanks to the financial stability provided by the CSA; 2. For the CSA members to learn how to enjoy underutilised or forgotten species and varieties, to taste, cook and preserve in a different way. This double training dimension cannot be implemented without a reinforced joint work with local and national seed saving networks. Common training workshops, supported by joint communication material, should be conducted, with the participation of CSA core group members.

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## Introduction

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This document, *D3.1 – Consumer awareness to diversity challenges - Report about actions getting consumers closer to issues of agrobiodiversity* - is a deliverable of the DYNAVERSITY project, which is funded by the European Union's Horizon 2020 Programme under Grant Agreement 773814.

DYNAVERSITY aims to increase capacities for on-farm and *in situ* conservation of plant genetic resources by mapping and bringing together all stakeholders involved in the dynamic management of plant genetic resources. The project intends to develop new management and governance models, establish new forms of seed networking and exchange and promote socio-environmental practices.

One goal of WP3 is to “increase the use of diversity (within species and number of species) in the overall food chain, including and starting from breeding activities”. This deliverable focuses on analysing the role of Communities Supported Agriculture (CSAs) in this objective.

### The Potential of CSA for Agrobiodiversity revival

*Ex situ* and *in situ* management of biodiversity are complementary approaches (Brush, 1989) and there is an increasing recognition of the importance of developing a dynamic management of *in situ* biodiversity (Hammer et al., 2003). The interest and specificities of on-farm and *in situ* biodiversity management in agricultural systems, home gardens, seed saving and seed swapping systems have been the subject of several recent studies (Osman and Chable., 2009; Reyes-García et al., 2013; Bocci-Rey and al., 2014; Coomes, O.T and al., 2015; Jarvis and al., 2016; IPES FOOD., 2016; Coolsaet., 2016; ECPGR, 2017). Moreover, cultivated diversity is the foundation of sustainable food systems and offers means to foster agroecological and organic food systems (Döring et al, 2011, DIVERSIFOOD-Booklet 6, 2019). Some scholars suggest that food systems based on a close partnership between producers and consumers may also provide a strong support to *in situ* biodiversity (Galt et al., 2012; Minvielle et al., 2011). Biodiverse crops match very well with the concept of farm shops and local markets, mainly when the farmer is engaged in a network for genetically diverse crops. Direct marketing provides plenty of opportunity for communication about the specific quality of the crops and products (DIVERSIFOOD-Booklet 7, 2019). Community Supported Agriculture is one of such food systems. CSA has been defined by the European CSA Research group in 2016 as a “*direct partnership based on the human relationship between people and one or several producer(s), whereby the risks, responsibilities and rewards of farming are shared, through a long-term, binding agreement*” (URGENCI, 2016). This model has also often been described as a local, solidarity and contract -based direct selling model. It generally includes up-front payment of the harvest by members. Indeed, the Community-Supported Agriculture (CSA) movements set as an objective the reinforcement of plant and animal diversity. This is reflected for example in the Amap (French version of CSA) charter that was re-written in 2014: principle 2 is about an “*agroecological practice, encouraging vegetal and animal biodiversity (...), contributing to maintaining and developing peasant seeds*” (Miramap, 2014). The European CSA Declaration from 2016 also emphasizes as one of the key leading principles for the European CSA movement the “*Responsible care for the soil, water, seeds and the other commons through the agroecological principles and practices as*

found in this declaration and the Nyeleni Declaration 2015<sup>1</sup>” (URGENCEI, 2016). Another example comes from Belgium, where the Gasap charter (written in 2011) states that one of the Gasap’s founding principles is “reinforcing the diversity of (preferably indigenous) animal and vegetal varieties” (Gasap Bruxelles, 2011).

Nevertheless, at least to our knowledge, few studies have characterized the possible role of CSAs in the *in-situ* management of biodiversity. Are the close partnerships between farmers and consumers a source of social innovation for *in situ* management of biodiversity?

UURGENCIi (the international network for Community-Supported Agriculture) is part of DYNIVERSITY, a Horizon 2020 project which seeks to identify the actors involved in plant genetic conservation for agriculture, in order to shape new models of networks and to develop new schemes of governance. In this project, URGENCEI seeks to identify “best practices” of on farm and *in-situ* management of plant biodiversity in CSAs and CSAs networks.

### Key Objectives of the Study

This study focuses on on-farm and *in situ* management of plant biodiversity practices developed in consumers-producers partnerships at the European level with the aim to get an overview of the current practices and to identify some CSAs’ specific *in situ* biodiversity management practices. Thanks to URGENCEI member organisations, semi-structured interviews were performed online, by telephone and face-to-face. With qualitative and quantitative questions, primary data has been collected both at the level of single CSA groups and at the level of CSA networks: general info on the CSA, species concerned (vegetables, grains, legumes, etc.), practices of *in situ* management (cultivation/conservation/breeding strategies), role of consumers and producers in the *in situ* management of biodiversity (type of partnership, instigator of the initiative), anteriority of the initiative and social dynamics, limits and challenges encountered.

As stated above, one of the key objectives was to test the assumption that the CSA model is a good model to put consumers and farmers closer, especially on biodiversity issues. In the questionnaire, we asked the CSA groups what kind of actions supporting cultivated biodiversity have been launched, with which types of production, and with which seeds (modern, heirloom, peasant). We also asked if the CSA farms produce their own seeds, and if yes, how are the consumers associated to seed production or activities.

### Methodology

Some methodological aspects of the questionnaire should be mentioned: the questionnaire is quite detailed, requiring a deep knowledge of the action to be answered. The questions are very precise in terms of characterizing each action: the same series of questions (what seeds are used, who initiated the action...) are repeated for each type of production. This is probably a reason for the limited number of fully completed questionnaires (75). The

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<sup>1</sup> The “Nyeleni Declaration” can be checked using the following link: Food Sovereignty. Declaration of the International Forum of Agroecology. Forum for Agroecology, Nyeleni 2015, June 2015. [Food Sovereignty. \(2015\). Forum for Agroecology, Nyeleni 2015 - Declaration of the international forum of agroecology. \[online\] Available at: http://www.foodsovereignty.org/forum-agroecology-nyeleni-2015/ \[Accessed 12 June 2018\].](http://www.foodsovereignty.org/forum-agroecology-nyeleni-2015/)

questionnaire also contains some open questions at the end, to leave space for modes of action that might have not been foreseen.

Regarding the dissemination of the questionnaire, one can say that the link was widely circulated among the movement. We can notice a high number of uncompleted answers. This might show that a lot of respondents started answering but realized they were not able to complete the questionnaire. The messages and reminders about the questionnaire were largely spread through social media as well as during the 4<sup>th</sup> European Meeting of CSA movements in Thessaloniki, Greece.

### **Representativeness of the Sample**

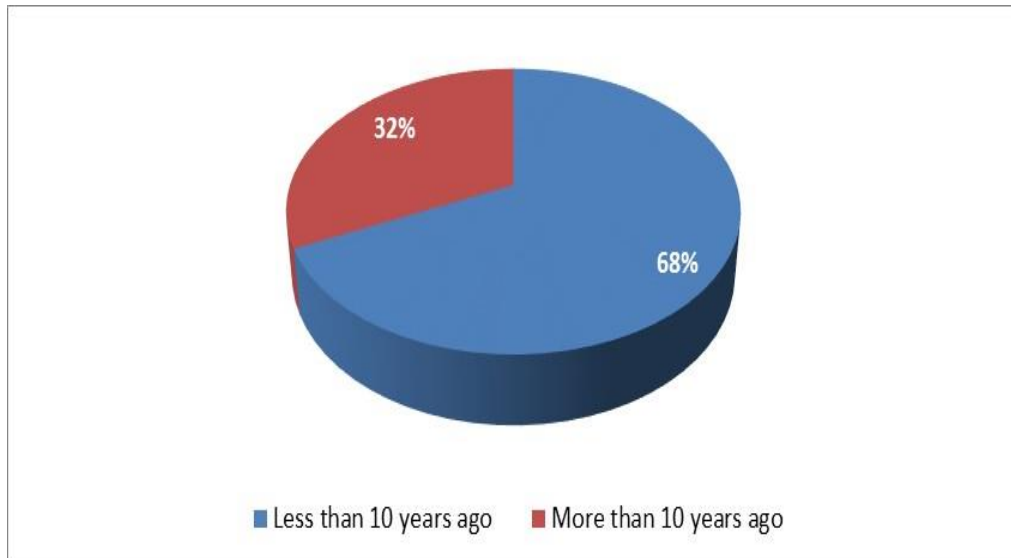
The decision was explicitly made at the beginning of the research process, that the questionnaire should document actions that are already implemented rather than the intention or the potential of doing something. The whole European CSA movement counts, according to the 2015 Census, around 5,000-6,000 initiatives (URGENCEI, 2016b). The goal was not to cover all of them, but only those working on the issue of *in situ* conservation, as it was clearly stated on the welcome page of the questionnaire. How many CSA vegetable growers and fruit producers are active on the issue of agrobiodiversity? This information is missing. But the fact that we collected a sample of 75 answers, from 13 countries<sup>2</sup>, some sent in the name of several initiatives (by CSA networks for example), combined with the fact that the total number of initiatives in Europe is no more than 6,000, points out to a number of a few hundred of CSA groups actively committed to the issue of cultivated biodiversity. In that case, our sample, although not proportionally representative of the whole movement, nevertheless seems to be a basis strong enough to highlight some trends. The translation of the questionnaire, originally written in English, into six other national languages (French, German, Italian, Greek, Hungarian and Romanian), was a major coordination and translation effort and that enlarged the group of respondents.

