Schola Campesina

Sharing knowledge for food sovereignty

ACTIVITIES REPORT

Pilot testing of the **Tool for Agroecology Performance and Evaluation** (TAPE) in the Biodistrict dellaVia Amerina e delle Forre

Activities: July 2020

Final report: Septembre 2020

ABSTRACT

An outline of the activities carried out by Schola Campesina, in conjunction with FAO, relating to the pilot testing of the TAPE tool for agroecology. This document outlines the steps taken to get familiar to the tool (Part 0: training phase); the results of the testing in the Biodistict (Part 1) and the reflections and thoughts on the process (Part 2). With this review we hope to improve the tool for future use in various diverse contexts.

This report has been drafted with the kind support of our intern Chris Breen

Contents

Framework of the study

The purview of the following document is to outline the TAPE (Tool for Agroecology Performance and Evaluation) training and test piloting exercise carried out by Schola Campesina, in conjunction with the Food and Agriculture Organization of the United Nations (FAO), during the month of July 2020, in the framework of the ongoing LoA between Schola Campesina and FAOREU.

The LoA foreseen, amongst other, the conduction of a training on TAPE directed to partners in Central Asia, Caucasus and the Balkans regions. The partners are trained and then supported in their training activities to their own partners in the countries (Output 2) and organize the data collection in territories (Output 3).

In July 2020, a training on TAPE has been conducted and recorded, including live training with our partners in the regions; and a test piloting has been organized in the Biodistrict of Via Amerina e delle Forre, contributing to the Output 2 and 3.

Introduction to TAPE

TAPE is a tool developed by the FAO, which serves as an analytical framework by which to assess the performance of agroecological systems in various heterogeneous contexts around the world. The tool is designed to encompass the various dimensions of agroecology: environmental, social and cultural, health and nutrition, and governance dimensions.The subsequent outputs, which delineate the position in their transition to agroecological systems, highlighting strengths and weaknesses of the farming system assessed, can be used to inform farmers, the communities, and policy making on agroecology, giving support to the thematic areas that require more attention. Further goals of the TAPE tool are to empower producers and their community and build knowledge amongst their collective data production.

By elucidating the performance of agricultural production systems, relating them to the various facets of the SDG's, it contributes to demonstrate that Agroecology is the solution to a more environmentally friendly, and more socially just form of food system

PART 0: Activity report of the training on TAPE

(prior to the testing phase)

Preliminary actions: The STEP 0

Prior to on-site training, interviews, and data-collection exercises, *a Step 0* (a context setting step that delineates the conditions in which farmers are set) review was carried out to outline the geographical, social, and political context of the area of interest: the Biodistrict della Via Amerina e delle Forre, in the province of Lazio, Italy. It included a desktop review part which involved the pertinent literature and contained information on the productive activities of the biodistrict, as well as future challenges posed by the adverse effects of climate change, and the current socio-political climate of the area. This desktop review, was deemed insufficient to capture the subtleties of the production systems in a particular area with sufficient resolution. Therefore, a consultation was had with local actors, including members of the local farming community, as well as members of the Biodistrict, to articulate the specific conditions of the local area from the reality experienced by people making up the territory (a summary of these findings can be found in the annex). It is evident that the step 0 has to be undertaken in consultation with the community in order to gain a truly holistic overview of the territory. A summary of these findings can be found in the annex.

First days: Initial Introductions and Training in the TAPE steps 15/07/2020

Beginning in Mid-July, the training began with a general introduction to the TAPE tool, its functions, purpose, objectives, and methods for implementation. This was also an initial opportunity for the relevant stakeholders to interact and to augment the preliminary desktop review with information acquired through residents' lived experience and day-to-day activities.

This phase involved:

- Dario Lucantoni, an Agroecology and Livestock Specialist at FAO HQ
- Carolina Starr, an Agricultural Officer representing FAO's regional Budapest office
- Caterina Batello, a retired FAO team leader with competencies in agroecology, acting an independent observer and consultant on the process
- Andrea Ferrante, Schola Campesina coordinator and member of the Biodistrict of Via Amerina e delle Forre
- Caroline Ledant, Schola Campesina project manager
- Chris Breen, Schola Campesina intern
- Famiano Crucianelli, president of the biodistrict,
- Giulio Vulcano, a representative of ISPRA (the national Italian environmental organisation),
- Barbara and Elisabetta Vitali, the proprietors of the Agriturismo Biobagnolese (livestock farm), where the training took place

After the introduction to TAPE (online training session followed by our partners in the diverse global regions), and its initial Step 0 and Step 1, conducted by Carolina Starr and Dario Lucantoni, a round-table discussion with the aforementioned actors was held to elucidate any additional points that might be relevant, to give further insight to the specific context of the biodistrict. Step 1 criteria and indicators were discussed, and the graphical outputs were shown. The main points that came to the fore in the discussion following the training were the environmental dangers resulting from the monoculture of hazelnut production that is prevalent in much of the biodistrict, the use of synthetic fertilizers and pesticides, and inter-generational differences in approaches to agroecological issues.

The Step 1 indicators were also discussed, to identify weaknesses or other considerations. The outcomes of this discussion will be collected with other reflections in the 'comments' section (Part 2).

Day 2: Step 2 16/07/2020

The second day involved recording a training in Step 2 of the TAPE process, which was led by Dario Lucantoni. This training covered the evaluation criteria, and the performance indicators under each category of Step 2, as well as the mathematical and graphical outputs of the step. Following the example set during the first day, these indicators and criteria were subjected to discussion regarding their scope and validity. Furthermore, a consultation was carried out between the TAPE representatives, and those that would be involved in the test piloting, to determine how the impacts of COVID pandemic might be incorporated into the interviews. Finally, a brief training was also carried out to outline the use of the KoBo Collect Toolbox tool, available in online and mobile application format. This would allow for the quick collection and submission of data in the field, which could then be collated and analysed.

Once the training sessions, and subsequent discussions on the validity of the steps, were concluded, a precursory exercise was undertaken to tentatively examine the TAPE steps and their use to a local resident. To do this, both Barbara and Elisabetta Vitali were subjected to the TAPE process, as local farmers and residents to check the validity or the process, and to ascertain areas of improvement via their thoughts and inputs. As before, areas of improvement shall be expanded upon in the 'comments' section (Part 2).

Concerning methodology, we –as enumarators- realized that questioning the farmer to determine the right answer was inadequate. We therefore decided to translate the questionnaire in Italian to give it for self-assessments the following week.