Among the main features of our sample, one should note the fact that the large majority of responding CSA have been recently established. Only a third have been established more than 10 years ago. This is partly a reflection of the dynamics of the movement, which is growing rapidly. In France, now a country with one of the oldest and most established CSA movements, the first CSA was created in 2001. In 2009 (10 years ago), there were around 1,500 Amap groups (Miramap, 2009), and there are currently well over 2,000 CSA<sup>3</sup>. This means that, in France, at least 25% of the CSA are under 10 years old, but this proportion is probably much higher as some Amap groups have disappeared, replaced by new partnerships.

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<sup>2</sup> We got the following number of answers per country : Greece (7) ; Hungary (9) ; France (23) ; Italy (6) ; Germany (11) ; Romania (4) ; Ireland (4) ; Wales (2) ; Netherlands (4); Turkey (2); Sweden (1); Portugal (1); Spain (1).

<sup>3</sup> This is the figure provided by the French national Amap network on its website for the end of the year 2019: <http://miramap.org/-Les-AMAP-.html>



**Figure 1: Dates of creation of CSAs**

In addition to this introduction, this deliverable contains the following four chapters:

1. Agrobiodiversity on CSA Farms: Some Trends Regarding the Varieties Produced and Cultivated in the Responding CSA
2. Evaluating the Direct Participation of CSA Members in Seed Production and Conservation
3. Two Initiatives where Committed CSA Members are Taking an Active Part in Agrobiodiversity Preservation
4. Recommendations



## 1. Agrobiodiversity on CSA Farms: Some Trends Regarding the Varieties Produced and Cultivated

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### Heirloom, Landrace and Peasant Variety: Definitions used in the Study

At the beginning of the survey, the definitions agreed within the DYNAVERSITY project were given on the welcome page. These definitions have been translated in six different languages, considering the specific national context. It is hard to make any assumption regarding how familiar to these definitions were the respondents to the questionnaire. In particular, it is possible that the difference between heirloom and peasant varieties was not obvious for everyone. During the online survey preparation process, we chose to ask about cultivation and production of heirloom and/or peasant seeds, because one of the aims of the project is to evaluate the amount of peasant varieties preserved, selected and cultivated as an indicator of the breeding activity of farmers. The definitions selected for the project DYNAVERSITY, and used for the online survey, are the following. They were first coined by Osman and Chable.

*“If “variety” is considered as a legal term, the variety is registered and strictly defined and tested: DUS [Distinctness, Uniformity and Stability], for agriculturally important species and VCU [Value for Cultivation and Use] and grants rights to its breeder, whereas landraces lack formal breeding and are defined by historical origin while being genetically more diverse.*

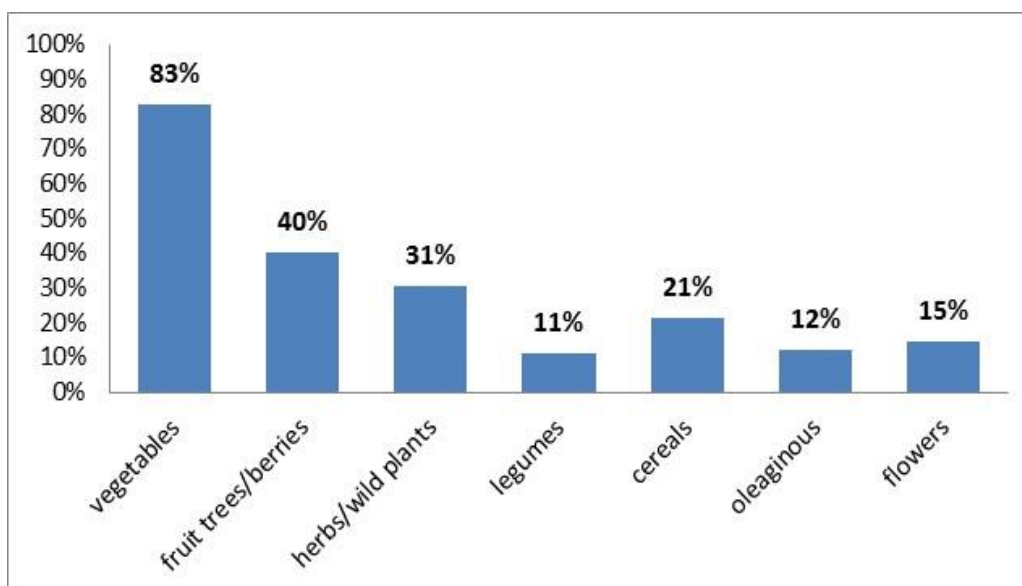
*An heirloom variety or landrace is an old or traditional population of cultivated plants that is maintained by small-scale seed companies, gardeners and farmers; it is locally adapted and associated with traditional farming systems. It has historical or regional origins and is usually bred true-to-type with variable levels of homogeneity, using natural processes that are very different from formal crop improvement; it is often an open-pollinated variety i.e. it pollinates naturally.*

*A new population variety or peasant variety is bred by farmers within rural communities or within participatory plant breeding programmes. It has diverse genetic origins and homogenous characteristics that are specifically adapted to territories and enhances the local economy. It is bred using methods that respect natural processes and it is not subject to intellectual property rights. It is managed collectively and owned by farmers.”*

Definition of modern varieties given in DYNAVERSITY D1.1 list of concepts: *“Modern plant breeding is often defined as improving the genetic potential of plants, therefore varieties that have been bred with scientific techniques or for commercial purposes are often referred to as “modern” or “improved” seeds or plant varieties. There is considerable debate about this term, however, as these varieties often require very specific conditions in order to perform well and may perform much more poorly than landraces or old varieties in other conditions.”*

### Main Agrobiodiversity Characteristics of the Responding CSA Farms

The CSAs that have completed the survey questionnaire are highly diversified in species and varieties per species produced as shown on the following figure.



**Figure 2: Types of production in CSAs**

82% (62/75 cases) of the answering CSA farms combine at least two types of production among the following: Vegetables, Fruits trees/berries, Cereals, Legumes, Oleaginous, Herbs/Wild plants, Flowers. Whatever the range of types of production on the farm, more than 75% of the answering CSAs were cultivating heirloom and/or peasant varieties. Close to 80% of the responding CSA farms produce heirloom seeds and 60% (46/75) produce seeds of peasant varieties.

From the figure above, we calculated the percentage of the different types of production. Another scheme graphically represents the answers regarding the characterisation of the seeds that are either cultivated or/and produced per type of production. In every category of plants, a significant amount of people cultivates modern varieties, from 33.3 % for the production oleaginous, until 64.5% for the production of vegetables<sup>4</sup>. This shows that CSA farmers cultivating and producing heirloom or peasant varieties are often also cultivating modern varieties. In each category, the percentage of cultivated heirloom plants and seeds produced is higher than the percentage of modern varieties. The percentage of cultivated peasant plants and seeds produced is lower than the heirloom one for every category but still significant (26%-55.5%).

<sup>4</sup> The percentages should be understood in the following way: 64.5% of the 62 respondents who declared to be cultivating vegetables are cultivating modern varieties. Note that respondents could select several answers simultaneously: most of them cultivate both modern and heirloom varieties.

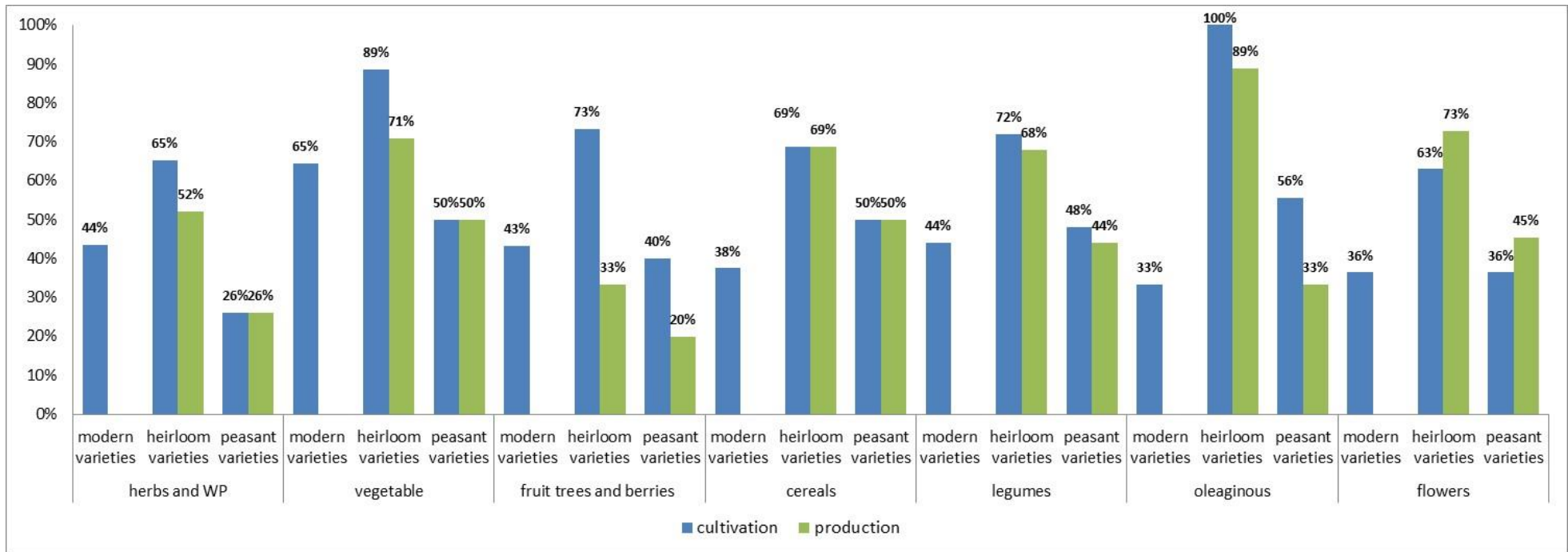
To our knowledge, there are few studies about the kinds of seeds that are sown by farmers in Europe. These studies had been performed in order to understand the bottleneck and to manage the availability of organic seeds to the organic sector (see a review in LIVESEED, Deliverable D4.1 - <https://www.liveseed.eu/resources/publications/>). There is a common understanding, especially within the CSA movement, that the proportion of homogeneous varieties of vegetables (pure line or F1 hybrids) sold in professional catalogues has been on the rise during the last decades. Generally speaking, the vegetable growers do not produce their own seeds nor their seedlings. They tend to grow young seedling of modern varieties from producers specialised in seedling production. Concerning field crops, there is a growing tendency of re-sowing part of the harvest (up to 60% in soft wheat production<sup>5</sup>) but these “*farm saved seeds*” can be of any type of varieties and are most often modern varieties.

In France, the CSA movement is large and diverse in terms of practices related to seeds. But the few figures we have recorded show that it hosts farmers engaged in the conservation and selection of the cultivated diversity.

We have seen no correlation nor exclusion between the cultivation of modern varieties of vegetable and the production of heirloom and/or peasant vegetables seeds. This is in line with previous knowledge on the combined use of different types of varieties and seeds according to the needs in terms of yield, price setting, relative vulnerability of the different varieties to specific climatic conditions, to pest and diseases. Without drawing any assumption regarding the representativity of each, we can however distinguish different profiles of farmers among those who answered this questionnaire: some are clearly politically committed to the conservation, selection and use of heirloom and peasant seeds. They therefore make the choice of producing only with this type of varieties. However, this population appears to be quite marginal even within the answering CSAs. Most of the answering farmers cultivate a mix between modern and heirloom/peasant varieties. We should also mention that our research does not allow to identify seed production or grafting operated by the farmer with modern varieties.

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<sup>5</sup> Here is an article from a professional newspaper for farmers, which seems to confirm this trend: <https://www.pleinchamp.com/grandes-cultures/actualites/les-semences-de-ferme-seduisent-de-plus-en-plus-d-agriculteurs>



**Figure 3: Percentage of cultivation and production per variety for each category of crop**

A survey question was dedicated to characterise challenges faced by CSA farmers actively involved in agrobiodiversity: *“What are the main challenges you are facing when it comes to cultivation?”*. The provided answers appeared to be quite diverse: among top ranking replies, one can find *“the weather or climate”, “adaptation to local conditions (soil, farm, climate...), “weeding”, “insects”, “access to energy”*. The productivity and the quality of heirloom/peasant seeds was also mentioned as an issue (*“yields and homogeneity”, “resistant varieties”, “seed storage”*). Among other topics mentioned, one can identify *“land price” and “equipment”*. Moreover, the *“struggle against pest and weed”* is a commonly mentioned challenge. The crops have to be *“tamed”*, which is challenging especially on the farms with such a large diversity of crops. *“We need varieties with a satisfying global behaviour are necessary, that is to say rustic and hazard resistant, with a quality harvest”*. Another challenge is *“understanding the behaviour “way” of new species or varieties we apply, and our coordination with them”*.

In addition, other criteria are mentioned such as *“finding productive varieties, resilient to climate change, with high agronomic, nutritive and tasting quality”*; or having *“a better management for these cultivations to have the least possible phytopathogenic attack, prime yield by using natural fertilisers and preserving their authenticity by isolation techniques from adjacent commercial varieties”*.

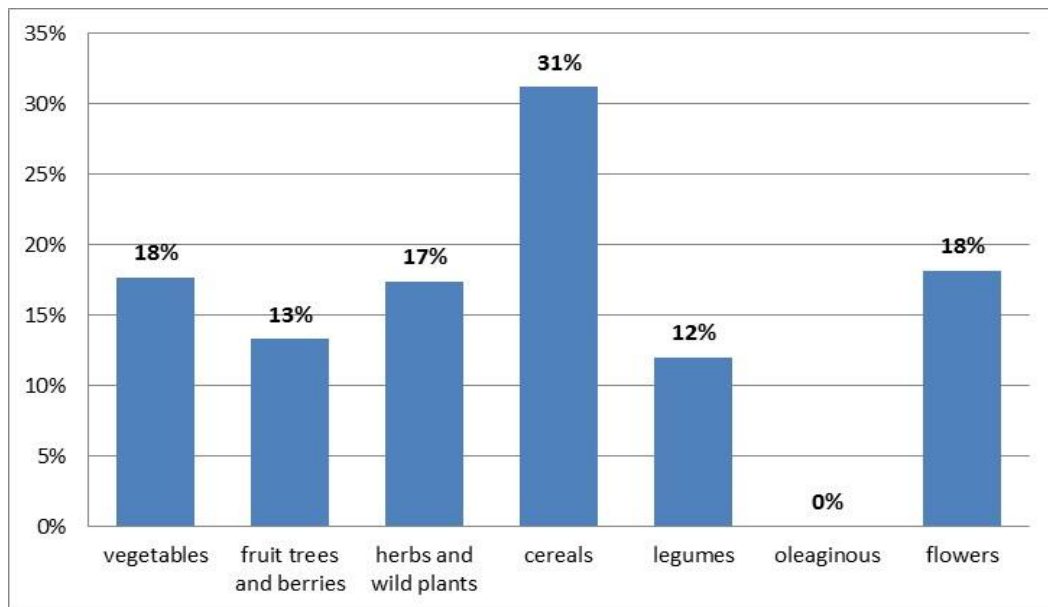
## 2. Evaluating the Direct Participation of CSA Members in Seed Production and Conservation

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### In the CSA Partnerships, Farmers are Initiating the Agrobiodiversity Actions

As already mentioned above, one of the key objectives of this study was to explore the level of involvement into agrobiodiversity activities of different categories of CSA actors. During the online survey designing phase, the decision was made to distinguish between four types of actors. Type 1, the **farmers** are obviously the ones cultivating and producing the CSA shares. This category is unchallenged. But on the CSA members' side, there are a few nuances, especially when it comes to the questions related to *“who took the initiative of launching the action”*. The respondents could either reply *“the consumers”*, e.g. the persons who buy and pick up the shares, at least some of them, or the *“facilitator”*, which means a person who is coordinating the group and taking responsibility for the relationship between the rest of the group and the farmer. Moreover, during the online questionnaire writing phase, the decision was made to allow respondents to answer as a *“collective”* and not as an individual. In that case, the initiative of acting in the field of agrobiodiversity with new tools would be shared between the CSA members, including the facilitator(s) and the producer(s).