Interviews with farming residents 20th to22/07/2020

In the subsequent days, a number of interviews were carried out with local farmers of the biodistrict, representing a variety of municipalities, production systems, farm sizes, and contexts. This included:

- a local convent,
    - part-time hazelnuts organic farmers(Vallerano hills)
    - more diversified hazelnuts farms (Vignanello hills)
    - diversified animal farms

It was decided that only Step 1 would be tested at this time, as Step 2 requires a lot of data and quantitative information, which would be problematic to obtain and then share in these meetings and interviews. Therefore step 2, revised and more in line with agroecology needs, will possibly be carried out at a later date.

Evolving methodology

Prior to conducting the survey, a brief description of the project was given, to describe its goals and outline, and how we hoped TAPE might be useful to these farming residents of the biodistrict. Each farmer was also given an opportunity to raise any doubts, concerns, or questions, and to give a brief description of themselves and their farm.

The first interview, which took place on a larger multi-functional family farm, allowed the respondents to answer the Step 1 questionnaire quite autonomously, raising questions only if they had any. It became clear however that this left each question open to the subjective interpretation of the respondent, which might be different from the other respondents, hence expediting a lack of cohesion and comparability of results. Therefore, in the subsequent interviews, the method was instead adopted to have a central enumerator explain each question, and directly address any issues that arose from any of the participants.

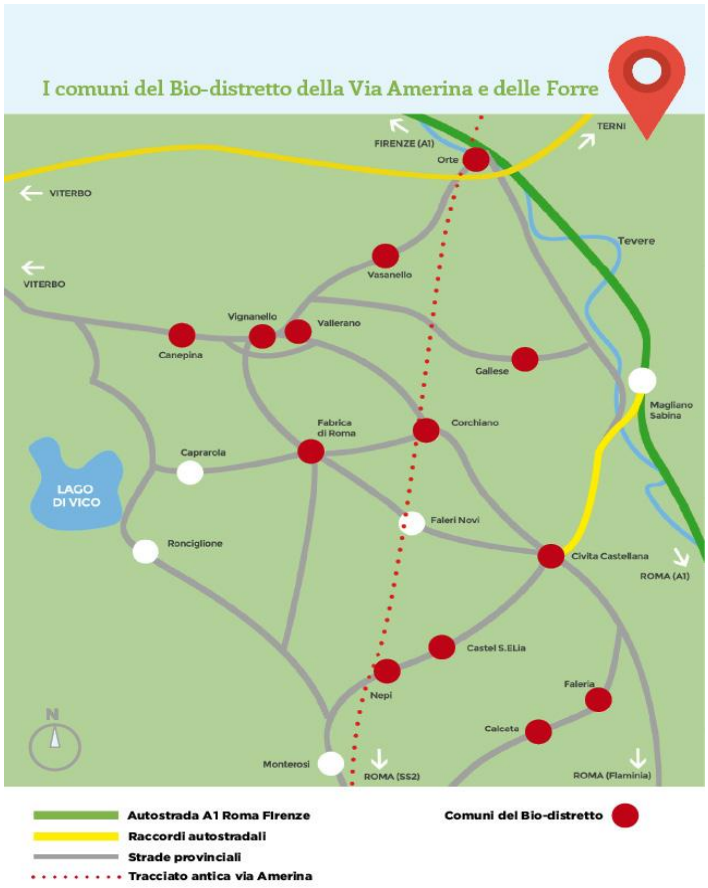
The interviews were carried out by Schola Campesina and at times a local farming representative, Fernando Testa, served as a point of contact between Schola Campesina and the local farmers to be interviewed. During this process notes were made as to difficulties encountered, comments by the farmers, and weaknesses in the TAPE tool when they arose.

The Step 0 and Step 1 data for each interviewee was recorded in the KoBo collect toolbox The joint data was then collected and aggregated by types of farmsto form a small overview of the current state of agroecology in the biodistrict. It should be noted that, given the small number of farms sampled, the result is not statistically significant, however it nevertheless provides a useful visualisation tool to understand the results of the TAPE procedure (see Part 1)

PART 1: Results from TAPE interviews in the Biodistrict

Step 0: Participatory description of the territory complemented by data drawn from desk review

- **Country, Province, District:** *e.g. Italy, Viterbo, Cambodia, Biodistrict della Via Amerina e delle Forre*
- **Location map (if available):**



- **Local name of the area:** *Biodistrict della Via Amerina e delle Forre*

- **General presentation**

The Biodistrict delle Via Amerina e delle Forre is an organisation that includes 13 municipalities (2 more asked to join) in the province of Viterbo, 50km north of Roma. Local producers have played a fundamental role in the creation of the biodistrict 10 years ago.

The biodistrict is a complex territory –with a lot of contradictions- which has been and still is an important economic pole. In fact it is the second most important producer of ceramics in Italy, and the first for hazelnut production (the core business of the biodistritct). The biodistrict therefore represents an important and wealthy industrial zone. There have also been a history of mine and quarries in the area (for resources such as tufo and breccia, among others), which have left scars on the landscape, forming large holes and chasms. Once these are abandoned, they risk becoming an exponential problem as there is a tendency to transform quarries into landfill/dumps for waste aggregates. This is something that the governance of the biodistrict has always fought against, to protect the biological character and image of the biodistrict.

The key activity is nowadays agriculture and is therefore the central point to be addressed in the society transformation toward sustainability. Hazelnut production and the consequent contamination is definitely a challenge in the biodistrict. That being said, the biodistrict is working through a holistic approach that tincorporates the development of diverse services and industry. There are sustainable underpinnings to this endeavour, as they seek to incorporate circular economy principles, and also which to develop renewable energy in the region.

Constraints on these ambitions often lie with the political situation and will in Italy, and also the local motivation. There may also be logistical constraints on farmers that prevent them from modifying their activities. The discussion also included how the modes of thinking of certain farmers, which may be constrained by their contexts, needs, or background, may prevent agroecological transitions if they are unable to grasp the key principles.

- **Demographic information**: The Biodistrict delle Via Amerina e delle Forre has a population of approximately 70,000 inhabitants. The area contains more than 300 active farms. The total area of the biodistrict is approximately 421 square kilometres, with a population density of around 138.4 inhabitants per square kilometre.