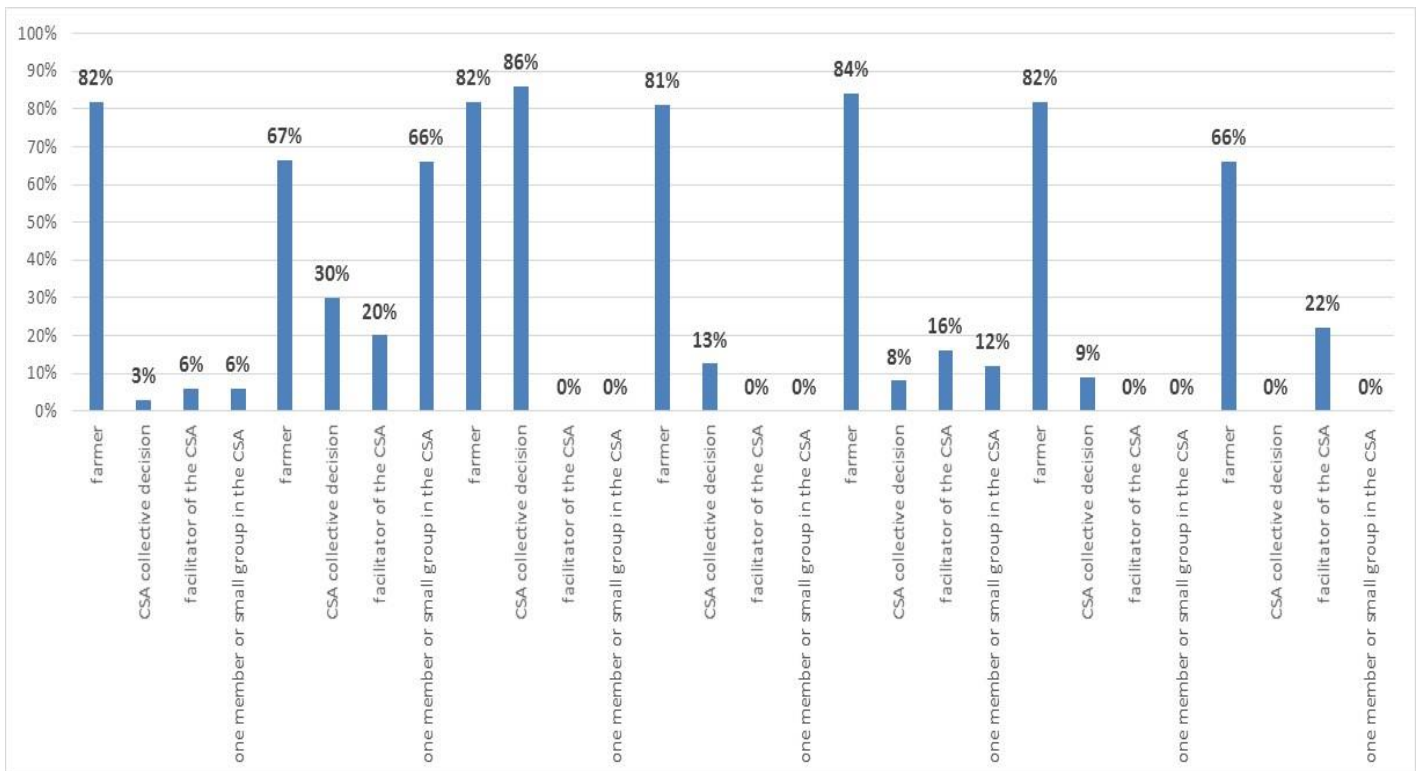
The key question in the survey to determine who is accountable for launching the initiative was: *“do the consumers participate in the production and/or conservation/on farm management of heirloom or/and landrace / open-pollinated seeds?”*. A clear majority of the respondents gave a negative answer to this question, whatever the type of production. This is illustrated by the scheme below.



**Figure 4: Percentage of consumers' participation in heirloom and landrace seeds production/conservation**

For example, in the survey, on the total number of CSA growing vegetables, only 17.7% of respondents answered “yes” but 31.2% in the case of cereals.

Another set of questions was specifically about the type of actors who launched the action. It was formulated followingly: “Who launched the on farm and in situ conservation action(s)?” Several answers were possible: “Farmer”, “CSA- Collective Decision”, “Facilitator of the CSA”, “One member or small group in the CSA”, “Other”. The same question was asked for each type of production. The result is illustrated by the graph hereafter.



**Figure 5: Percentage per category of person launching the on farm and in situ conservation actions**

### CSA Members Participate in Indirect Ways

As mentioned earlier, the different proposals for modes of action for the consumers identified by the survey designers (participation in the production or/and conservation of heirloom or/and landrace/ open-pollinated seeds or cuttings) generated negative answers. Based on the answers given in the open questions at the end of the questionnaire, it is possible to complete the repertoire of consumers' involvement in agrobiodiversity management with additional modes of action: *"planting, harvesting seeds or preparing them for the next season", "providing seeds or participating in training on seed reproduction"*. Yet, CSA members' direct and active participation on the topic remains quite marginal.

However, in many CSA surveyed, consumers' participation seems to be indirect by *"requesting products from landrace or heirloom varieties"* or by *"asking for information about it"*. Here, we draw a distinction between, on the one hand, *"direct way"*, meaning participating to the reproduction or the conservation of seedlings, exchanging seeds and seedlings, and, on the other hand, Indirect, meaning communicating on the topic or supporting the farmer. As asserted in the following quote by one of the responding farmers, all CSA initiatives supporting a farmer active on cultivated biodiversity, can be considered as actually participating to the preservation of agrobiodiversity in an indirect way.

*"Consumers are helping in small and often indirect ways. Sometimes, they help harvest seeds, sometimes they help because they buy some seeds, sometimes they help because they ask why I am doing what I am doing (I hang seed plants up to dry in plain sight and also often harvest the seeds on public days) and then I tell the/a story of our seeds and the need to have open seed access etc. They help because without them they would not be a CSA and I would not be able to grow the common and the weird and wonderful veg and tell their stories."*

### Informal and Invisible Actions

A lot of actions on agrobiodiversity in the CSA certainly remain invisible. One of the authors of this report has a direct experience of this gap between what farmers are doing in the field of agrobiodiversity and what can be seen by the members. A lot of CSA vegetable growers have a deep consciousness of the pressing need to act for agrobiodiversity, but don't necessarily express this need. One of the authors of this article has been involved as a founding member of a CSA in France for more than four years. And it is only during a General Assembly of the CSA group that the vegetable grower explained to all members that he has been using only heirloom and peasant varieties (and not a single modern variety) from the beginning. This had been unnoticed by the majority of CSA members. This revelation launched a discussion on the topic of agrobiodiversity that was beneficial for all the 20 members.

Similarly, during an interview done with a member of an Amap in Saint-Denis, North of Paris, the interviewee explained that, in his group, a member is offering peasant and heirloom seeds and seedlings to all the Amap members, in an absolutely informal way. This member is delivering only minimal communication on the topic. She is just giving the basic information about the varieties she is offering and how to grow them, but she is not giving any background information about why doing this is important and what are her motivations for offering seeds like this.

This is another illustration of the informal, often spontaneous, character of the actions to preserve the agrobiodiversity in the CSA movement. Obviously, invisibility makes the observation of these actions more dubious. But it also shows that the potential of CSA for agrobiodiversity is not cultivated: the strength of CSA is in its pedagogical and communication aspects. It could be a soundboard for the issues linked to agrobiodiversity. If there is no *"verbalisation"*, no communication on the actions taken, then, the possibilities for education to the topic are limited.



### 3. Two Initiatives where Committed CSA Members are Taking an Active Part in Agrobiodiversity Preservation

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In this part, we deepen our analysis of two initiatives, where consumers are more involved in the on-farm management of biodiversity.

The first example is the Romanian association for supporting peasant agriculture, called ASAT. This association is in fact a network gathering most of the existing consumers-producers partnerships in Romania, also called Community Supported Agriculture (CSA). The initiative started in 2007, but it was registered officially as an association only in 2014. In 2018, the ASAT network included 10 vegetable growers and 240 consumers.

The second example is a Spanish CSA initiative, called *Brotos Compartidos*, which was created as a result of seven years of work to collect, multiply and adapt traditional varieties of vegetables and aromatic plants.

**In both cases, we have studied how the consumers participate in the on-farm management of heirloom or/and landrace/open-pollinated seeds, and what are their specific roles?**

#### ***In Romania, the consumers initiative for the 30% traditional seeds-obligation***

We focus first on the case of ASAT, where the network was created by citizens who introduced an obligation for the farmers to cultivate traditional seeds. We have different categories of consumers in the ASAT network:

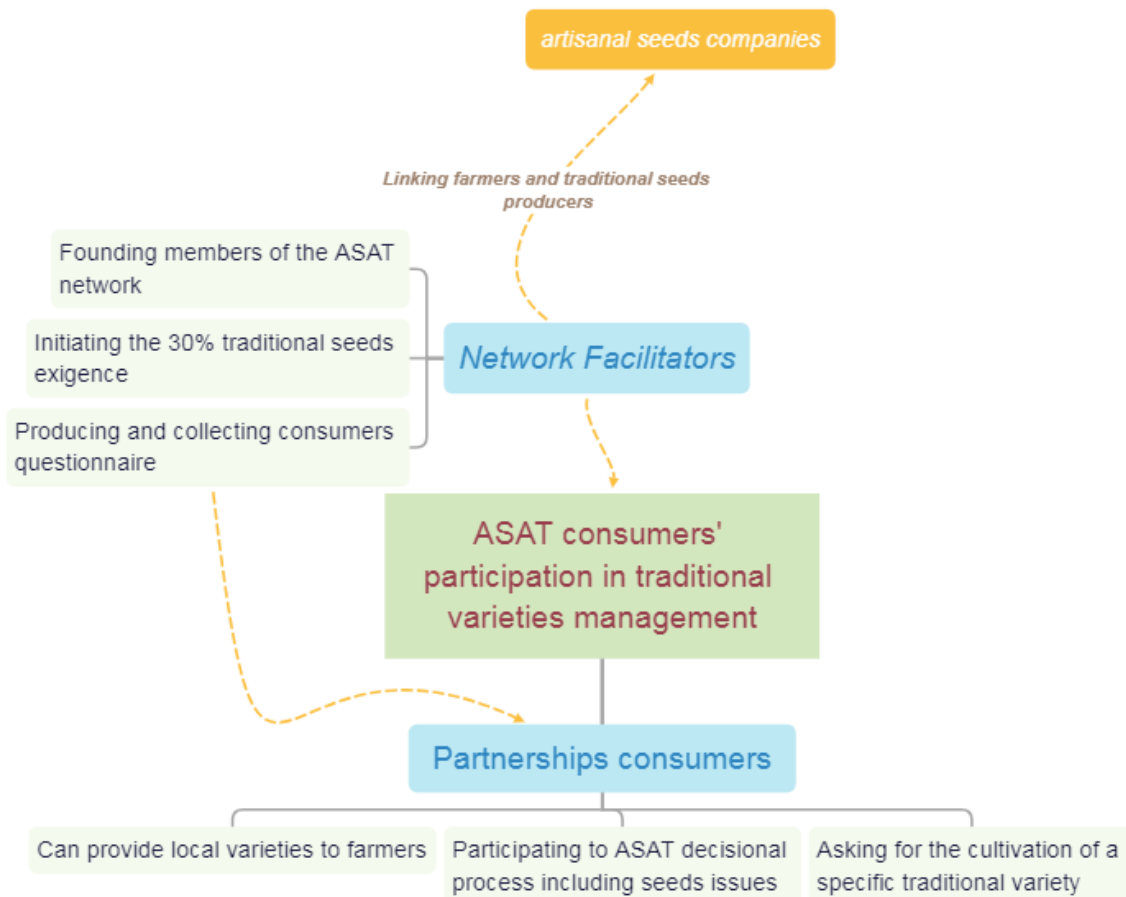
- The **network facilitators**, who were involved in the creation of the network, who are now part of the board, and are still involved in its functioning and in helping the creation of new partnerships. It is the case of Mihaela Vetan (the president of the ASAT network) and Brindusa Birhala (interviewed persons). These consumers were also, among others, at the initiative of the 30% traditional seeds obligation for ASAT farmers.
- The **core members** of a partnership, meaning the consumers who are less involved in the functioning of the network. These consumers may still interact with farmers to ask for specific traditional varieties or provide some traditional seeds to farmers. Their interest for traditional varieties is growing according to the ASAT “annual evaluation questionnaire” where one question is about traditional seeds.

If we apply the Action Network Theory, which questions the human-centric vision of social networks, and proposes, instead, to consider non-human actors and even to pay increased attention to technologies and objects, some objects used in the network should be mentioned. Some are clearly used to support consumers’ involvement in traditional seeds issues. It is the case for the partnership **contract annex** with details about the vegetables grown in traditional varieties and with the annual questionnaire where there is always one specific question about traditional seeds.

Moreover, some events are fostering consumers’ involvement. For instance, in 2014, as stated above, the ASAT general assembly decided to introduce the obligation of 30% minimum seeds. Furthermore, there are 2 other social mechanisms pushing in favour of more consumers’ involvement: the ASAT network meetings where consumers can help farmers to find traditional seeds, and the ASAT decisional process involving all the members that can take part to seed issues discussions.

This example shows that consumers can be really committed and be carrying the initiative of on farm management of traditional varieties. In the Romanian ASAT case, the consumers pushed the network to include this obligation in the partnerships contracts. Their implicit interest, which appears slightly in the qualitative interviews, was to clarify the notion of *agricultura taraneasca*, peasant agriculture, which is at the heart of each partnership. Following this clarification, 3 farmers left the network. The network also has a clear function of putting in relation farmers with traditional varieties producers if they cannot produce the seeds by themselves.





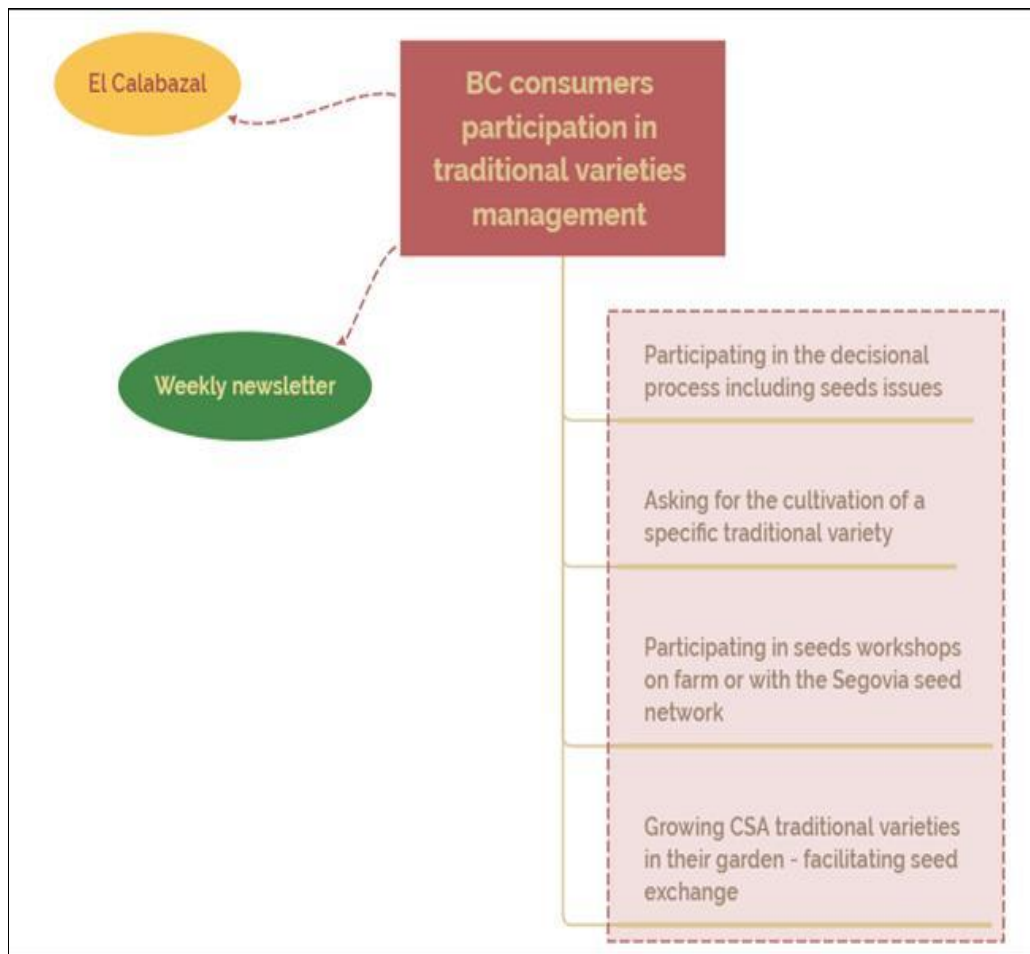
**Figure 6: ASAT network stakeholders and consumers participation**

### **In Spain, the Role of CSA in Supporting a Farmer Specialised in Agrobiodiversity Preservation**

**Brotos Compartidos**, the CSA, has been created to strengthen a farmer’s (Estefania) management and cultivation of traditional varieties. Estefania’s first work was with a local seed bank, to create a Segovia seed network. This network’s main objective was the maintaining and cultivation of locally adapted varieties. Six years after the start of this project, Estefania created a CSA with consumers she already had close relationships with. This association provides her economic security, which allows her to keep cultivating and conserving these varieties within her working time. In the CSA, the consumers are involved in different ways regarding seed activities. First, they participate in the general assembly where they can choose all together the kind of species and varieties to be cultivated. Then, some specific on farm workshops and events with the Segovia Seed network (RDS SG) are organized on seed extraction. Moreover, thanks to the annual questionnaire, consumers can suggest new varieties to be grown on the farm. Furthermore, the CSA can sometimes give some seeds or seedlings to consumers who want to grow them into their own gardens. The CSA thus facilitates seeds exchange between the members.

In this case, the initiative is farmer led, as in most of the cases in our survey. However, consumers play a crucial role: through their regular upfront payments, they secure the management activities to cultivate traditional varieties. Moreover, during her interviews, Estefania stresses the need for consumers’ involvement in seeds management. This involvement is encouraged during specific on farm workshops and events.

Some communication materials circulating in the CSA are either facilitating consumers' involvement in seed saving activities, or at least raising their awareness on the topic. For instance, the weekly newsletter informs the consumers of the type of varieties found in the vegetable boxes and also give some ideas of recipes. Moreover, a Journal called "El Calabazal" is a very good tool to communicate about seeds. For example, in 2018 October the 4th, "El Calabazal" is dedicated to traditional seeds and is entitled "*Variedades tradicionales. La importancia de la vida*".



**Figure 7: Brotes Compartidos network stakeholders and consumers participation**

### Comparison

The two examples rely on different dynamics. In the first case, the consumers are leading the initiative and introducing a specific requirement concerning traditional seeds. In the other case, the vegetable grower is leading the initiative about traditional seeds. He even seems to have created a CSA to strengthen his activities related to the management of traditional seeds. He is the one linking the CSA members with the Segovia seed network (RDS SG) and with an artisanal seed company (*la Troje*). However, this example also shows that it is not because an initiative about traditional seeds is led by a farmer, that consumers are not participating.

## 4. Recommendations to Foster More Consumers Involvement in Agrobiodiversity issues in the CSA

Among the open questions of the online survey, one was: "What are the main challenges for cultivation of traditional or peasant seeds varieties?" and another one was: "What are the main challenges you are facing when it comes to selling the products?". Most of the answers give the lack of time as the main challenge. Here are some quotes of the answers provided by the respondents: "At this stage of the farm we do not

*have sufficient energy to deal with seed saving*” (male vegetable grower, Hungary); *“I do what I can to produce my own seeds, with the help of volunteers and care clients. It costs a lot of time but I feel it is very important to do so and to do so publicly to tell the story, and also to obtain seeds that are more suitable to the specific soil that I am on”* (female vegetable grower, Netherlands); *“Proper time management”* is missing; elsewhere, the *“lack of time and hard to plan seed harvesting”* (Male CSA Facilitator, Turkey), and the *“Lack of workers and appropriate equipment”* (vegetable grower, Greece) are also mentioned as main challenges.