- **Ecological environment:** The biodistrict is located in an area typified by three distinct geomorphological domains, principally: the volcanic districts of central and northern Lazio, the Tiberina valley, and the first reliefs of the pre-Apennines mountain range as it approaches the province of Umbria. The generalised geographical framework of central Italy, in which the study area is located, can therefore be said to contain a variety of geographical characteristics, including coastal plains and hilly interiors. The area of the biodistrict is within the influence of the hydrographic network of the Torrente del Trei and the Tiber valley, resulting in a variety of watercourses that penetrate and interact with the volcanic geology of the area. The climate is Mediterranean to subcontinental and continental in parts. Mean annual temperatures are typically

around 14-17 °C and mean annual precipitation rates approximate 620-1000 mm[1]. This currently facilitates incredible natural landscapes and beauty, which in turn has inspired a deep cultural history, signified by the urban planning of the villages, the archaeological remains in the area, the ancient churches, and astounding medieval castles and palaces.

However, the Mediterranean region has proven particularly vulnerable to the effects of climate change, as the region's temperatures have risen faster in the last decades with respect to the global average. Model predictions suggest that in the future the region will become hotter and dryer, with an increasing prevalence of drought and dry spells (Lionello et al., 2014)[2]. The deleterious effects of climate change have already been exhibited in a number of ways throughout Italy. For example, the adverse effects of climate change are exacerbating infrastructure deficiencies throughout Italy, and furthermore exacerbate industrial, agricultural, and municipal pollution issues that have arisen particularly in the wake of the industrial revolution, and may heighten the vulnerability of communities already susceptible to hydro-geological and seismic threats (WHO & UNFWC, 2018)[3]. Regarding future projected trends, the rising temperatures and weather extremes may induce water scarcity and, in fact in 2017, 11 regions, including Lazio, were poised to call on the national government to declare a state of emergency[4]. This water stress could potentially lead to a decline in agricultural production, an inhibition of economic development, and an increase in disasters such as forest fires and desertification. While climate change may impact things like air quality in urban environments, in rural environments it may lead to a reduction in biodiversity, by affecting ecosystem compositions and species richness and abundance.

- **Social and productive environment:** The primary goal of the biodistrictBiodistrict organization is to promote sustainable development at a territorial level where agriculture transformation plays a central role but incorporating all sectors including services and industry. The remit of the organization further includes the thematic areas of sustainable tourism, renewable energy, environmental stewardship, and a promotion of circular economy principles. In order to expedite the realization of these goals, the biodistricto involves the collaboration of a number of local actors, including farmers, local markets, civil society, local public authorities, and relevant actors from the private sector.

  The organic farms in the biodistrict (over 200) provide a large variety of organic produce, including vegetables, wine, oil, chocolate, eggs, hazelnuts, saffron, meat, and cheese. The agricultural and manufacturing sector of the territory in which the biodistrict operates are of

[1] http://www.soilmaps.it/download/csi-BrochureSR_a4.pdf

[2] Lionello, P., Abrantes, F., Gacic, M., Planton, S., Trigo, R. and Ulbrich, U., 2014. The climate of the Mediterranean region: research progress and climate change impacts. *Regional Environmental Change*, [online] 14(5), pp.1679-1684. Available at: <https://link.springer.com/article/10.1007/s10113-014-0666-0>.

[3] WHO & UNFWC, 2018. *CLIMATE AND HEALTH COUNTRY PROFILE: ITALY*. WHO/FWC/PHE/EPE/15.52. [online] Geneva: WHO. Available at: <https://apps.who.int/iris/bitstream/handle/10665/260380/WHO-FWC-PHE-EPE-15.52-eng.pdf?sequence=1> [Accessed 12 July 2020].

[4] BBC News. 2020. *Italian Regions Face Drought Emergency*. [online] Available at: <https://www.bbc.com/news/world-europe-40803619> [Accessed 12 July 2020].

crucial importance at the national level, representing the largest producing area of Italian hazelnuts, and the second for ceramics.

- **Market context:**

  Many of the products from this area are sold in the main markets of Rome or in smaller local markets. Furthermore, direct selling schemes are utilized to distribute items to local families. Given the variety of markets available to local farmers, they are more adaptable to different situations and are more capable of absorbing shocks, such as the COVID-19 crisis. In the COVID crisis period so far, an increase in sales of up to 25% has been reported.

- **Enabling environment for agroecology:**

  As of last year (2019), the Lazio regional authority implemented the law for the Provisions for the regulation and promotion of bio-districts (n.11/2019) which outlines the conditions needed to create bio-districts, and the financial and technical support mechanisms that are required to ensure their viability and development.

  The governance of the biodistrict is facilitated by an Assembly, which constitutes the central decision-making body. It is comprised of Mayors of the participating municipalities, representatives of associated partners, producers, private industry, and local citizens, as well as a Scientific Committee based at Tuscia University and other entities, and an Executive Committee that oversees initiatives in the territory. Furthermore, the regional development authority ARSIAL, which oversees development and innovation in the Lazio region, is also involved

  The biodistrict maintains important links (outlined above) with universities and research centres.

- **Sample for data collection with TAPE:**

  The focus of this study is to understand –and suggest improvements on- how TAPE can be used to help farmers that are concerned about their current situation and that wish to explore the possibility of self-improvement, for which TAPE may serve as a vehicle. As such, it is a qualitative rather than quantitative investigation. Therefore, 17 producers, representing 12 farms, have been interviewed. The farms can be categorized in 3 groups:

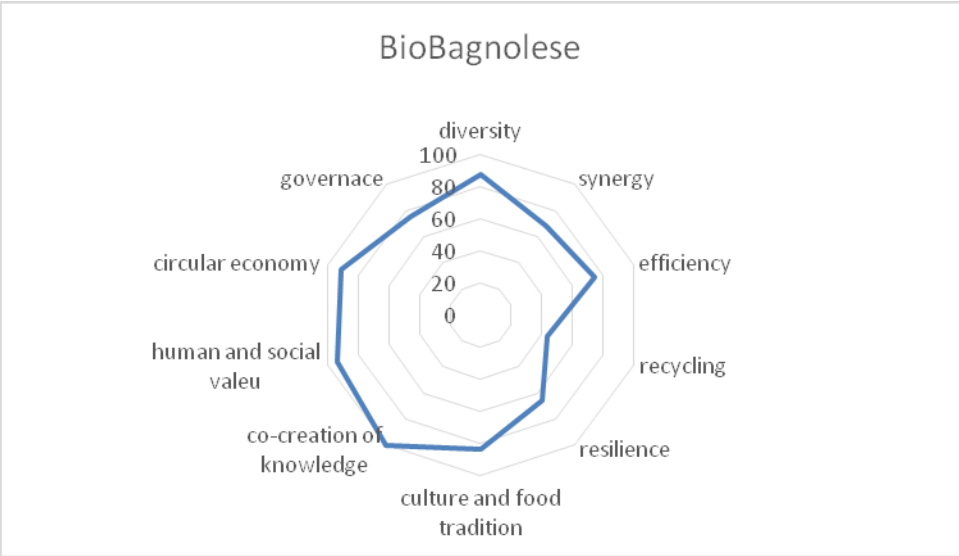
- diversified animal farms
- part-time hazelnuts organic farmers(Cimini hills)
- more diversified hazelnuts farms (Vignanello)

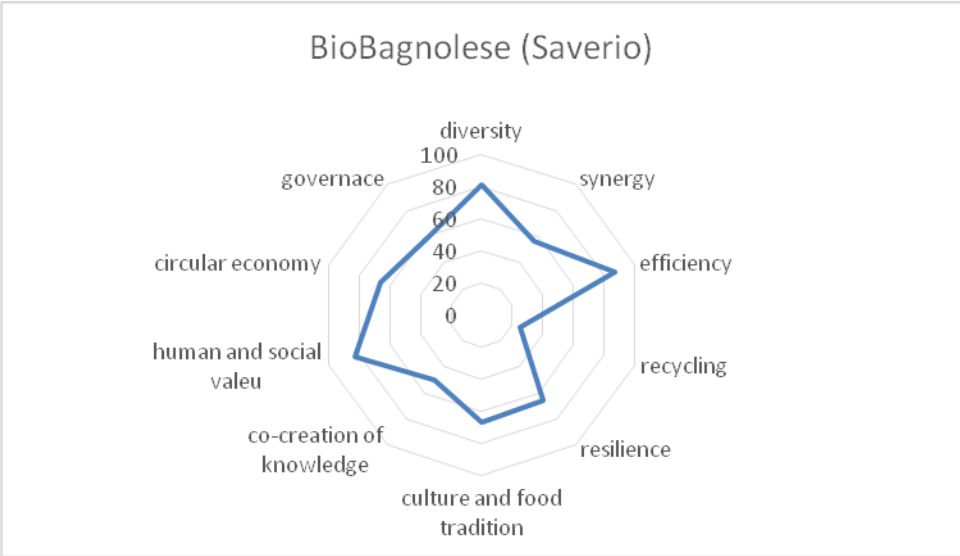
  And a local convent.

Step 1: Characterization of Agroecological Transitions (CAET)

We are presenting here the results of the Step 1 (CAET) in the interviewed farms, for the 3 groups of farms and the convent.