### Consumers' Education

In the qualitative interviews, there is a consensus on the fact that **consumers can help to save time and increase the workforce on specific times**. This works with the condition that the farm should organize a specific training to teach people who want to help on these tasks.

Among the main challenges, **another identified need is for education to the topic**. Indeed, depending on the cases, education to agrobiodiversity and traditional/peasant varieties is needed for consumers and/or farmers. Concerning consumers, a list of quotations (coming from the open questions answers in the survey) identified among the main challenges to conduct actions for cultivated biodiversity, the *“adaptation to consumers preferences and taste”* (Female CSA Network coordinator, France), the fact that *“consumers want new products all the time”* (male vegetable grower, Ireland), the *“choice of quantities to put in the vegetable boxes”* (Male vegetable grower, Germany), the difficulty to *“convince consumers to use traditional varieties”* (Male vegetable grower, France), *“consumers ignorance and sometimes the lack of adventurer wanting to taste and live the experience”* (Male vegetable grower, France) the fact that *“products are not known and there is a reluctance among consumers”* (Male vegetable grower, Romania). However, as the case of *Brotos Compartidos* shows, **CSA can be a perfect place for education**: the journal or the workshops can teach the consumers and acclimate them to traditional vegetable varieties, also giving them some ideas to cook the vegetables.

### Farmers' Education

Concerning farmers, the ASAT network helps raising awareness among farmers. In that sense, some farmers such as Marcel has started to be aware of the seed issue after entering the network. The open questions answers in the online survey also suggested that farmers need time and support to learn how to cultivate traditional and peasant varieties that can take time to get adapted to the farm. It's a true research and innovation process that need to be handle in the farm. We had the following quotations, *“domesticating the crop in itself is complicating giving the huge diversity, the research protocol per se is demanding”* (Male vegetable grower, France), *“Understanding the behaviour “way” of new species or varieties we apply, and our coordination with them”* (vegetable grower, Greece), *“The diffused but still insufficient know-how and inexperienced/unskilled young farmers”* (Male vegetable grower, Italy). CSA are safe places for farmers to experiment traditional/peasant varieties culture in their farm as it gives them financial security and support. Multiplying seeds is something that needs to be learnt again by farmers and their communities and it takes a lot of time, needing formation and to share experiences and work.

### Going one Step Further

**Proximity, as in a close relationship, is something important**. The CSA *Brotos Compartidos* was created when enough consumers, friends, citizens around Estefania were ready for this way of eating and farming. Getting consumers involved into the decision-making process seems to be essential to make them aware of the choices. Ideally, the farmers could perhaps try to explain why they choose one variety instead of another, and the background of their decisions on the topic of cultivated biodiversity.

Here are two quotations, still from answers to the open question on the main challenges: *“Building trust and inciting participation of conscious consumers locally”* (Fruit Producer, Greece), *“The consumers connect (get acquainted) with the value of these products and building trust between them and producers of these products”* (farmer, Greece).

We could identify one case of seeds co-production in Turkey. Indeed, Ceyhan Temürcü from the “Four Seasons Ecological Living association (FSEL)” explains that consumers (living in the countryside) have a clear role in helping seed multiplication and conservation because the FSEL is located in the city and lacks space to do seed multiplication. This is happening through a partnership called TADYA, which is a collective of villagers and facilitators founded in 2014 in Ankara. One of the objectives of this collective is to *“assist local farmers with ecological methods for vegetable raising with local, heirloom seeds”*<sup>6</sup>. In the online survey, Ceyhan Temürcü explains, *“we have a garden (5 decares – 0.5 hectare) where we primarily cultivate for seed multiplication. But we are mostly in the city and cannot look after the plants as much as we would like to. We are also working with villagers and encouraging them to use heirloom varieties, through a partnership (TADYA). But we cannot always supervise their actions.”* In this case, if a real collaboration on local seeds multiplication and production wants to be done, there is a need of supervision or facilitation to maintain the link between the association and the villagers.

## Conclusions

At the scale of the CSAs, growing diversity in the farm is a great achievement or satisfaction for many of the farmers responding to the survey. Indeed, the last open question was *“What are your major achievements and satisfactions with the conservation and management of in situ cultivated diversity on your farm?”*. Most of the answers to this question highlighted the satisfaction farmers can have while protecting biodiversity and being autonomous through the production of their own seeds. *“The times everything works well all through to the harvest of the vegetables we feel independent, free and strong. Being responsible for keeping and improving the varieties we use is very important for a farming culture that we can be proud to leave for the children of the future”* (Male CSA Network Coordinator, Greece). The respondents also seem to appreciate the process of learning required to become autonomous in terms of seed production, *“knowledge-sharing and motivating consumers and farmers”* (Male CSA Network Coordinator, Ireland) and the improvement of the taste and quality of their vegetables/fruits/cereals... Furthermore, the consumers' satisfaction does matter a lot to all the farmers in our sample. Many respondents stressed that one of their major achievements was *“taste recognition by the consumers”* (Male vegetable grower, France), *“Consumer satisfaction”* (Male vegetable grower, Romania), *“consumers' satisfaction in terms of taste”* (Male vegetable grower, Hungary). Consequently, CSA are relevant partnership schemes for farmers cultivating biodiversity because they can have a direct experience of the satisfaction of their *“eaters”*, thanks to the direct relationships created between farmers and consumers through CSA partnerships.

At the scale of the CSA networks, we argue that they can play a key role in helping raising awareness among consumers and farmers. For instance, in the case of ASAT, the network plays a double role in compelling farmers to use traditional varieties, but also in educating consumers. CSA networks can help developing agrobiodiversity management in the farm providing communication tools and materials to farmers and consumers. A deeper link between local farms and CSA networks or peasant seeds networks is needed to share experiences, and communication materials on the topic.

There is a need, generally speaking, for more communication tools to urge consumers to be more involved in on farm biodiversity management. For instance, the *Brotos Compartidos* Journal and the yearly poll conducted by the ASAT network should be adapted and disseminated within the CSA movement at national and European levels. The European Coordination Let's Liberate Diversity putting all together European networks working on on farm and *in situ* agrobiodiversity management could be a good place to communicate broadly. Furthermore, more formations on traditional/peasant varieties production and

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<sup>6</sup> More details: <https://tahtacioencik.org/info-page-on-tadya/>

cultivation should be organized for farmers and consumers.

In fact, the study also points to a need for both awareness raising and training. Training is necessary: 1. For the farmers to be able to multiply the seeds and select the plants, thanks to the financial stability provided by the CSA; 2. For the CSA members to learn how to enjoy unknown varieties, to taste, cook and preserve in a different way. This double training dimension cannot be implemented without a reinforced joint work with local and national seed saving networks. Common training workshops, supported by joint communication material, should be conducted, with the participation of CSA core group members.

## 5. Glossary (see D1.1 for more definitions)

CSA	<b>COMMUNITY SUPPORTED AGRICULTURE</b>	CSA has been defined by the European CSA Research group in 2016 as a <i>“direct partnership based on the human relationship between people and one or several producer(s), whereby the risks, responsibilities and rewards of farming are shared, through a long-term, binding agreement”</i> (URGENCI, 2016). This model has also often been described as a local, solidarity and contract -based direct selling model. It generally includes up-front payment of the harvest by members.
	<b>HEIRLOOM VARIETIES</b>	Heirloom varieties and heritage seed are usually open-pollinated plant varieties that are at least fifty years old, having been passed down from generation to generation.
	<b>MODERN”/ “IMPROVED” SEEDS OR PLANT VARIETIES</b>	Modern plant breeding is often defined as improving the genetic potential of plants, therefore varieties that have been bred with scientific techniques or for commercial purposes are often referred to as “modern” or “improved” seeds or plant varieties. There is considerable debate about this term, however, as these varieties often require very specific conditions in order to perform well, and may perform much more poorly than landraces or old varieties in other conditions.
	<b>VARIETY</b>	A term used in plant classification below the species level. Old and local varieties were selected from landraces over time, and often separated geographically, but modern varieties are developed using various plant breeding techniques. Stable and uniform varieties are important in order to market seeds and plants, but the maintenance of stable varieties can interfere with continued evolution and genetic diversity of seeds and plants.

## 6. References & interviews

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## **Interviews**

- Temürcü Ceyhan, Tadya collective, Turkey, interviewed on January, 21<sup>th</sup> 2019, phone call, 60 min, by Charline Ducottet.
- Brindusha Birhala, ASAT, Romania, interviewed on November, 10<sup>th</sup> 2018 in Thessaloniki (Greece), during the 7<sup>th</sup> URGENCI International Symposium, 60 min, by Charline Ducottet.
- Vetan Mihaela, ASAT, Romania, interviewed on February, 2<sup>nd</sup>, 2019, phone call, 60 min, by Charlined Ducottet.
- Has Marcel, ASAT, Romania, interviewed on March, 21<sup>st</sup> 2019, in Timisoara, 45 min, by Mihaela Vetan (in Romanian and translated into English).
- Egido Estefania, Brotes Compartidos, Spain, interviewed on November, 10<sup>th</sup> 2018 in Thessaloniki (Greece) during the CSA international Meeting, 60 min, by Charline Ducottet.