Group 1 Diversified animal farms

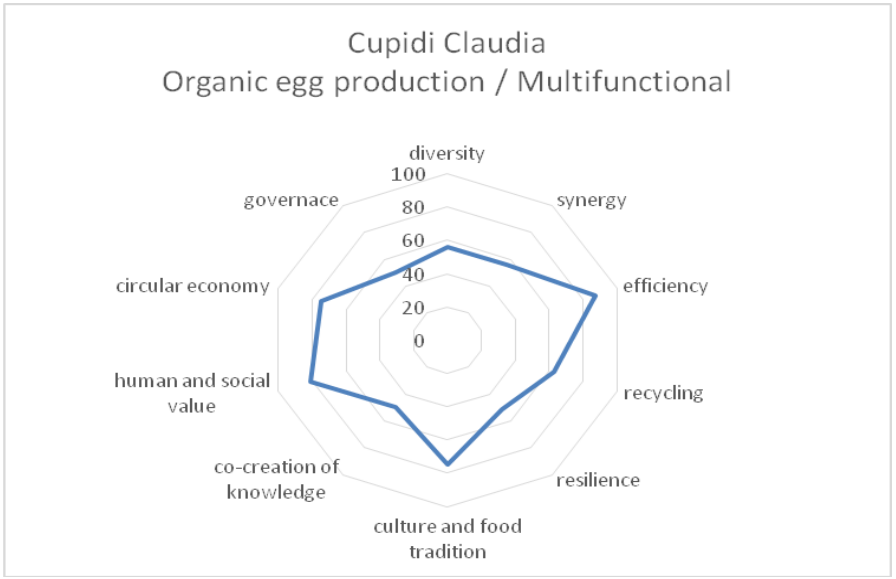


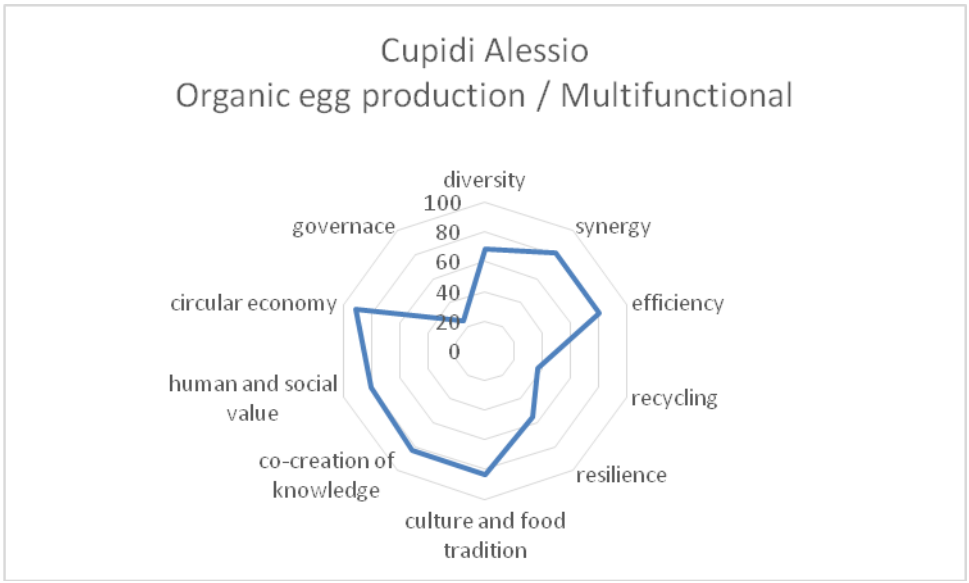


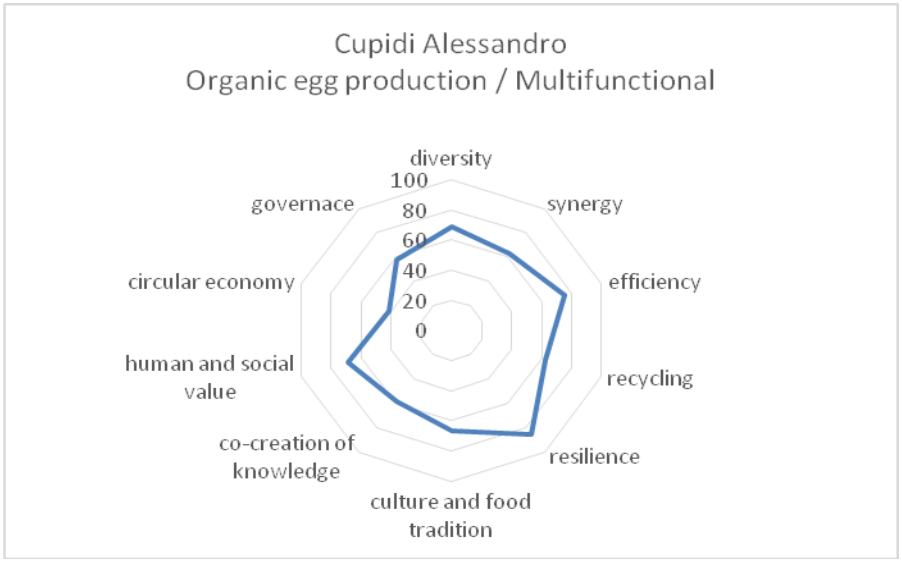
Note on the methodology

The interview at the BioBagnolese (our hosts) has been conducted by the enumerators, as part of the training on TAPE. The problem faced there was the feeling of the farmers to be judged by externals. The production system was indeed assessed by the enumerators and the farmers were giving information's to guide the assessment; they started to justify choices, explaining why the improvements were impossible, feeling assessed as good or bad farmers.

We therefore adapt the methodology to let the farmers directly self-assess (translating the Step 1 questionnaire in Italian).







Note on the methodology

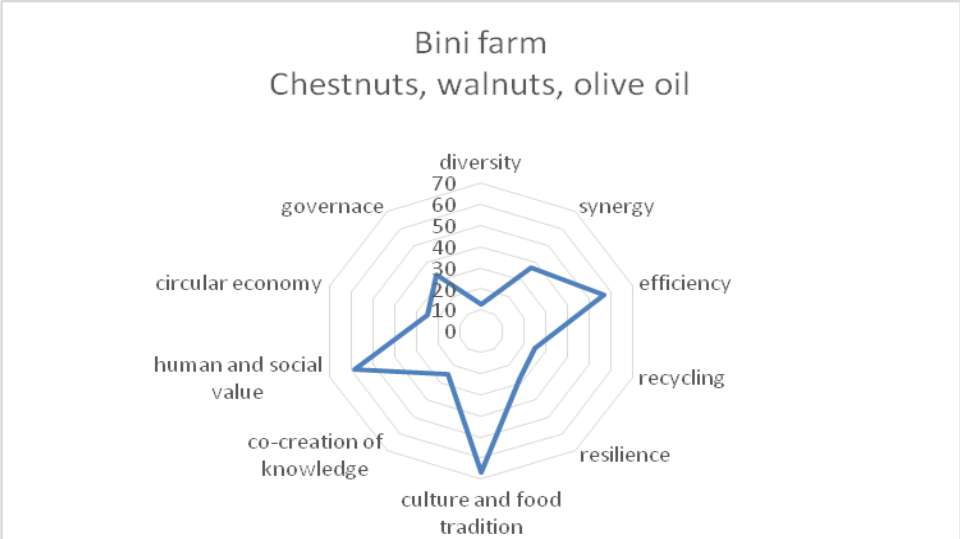
Three members of the family Cupidi answered the questionnaires (Step1), conducting an independent assessment of their own farm.

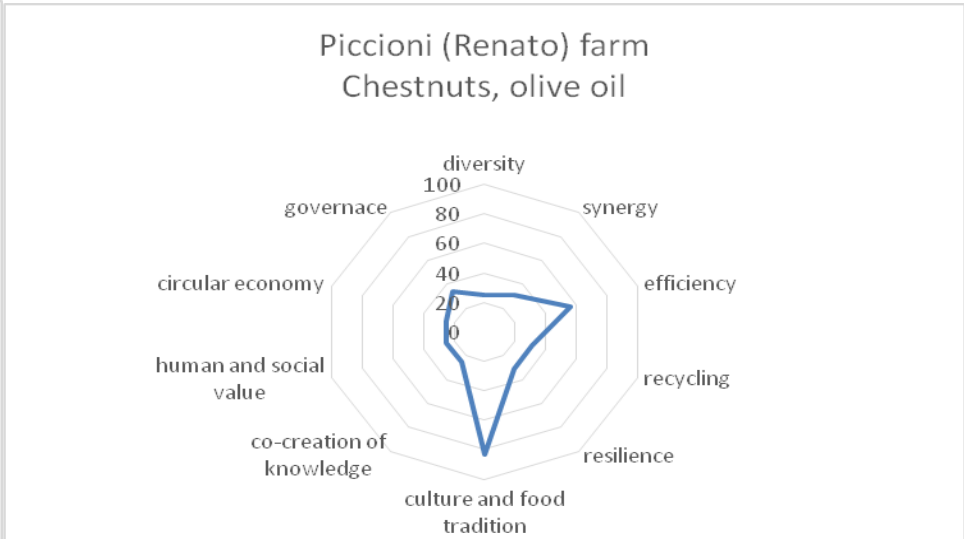
Alessio is the father; Claudia is the daughter and Alessandro the son.

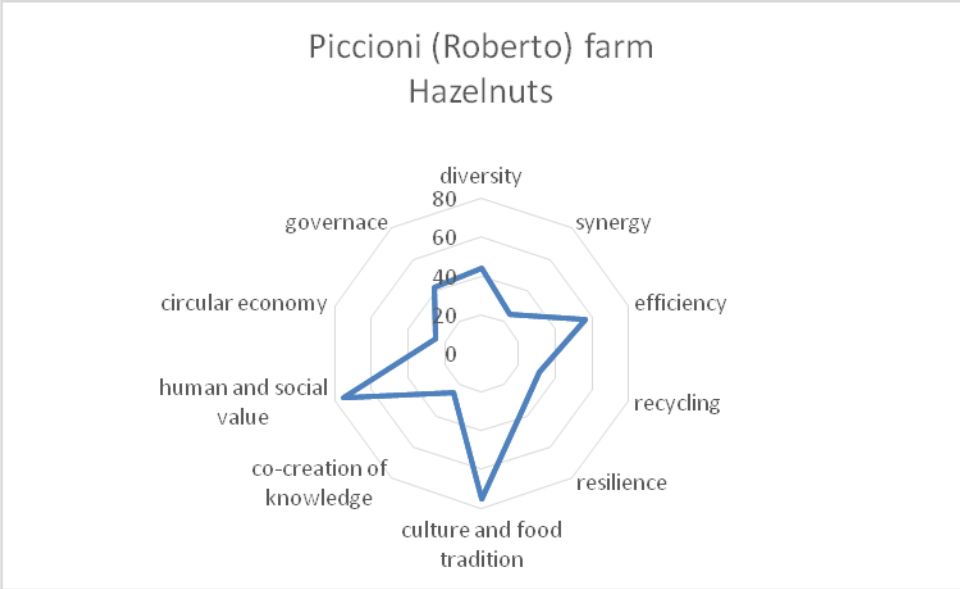
The graphs are quite different following each participant's point of view but also each one interpretation of the TAPE questions. This is why we decided to adapt (again) the methodology: the enumerator will explain de question and invite the participants to self-assess after a clear and common understanding of the question.

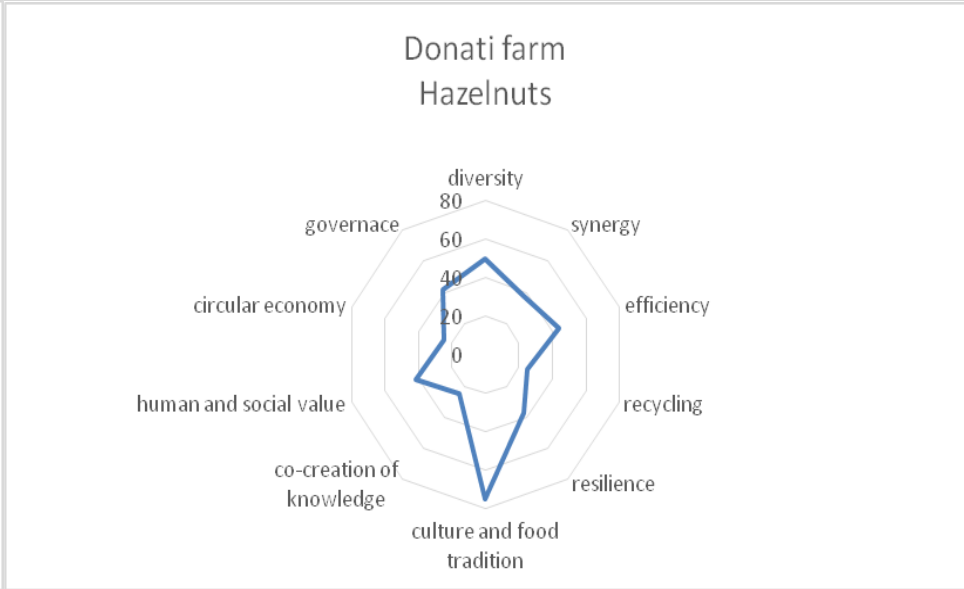
Conclusion for Group 1: This group, where animals are included in a diversified system, is performing better than the other 2. Biodiversity, efficiency and human and social value are strong. Correlated to that, c*ircular economy* and *co-creation of knowledge* is scoring better than in the other groups. The weak point is the governance, which is also the case in the other groups.

Group 2 **Hazelnuts farms (Cimini hills) – organic farms cultivated by one single (and elder) farmer on a part time basis**