## 7. Annexes

### Survey questionnaire

**This questionnaire is part of the Dynaversity project (Horizon 2020). Dynaversity analyses and describes the actors involved in plant genetic conservation and renewal of cultivated diversity for agriculture with a view to promoting management and governance models and to building new forms of networking. This questionnaire is sent to CSA networks all over Europe. It aims to map CSAs and producer-consumer partnerships leading in-situ conservation initiatives. It will help us identify best practices. These best practices will be further explored with in depth interviews. The actors and sites will be included in a selected set of case studies.**

## **Key Concepts (definitions from Dynaversity project)**

### **1 – About genetic diversity and its conservation :**

**Genetic conservation could be addressed by two different and complementary approaches. *In si tu* strategy consists of maintaining viable population of species in the place where plants developed their distinctive properties. The *ex situ* approach involves conservation outside species habitats or sites of origin, for example as seeds or tissues in genebanks.**

**Genetic erosion: Over the last century, a considerable amount of plant genetic diversity in agriculture has been lost as farmers worldwide have abandoned themany local varieties in favour of genetically uniform, high-yielding varieties. This loss affects crop potential to adapt to a changing environment.**

### **2 – About the cultivated varieties**

**If “variety” is considered as a legal term, the variety is registered and strictly defined and tested (DUS, for agricultural important species also VCU) and grants rights to its breeder, whereas landrace lacks formal breeding and is defined by historical origin while being genetically more diverse.**

**An heirloom variety or landrace is an old or traditional population of cultivated plants that is maintained by small-scale seed companies, gardeners and farmers; it is locally adapted and associated with traditional farming systems. It has historical or regional origins and is usually bred true-to-type with variable levels of homogeneity, using natural processes that are very different from formal crop improvement; it is often an open-pollinated variety i.e. it pollinates naturally.**

## Section A: I - CSA, CSA Farm, CSA Network Identity

Important note : a separate questionnaire should be completed for each CSA, CSA farm or CSA network separately.

**A1. [1.1] - What is the name of your CSA/ CSA farm/ CSA network?**

**A2. [1.2] - Is it a CSA, a CSA Farm, a CSA Network?**

a CSA

a CSA Farm a CSA Network

**A3. [1.3] - What is your first Name?**

**A4. [1.4] - What is your last Name?**

**A5. [1.5] - What is your CSA's contact address?Postal address, website URL, email address, anything you feel confident with.**

**A6. [1.6] - When was your CSA founded?**

2018

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## Section B: II - In-situ Biodiversity Management Actions

[2.1.1] - For VEGETABLES, please describe the type of action undertaken (several possible answers)[2.1.2] - For FRUIT TREES / BERRIES, please describe the type of action undertaken (several possible answers)

[2.1.3] - For HERBS & WILD PLANTS, please describe the type of action undertaken (several possible answers)

[2.1.4] - For CEREALS, please describe the type of action undertaken (several possible answers)

[2.1.5] - For LEGUMES, please describe the type of action undertaken (several possible answers)

[2.1.6] - For OLEAGINOUS, please describe the type of action undertaken (several possible answers)

[2.1.7] - For FLOWERS, please describe the type of action undertaken (several possible answers)

### B1. [2.1] - What type of production does your action(s) for in-situ management of diversity concern?

Vegetables Fruit trees / Berries

Legumes Herbs / Wild plants

Cereals Oleaginous

Flowers

### B2. [2.1.1.1] - Do you cultivate...

Modern varieties Heirloom varieties

Peasant varieties

### B3. [2.1.1.2] - Do you produce...

Heirloom seeds

Peasant seeds

### B4. [2.1.1.3] - For whom do you produce seeds?

For yourself For producers who are members of CSA networks

For producers in other networks (Seed Savers' Network for example)

For producers outside of any formal network

**B5. [2.1.1.4] - Do the consumers participate in the production and/or conservation of heirloom or/and landrace / open-pollinated seeds ?**

Yes   
No

**B6. [2.1.1.4.1] - If yes, how ?**

**B7. [2.1.1.5] - Who launched the *in situ* conservation action(s) ?**

**Several possible answers**

Farmer   
CSA -Collective decision   
Facilitator of the CSA   
One member or small group in the CSA

**B8. [2.1.1.6] - How long has the action/have the actions been going on ?**

Less than 1 year   
1-5 year   
> 5 years   
Before the creation of the CSA

**B9. [2.1.1.7] - Comments or precisions such as :**

Number of species/landraces

Comment

Cultivation area

Comment

Approximate percentage of total seed used (hybrids vs open-pollinated/ landraces / heirloom)

Comment

Storage conditions of the product / the seeds

Comment

**B10. [2.1.2.1] - Do you cultivate...**

Modern varieties	<input type="checkbox"/>
Heirloom varieties Peasant varieties	<input type="checkbox"/>
	<input type="checkbox"/>

**B11. [2.1.2.2] - Do you produce...**

Heirloom seeds or cuttings (and other plant parts)	<input type="checkbox"/>
Peasant seeds or cuttings (and other plant parts)	<input type="checkbox"/>

**B12. [2.1.2.3] - For whom do you produce seeds or cuttings (and other plant parts)?**

For yourself For producers who are members of CSA networks	<input type="checkbox"/>
For producers in other networks (Seed Savers' Network for example)	<input type="checkbox"/>
For producers outside of any formal network	<input type="checkbox"/>
	<input type="checkbox"/>

**B13. [2.1.2.4] - Do the consumers participate in the production and/or conservation of heirloom or/and landrace / open-pollinated seeds or cuttings (and other plants part)?**

Yes	<input type="checkbox"/>
No	<input type="checkbox"/>

**B14. [2.1.2.4.1] - If yes, how ?**

**B15. [2.1.2.5] - Who launched the in situ conservation action(s) ?**

**Several possible answers**

Farmer CSA -Collective decision Facilitator of the CSA	<input type="checkbox"/>
One member or small group in the CSA	<input type="checkbox"/>
	<input type="checkbox"/>
	<input type="checkbox"/>

**B16. [2.1.2.6] - How long has the action/have the actions been going on ?**

Less 1 year	<input type="checkbox"/>
1-5 year	<input type="checkbox"/>
> 5 years	<input type="checkbox"/>
Before the creation of the CSA	<input type="checkbox"/>



**B17. [2.1.2.7] - Comments or precisions such as :**

Number of species/landraces

Comment

Cultivation area

Comment

Approximate percentage of total seed or cuttings( and other plant parts) used (modern/peasant /heirloom)

Comment

Storage conditions of the product / the seeds or cuttings( and other plant parts)

Comment

**B18. [2.1.3.1] - Do you cultivate...**

Modern varieties

Heirloom varieties

Peasant varieties

**B19. [2.1.3.2] - Do you produce...**

Heirloom seeds

Peasant seeds

**B20. [2.1.3.3] - For whom do you produce seeds?**

For yourself

For producers who are members of CSA networks

For producers in other networks (Seed Savers' Network for example)

For producers outside of any formal network

**B21. [2.1.3.4] - Do the consumers participate in the production and/or conservation of heirloom or/and landrace / open-pollinated seeds ?**

Yes

No

**B22. [2.1.3.4.1] - If yes, how ?**

**B23. [2.1.3.5] - Who launched the *in situ* conservation action(s) ?**

**Several possible answers**

Farmer CSA -Collective decision Facilitator of the CSA	<input type="checkbox"/>
One member or small group in the CSA	<input type="checkbox"/>
	<input type="checkbox"/>
	<input type="checkbox"/>

**B24. [2.1.3.6] - How long has the action/have the actions been going on ?**

Less than 1 year	<input type="checkbox"/>
1-5 year	<input type="checkbox"/>
> 5 years	<input type="checkbox"/>
Before the creation of the CSA	<input type="checkbox"/>

**B25. [2.1.3.7] - Comments or precisions such as :**

Number of species/landraces	<input type="checkbox"/>
Comment	<input type="text"/>
Cultivation area	<input type="checkbox"/>
Comment	<input type="text"/>
Approximate percentage of total seed used (hybrids vs open-pollinated/ landraces / heirloom)	<input type="checkbox"/>
Comment	<input type="text"/>
Storage conditions of the product / the seeds	<input type="checkbox"/>
Comment	<input type="text"/>

**B26. [2.1.4.1] - Do you cultivate...**

Modern varieties	Heirloom varieties	<input type="checkbox"/>
Peasant varieties		<input type="checkbox"/>
		<input type="checkbox"/>

**B27. [2.1.4.2] - Do you produce...**

Heirloom seeds	<input type="checkbox"/>
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Peasant seeds

**B28. [2.1.4.3] - For whom do you produce seeds?**

For yourself

For producers who are members of CSA networks

For producers in other networks (Seed Savers' Network for example)

For producers outside of any formal network

**B29. [2.1.4.4] - Do the consumers participate in the production and/or conservation of heirloom or/and landrace / open-pollinated seeds ?**

Yes

No

**B30. [2.1.4.4.1] - If yes, how ?**

**B31. [2.1.4.5] - Who launched the *in situ* conservation action(s) ?**

**Several possible answers**

Farmer CSA -Collective decision Facilitator of the CSA

One member or small group in the CSA

**B32. [2.1.4.6] - How long has the action/have the actions been going on ?**

Less than 1 year

1-5 year

> 5 years

Before the creation of the CSA

**B33. [2.1.4.7] - Comments or precisions such as :**

Number of species/landraces

Comment

Cultivation area

Comment

Approximate percentage of total seed used (hybrids vs open-pollinated/ landraces / heirloom)