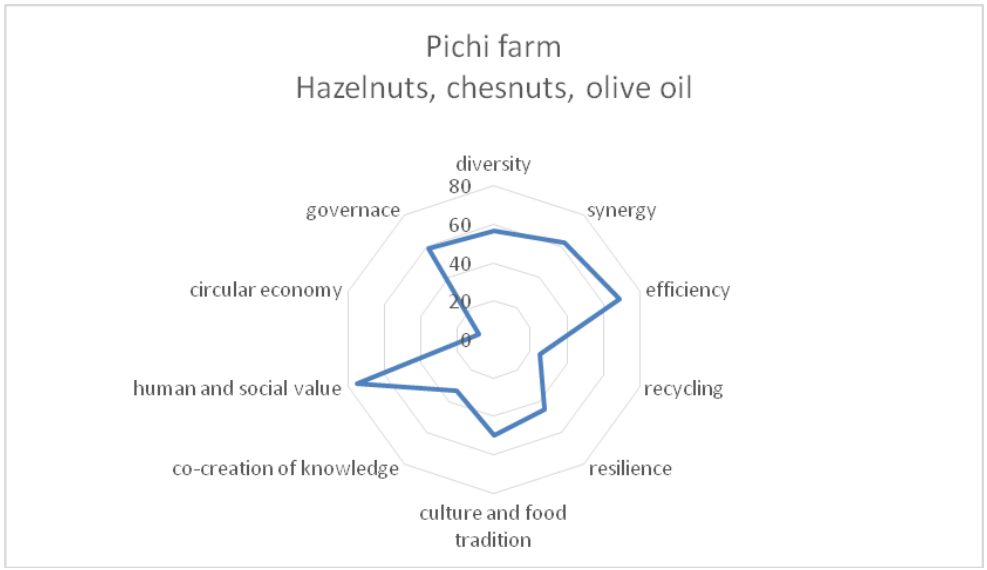


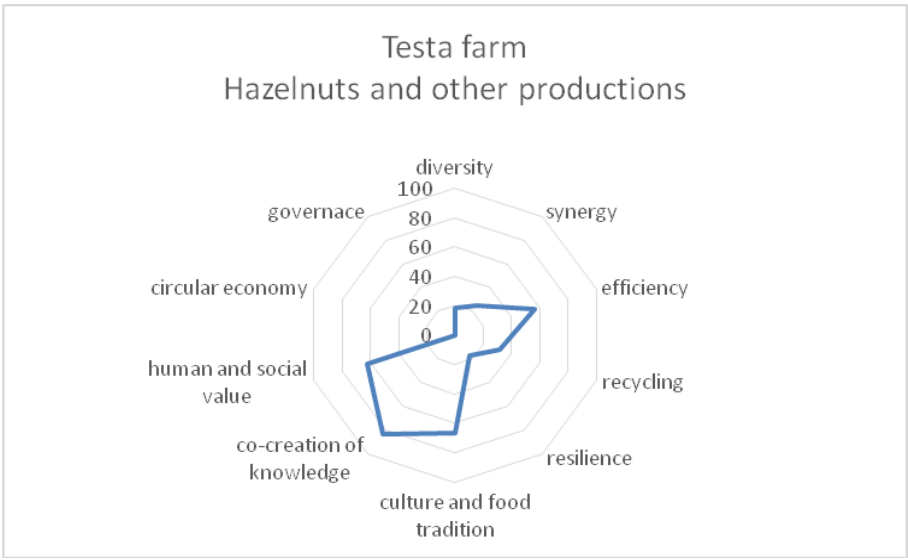


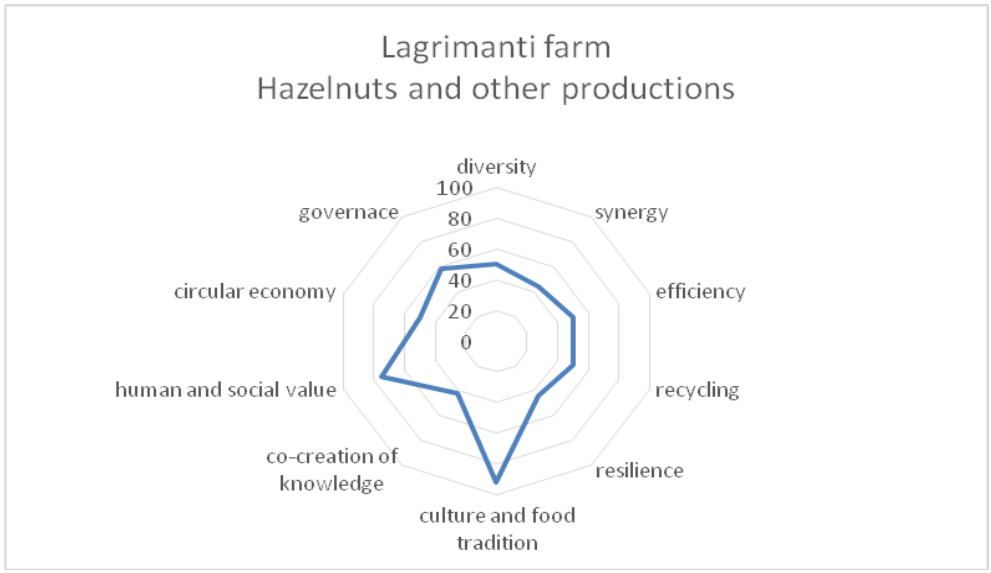


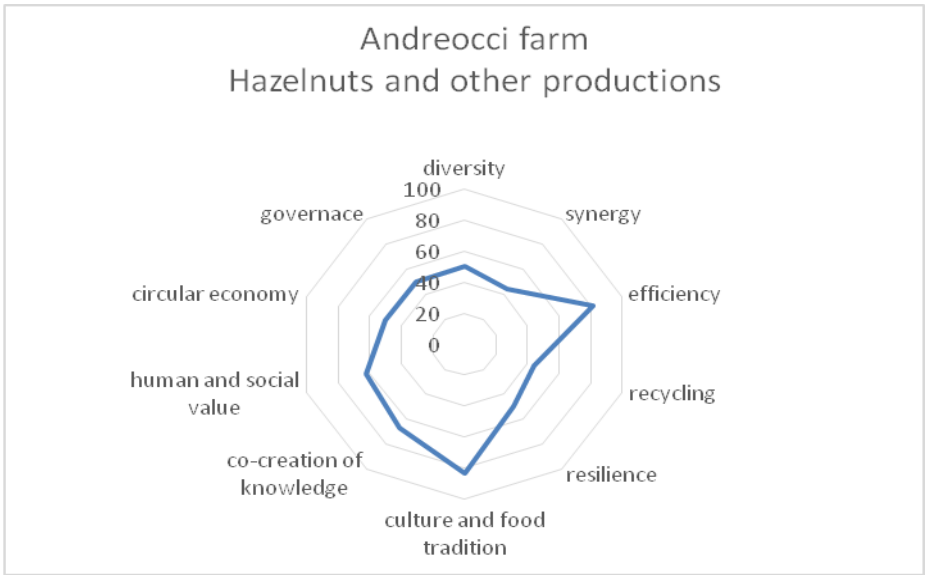
Conclusion for Group 2: Clear tends are showed by these graphs. The average score is low in these monocultures based on nuts production. *Diversity* and *co-creation of knowledge* are very low compared to the other groups. On the other hand, *culture and food tradition* is scoring very high, and *efficiency* is scoring higher than the other elements.

Group 3 **Diversified hazelnuts farms (Vignanello)**









Conclusion for Group 3: There is no clear trend emerging out of this graph, except that the *efficiency* and *culture and food tradition* is scoring relatively high in this group. It generally scores slightly higher than Group 2, and lower than Group 1.

Conclusion

The farms that more diversified and include animals (Group 1) are scoring higher in the Characterization of Agroecological Transitions (CAET); followed by polyculture productions (Group 3). Nuts monoculture production systems (Group 2) show the lowest cumulative scores.

Globally, the farmers interviewed are considering that their production system is part of a society where *culture and food tradition* as well as *human and social values* are relatively high.

At the same time the *governance* is scoring low; which is an expression of the weakness of the organizations in the actual Italian society. The lack of organizations and associations, community of practices and unions (or community of interests) contribute to a poor access to markets and therefore low livelihoods. It is also a key element explaining the lack of *co-creation of knowledge (*knowledge transfer and sharing) within the farmer community in this territory (reminding here that the higher score in *co-creation of knowledge* is to be found in the more sustainable farms).

Step 2: Criteria of performance

The Step 2 of TAPE allows the assessment of the performance of the production systems, regarding 10 core criteria identified out of 5 dimensions of the Sustainable Development Goals. Observing the results of Step 1 and Step 2, we expect to find a positive correlation.

It is the case for the Biobagnolese farm (the only farm having tested the step2 in the biodistrict at the date of this report[5]): having an average CAET score of 80% (Step1), Biobagnolese farm is showing 7 criteria of performance positives and 3 acceptable (and 0 unacceptable).

In part 2, we make comments and observations, explaining also why we did not test this Step more broadly.