Comment

Storage conditions of the product / the seeds

Comment

**B34. [2.1.5.1] - Do you cultivate...**

Modern varieties

Heirloom varieties Peasant varieties

**B35. [2.1.5.2] - Do you produce...**

Heirloom seeds

Peasant seeds

**B36. [2.1.5.3] - For whom do you produce seeds?**

For yourself For producers who are members of CSA networks

For producers in other networks (Seed Savers' Network for example)

For producers outside of any formal network

**B37. [2.1.5.4] - Do the consumers participate in the production and/or conservation of heirloom or/and landrace / open-pollinated seeds ?**

Yes

No

**B38. [2.1.5.4.1] - If yes, how ?**

**B39. [2.1.5.5] - Who launched the *in situ* conservation action(s) ?**

**Several possible answers**

Farmer CSA -Collective decision Facilitator of the CSA

One member or small group in the CSA

**B40. [2.1.5.6] - How long has the action/have the actions been going on ?**

Less than 1 year

1-5 year

> 5 years

Before the creation of the CSA

**B41. [2.1.5.7] - Comments or precisions such as :**

Number of species/landraces

Comment

Cultivation area

Comment

Approximate percentage of total seed used (hybrids vs open-pollinated/ landraces / heirloom)

Comment

Storage conditions of the product / the seeds

Comment

**B42. [2.1.6.1] - Do you cultivate...**

Modern varieties

Heirloom varieties

Peasant varieties

**B43. [2.1.6.2] - Do you produce...**

Heirloom seeds

Peasant seeds

**B44. [2.1.6.3] - For whom do you produce seeds?**

For yourself

For producers who are members of CSA networks

For producers in other networks (Seed Savers' Network for example)

For producers outside of any formal network

**B45. [2.1.6.4] - Do the consumers participate in the production and/or conservation of heirloom or/and landrace / open-pollinated seeds ?**

Yes   
No

**B46. [2.1.6.4.1] - If yes, how ?**

**B47. [2.1.6.5] - Who launched the *in situ* conservation action(s) ?**

**Several possible answers**

Farmer   
CSA -Collective decision   
Facilitator of the CSA   
One member or small group in the CSA

**B48. [2.1.6.6] - How long has the action/have the actions been going on ?**

Less than 1 year   
1-5 year   
> 5 years   
Before the creation of the CSA

**B49. [2.1.6.7] - Comments or precisions such as :**

Number of species/landraces

Comment

Cultivation area

Comment

Approximate percentage of total seed used (hybrids vs open-pollinated/ landraces / heirloom)

Comment

Storage conditions of the product / the seeds

Comment

**B50. [2.1.7.1] - Do you cultivate...**

	Modern varieties	<input type="checkbox"/>
	Heirloom varieties Peasant varieties	<input type="checkbox"/>
		<input type="checkbox"/>

**B51. [2.1.7.2] - Do you produce...**

	Heirloom seeds or cuttings (and other plants part)	<input type="checkbox"/>
	Peasant seeds or cuttings (and other plants part)	<input type="checkbox"/>

**B52. [2.1.7.3] - For whom do you produce seeds or cuttings (and other plants part)?**

For yourself For producers who are members of CSA networks	<input type="checkbox"/>
For producers in other networks (Seed Savers' Network for example)	<input type="checkbox"/>
For producers outside of any formal network	<input type="checkbox"/>
	<input type="checkbox"/>

**B53. [2.1.7.4] - Do the consumers participate in the production and/or conservation of heirloom or/and landrace / open-pollinated seeds or cuttings (and other plants part)?**

Yes	<input type="checkbox"/>
No	<input type="checkbox"/>

**B54. [2.1.7.4.1] - If yes, how ?**

**B55. [2.1.7.5] - Who launched the *in situ* conservation action(s) ?**

**Several possible answers**

	Farmer CSA -Collective decision Facilitator of the CSA	<input type="checkbox"/>
One member or small group in the CSA		<input type="checkbox"/>
		<input type="checkbox"/>
		<input type="checkbox"/>

**B56. [2.1.7.6] - How long has the action/have the actions been going on ?**

	Less than 1 year	<input type="checkbox"/>
	1-5 year	<input type="checkbox"/>
	> 5 years	<input type="checkbox"/>
	Before the creation of the CSA	<input type="checkbox"/>

**B57. [2.1.7.7] - Comments or precisions such as :**

Number of species/landraces

Comment

Cultivation area

Comment

Approximate percentage of total seeds or cuttings( and other plant parts) used (modern/peasant /heirloom)

Comment

Storage conditions of the product / the seeds or cuttings (and other plant parts)

Comment

## **Section C: III - Challenges**

**C1. [3.1] - Do you participate / provide training in seed production or grafting ?**

Yes

No

**C2. [3.2] - Do you participate in any research project related to the topic ?**

Yes

No

**C3. [3.3] - Please enter your other comments or precisions here**



**C4. [3.4] - What are the main challenges you are facing when it comes to cultivation ?**

**C5. [3.5] - What are the main challenges you are facing when it comes to selling the products ?**

**C6. [3.6] - Is availability of genetic resources a challenge for you?**

Yes

No

**C7. [3.7] - Is on-farm breeding a challenge for you?**

Yes

No

**C8. [3.8] - Is Production Quality a challenge for you?**

Yes

No

**C9. [3.9] - Is seed or cuttings (and other plant parts) production a challenge for you ?**

Yes

No

**C10. [3.10] - Has your CSA been producing traditional varieties for years and stopped for specific reasons?**

Yes

No

**C11. [3.11] - Please explain the reasons why you stopped producing traditional varieties**

**Section D: IV - Achievements**

**D1. [4.1] - What are your major achievements and satisfactions with the conservation and management of in situ cultivated diversity on your farm?**

**Done! Thank you for completing this survey!**

**May you have any comment or question, please contact us @ [contact@urgenci.net](mailto:contact@urgenci.net).**

## **Interview guide**

This interview guide has been used to conduct the semi-structured interviews listed under Chapter 6.

Instructions:

- Cross the data you obtained in the individual interviews to produce a text according to this template - please write a coherent text, not a succession of bullet points
- Have this text reviewed by the initiative under study to make sure there have been no misunderstandings and that all the content of the text may be published

### **PART 1: DESCRIPTION**

The purpose of this section is to describe how the initiative does things. This concerns three aspects:

#### **1.1 contextualize the case**

- quantitative information
- history
- crop category

#### **1.2 « DOING »**

##### 1.2.1 Properties WITHIN initiative (closure)

The central question being: How is seed multiplied and circulated within the network, in which aim? By whom?

##### 1.2.2 Properties BEYOND initiative (outreach)

The central question being: How does seed circulate beyond the network, including commercial production and markets?

##### 1.2.3 Transformative effects beyond initiative [1]

The central question being: How does the initiative enable seeds and associated knowledge to be created, maintained and circulated?

#### **1.3 « ORGANISING »**

The focus of this section is on how the collective organizes itself. It is about how they make collective decisions.

##### 1.3.1 Properties WITHIN initiative (closure)

The central question being: How is the network structured, coordinated and governed by it formally or informally? How are different roles distributed among actors?

##### 1.3.2 Properties BEYOND initiative (outreach)

What specific devices / structures / events allow to reach out beyond the network?

##### 1.3.3 Transformative effects beyond initiative

How does the social organisation of the initiative empower actors of *in situ* crop diversity management?

## **PART 2: ANALYSIS**

This second part aims to analyse how people frame their learning (knowledge production). This concerns two aspects:

### **2.1 KNOWING**

#### 2.1.1 Properties WITHIN initiative (closure)

The central question being: How are forms of knowing created and shared within the network? Are any other types of knowledge excluded?

#### 2.1.2 Properties BEYOND initiative (outreach)

The central question being: How is the knowledge / knowing held by the network legitimated beyond the network?

#### 2.1.3 Transformative effects beyond initiative

The central question being: How does this knowledge interact with and challenge other forms of knowledge concerning crops and the food system?

### **2.2 FRAMING**

#### 2.2.1 Properties WITHIN initiative (closure)

The central question being: Why and for whom does the initiative operate?

#### 2.2.2 Properties BEYOND initiative (outreach)

The central question being: How are seed issues publicised beyond the network?

#### 2.2.3 Transformative effects beyond initiative

The central question being: How are seeds, crops and food reframed by the initiative's activities?

### **2.3 NETWORKING**

The central question is to identify the "bridges" that allow networking. Which particular people, objects or techniques operate as « bridges » allowing different people and networks to link up and collaborate?

## **PART 3: summary report**

Based on the analysis of the initiative, what are the main lessons on the construction and maintenance of networks you have learnt?

## **PART 4: Questions communicated by the initiative under study**

Please list any questions regarding the construction of networks that the interviewees have asked to have in mind as we analyse the overall data

*[1] For further and in-depth information on transformative effects and the broad categories of doing - organizing - knowing - framing, see the article by Bálint Balázs and Guntra Aistara, which can be downloaded here: <http://www.ij saf.org/index.php/ij saf/article/view/9>*