Step 3: Participatory analysis of the results

When the interviews had been concluded, a meeting was convened between the farmers who had taken part in the Step 1 test, other local residents, the president of the biodistrict, the FAO and Schola Campesina representatives, and other professionals / a member of the scientific board of the biodistrict, representing competencies in issues such as environmental pollution, governance, local production systems, and other thematic areas. This was an opportunity for this group to discuss the challenges of the territory toward more sustainability (coming back to the Step 0 discussion) and evaluate their thoughts on the results of the TAPE process.

Presentation of the results:

As seen previously, the results of the TAPE test in the biodistrict are highlighting that the more diversified farms that include animals (Group 1) were more "agroecological" as scoring better against the 10 elements on agroecology. Two key elements were indeed much more present in this group of farm than in the others: *circular economy* (direct selling, relashionship of trust with consumers, easy access to fair markets) and *co-creation of* knowledge (capacity to transfer and share knowledge).

Circular economy and co-creation of knowledge are keys for sustainability at farm and community level. Therefore they represent an interesting way for improvement for the other groups.

The territory (and Italy in general) is characterized by the lack of organization / association. The non existence or malfunction in the existing farmers' organizations / associations is a major cause of the poor access to fair market and therefore the low level of livelihoods. Indeed the element *governance* has been considered low by all interviewed farmers.

[5] September 2020

Discussion with the community:

Some of the points that were raised in this meeting, and in the days prior, included the following:

- Regarding governance and solidarity among farmers, and farmers organizations; some farmers expressed concern that 'tragedy of the commons' prevails, with every individual trying to maximize their own individual gain, even at the expense of others. This may be due to people being mainly focused on themselves and their own issues, or due to belief that they know better than others. Even within the discussion this manifested itself in the conviction of some participants that other farmers have a lack of knowledge leading to ignorant decisions that are uncultured. It was also raised as a possibility that, given that people are so busy trying to operate and survive on their own farming business, they cannot find the time to organize with others.

- The production of hazelnut monocultures poses a concern for a number of residents, who worry about the water quality and soil and land quality of hazelnut producing lands subjected to the treatments of synthetic fertilizers and pesticides, and how this might affect the local environmental quality. A lack of knowledge regarding these issues by those engaging in activities that adversely affect the environment is also cited as a crucial problem.

- On small farms they burn or dispose of waste, because they do not see the sense, or do not have the knowledge on how to reutilize it as an input into the system.

- It was stated that farmers in the region perhaps do not have the ability to think in terms of interconnected systems, and only instead think linearly. Therefore, they think of issues or problems in terms of a univariate issues, instead of a holistic multivariate analysis.

- This theme of knowledge transfer was raised in many forms. Other participants said that technical and scientific knowledge from universities and agricultural institutions is not necessarily transferred to farmers, who instead learn more from each other in social settings, including the local bar.

- This ties into a final thematic area that was raised by a number of participants: a distrust of institutional authority. There is distrust that organizations such as the FAO, or politicians in general, have their own agenda that is not made in consultation with farmers, and that in the end is meant to only benefit the institutions rather than the farmers themselves. In this way they are 'left behind' and receive no ingrained protections. Even the biodistrict as an association was questioned as regards to its purpose. Whilst some farmers acknowledge that the biodistrict expresses admirable and noble aims, it has no clear plan or fixed roadmap for how to achieve this, rendering it largely unable to lead people.

Part 2 Comments on TAPE

What follows is issues and concerns that were raised during this process pertaining specifically to weaknesses identified in the TAPE tool:

Feature	**Questions**	**Answers**
Relevant	Did you find the questions relevant for the transition toward agroecology?	Some questions are scoring better particular situations. It should be examined why give preference is given to: o A farm with animals (Biodiversity): is the presence of domesticated animal in a farm, a sign of biodiversity, where wild animals are anyway present in the fields; having in mind that livestock raising implies fodder cultures which are often grown as monocultures. o A farm with water equipment. As discussed collectively, "practices" should be prioritized over "equipment". o A farm that meet all household's needs: poverty is making one score low
Relevant	Did you find the questions relevant to your context?	Regarding the question "Participation of producers in networks and grassroot organizations", we need to find an answer allowing to say that "producers have the knowledge but not the capacity to share"The importance of part-time producers is not captured by the TAPE process. Part-time producers provide a valuable and appreciable agricultural output, and yet the wording of certain questions (**Productivity and household's needs)** means that they often score zero, even if relatively efficient.
Relevant	What key information should be collected and are not in the actual TAPE?	• The loosing of knowledge between generations (in co-creation and sharing of knowledge / culture & food tradition) • Digitalization and control on data • We mentioned during the process and during the consultation with Barbara Vitali that she may score low on certain criteria, but that this score is not dependent on her, as she is constrained by laws and

		regulations. Therefore, it could be relevant to introduce an indicator that measure *intention* to transition to agroecology. The *willing to change* is a crucial factor in any transition, allows for the constraints (local laws, financial resources, exclusive governance etc.) to be accounted for, and furthermore would allow a correlation and regression analysis of the most important predictor variables on a person's intention to transition to agroecology. • On the solidarity and circular economy principles of step 1, the indicators exclusively measure the degree to which local food systems are in place, through local food networks, marketing products locally, and maintaining a local food system which is preferably self-sufficient. It is clear how this fits in with the idea of 'solidarity economy' but it is unclear and not sure that circular economy is captured in these indicators[6].
Meaningful	Does the creation of this tool make sense for you?	Step 1 is definitely a useful tool, user-friendly, providing direct clear results and showing areas of improvements. Step 2 makes sense in order to validate agroecology. However, the questionnaire is too much production-orientated, missing key social elements of agroecology. The conceptual framework is multi-dimensional but the questionnaires are not reflecting well the governance (including control on food chain, control on data). On a more practical side, it's not easy to use (time consuming, not user-friendly, requiring a lot of data,...). The data required to complete step2 are possibly already available in some public database (of the CAP for instance).
Understandable / Applicable	Was it easy to understand the questions? Or you often had doubts on the original meaning?	The questions were often interpretable, this is why we described in details the questions to the participants and continuously report our doubts to the questionnaires designer.

[6] If we follow the idea of the European Commission's waste management hierarchy, a circular economy is envisioned in the first steps by the reduction of waste production, and the replacement of traditional systems by eco-friendly ones, and in the later stages encompasses recycling and, as a circular economy necessitates that waste products are instead reconceptualized as a resource to be utilized. An example of this might be the repurposing of agricultural waste products to be used as organic fertiliser.