GI Products Based on Agrobiodiversity Resources: Which Quality Signs?

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Scope and Aim of the Research

• **SCOPE** Products based on neglected or underutilized landraces, which give them specific quality characteristics and their reputation, and bearing the name of the territory they come from.

• **AIM** Understanding the role of PDO-PGIs and other quality signs as potential tools for the recognition and protection of landrace-based GI products, towards the development of sustainable localized agrobiodiversity-oriented food systems (ABOFS).
Evolving literature and institutional contexts

- Enhancing agrobiodiversity potential for food systems transition (e.g., SDGs, CBD, FAO Treaties, EU Green Deal, Biodiversity 2030, Food2030, etc.)

- Fostering neglected or underutilized landraces conservation, sustainable use, fair and equitable sharing of benefits, as the basis of a new paradigm of agricultural sustainability and territorial development

Ongoing debate

- Understanding how GI agrobiodiversity products can favor the preservation of endangered local genetic and related cultural resources

- Identifying limits and potential of adoptable quality signs in supporting a coherent and collective management of landraces and derived products towards the development of sustainable ABOFS

(Chable et al, 2020; Vermunt et al., 2020; Lalitha and Vinayan, 2018; Santilli, 2012)
Agrobiodiversity-oriented food systems as **SES**: a holistic model

Identify the **assets**, **drivers**, **action processes**, and **multiple beneficial effects**, concerning the development and reproduction of **landrace-based quality virtuous valorization circles**

(Scaramuzzi et al., 2021)
Methodology: comparative case study analysis

illustrative and representative cases of 3 localized agri-food systems of threatened plant genetic resources of Tuscany (Italy), registered in:

- Regional Repertories of local breeds and varieties (LR 64/2004)
- National Registry of biodiversity for agriculture and food (L 194/2015)

(Yin, 2012; Poteete et al., 2010; Seawright and Gerring, 2008)
Methodology: PAR approach

• Participatory-Action Research (PAR) approach, by actively involving private and public stakeholders operating at different institutional levels

• Qualitative methods of data collection and analysis
  ✓ Literature review and secondary data collection (purposeful sampling)
  ✓ In-depth interviews with key informants (open ended form, purposeful snowball sampling)
  ✓ Narrative framing and conceptualization
  ✓ Final focus group for sharing, validation, and future planning

(Bergold and Thomas, 2012; Baum et al., 2006; Patton, 2002; Pretty, 1995; Chambers 1994)
Results

Characterization of public-private initiatives for threatened local genetic resources recovery, conservation, and valorization:

• Identification of landraces name, specific qualities, and territorial linkages

• Activation of networks of Custodian farmers and Germplasm Banks for publicly controlled conservation, and local cultivation restoration

• GI agrobiodiversity products qualification and fair remuneration in both landrace-based niche markets and larger scale-integrated supply chains:
  • Allocation
  • premium prices
<table>
<thead>
<tr>
<th>GI product</th>
<th>Quality signs and marketing strategies</th>
<th>Governance settings</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Valtiberina Red Onion</strong>&lt;br&gt;(1 endangered variety typical of the area of Valtiberina)</td>
<td>• Dedicated <strong>logo and claim</strong>&lt;br&gt;• Reference to the variety in the sales denomination difficult to trace and document</td>
<td>Informal agreements among custodian farmers and supply chain operators</td>
</tr>
<tr>
<td><strong>Maize Formenton Ottofile of Garfagnana</strong>&lt;br&gt;(1 endangered variety typical of the area of Garfagnana)</td>
<td>• <strong>Collective mark</strong> elaborated, but not effective (other valorization networks)&lt;br&gt;• Reference to the variety in the sales denomination difficult to trace and document</td>
<td>Fragmented (plurality of initiatives, individual and collective, not involving custodians)</td>
</tr>
<tr>
<td><strong>Cherry of Lari</strong>&lt;br&gt;(13 endangered varieties typical of the area of Lari)</td>
<td>• National Register for the commercialization of fruit varieties&lt;br&gt;• Application for a <strong>PGI</strong> <em>(ongoing process)</em></td>
<td>Formal (Protection Committee, including custodians)</td>
</tr>
</tbody>
</table>
Discussion (1/2)

- **Collective GI initiatives** favour the **market appreciation** and **fair remuneration** of **landrace-based products**, thus **incentivizing** endangered genetic and cultural resources conservation.

- **Multistakeholder governance settings** are essential for the implementation of GI agrobiodiversity products valorization strategies.

- **Different quality signs and marketing tools** can be adopted, intended to a balanced satisfaction of all the interests at stake.

**OPPORTUNITIES**

- **Lack of effective public tools** for GI agrobiodiversity products qualification (new opportunities of the Italian National L 194/2015 to be implemented).

- **Lack of local actors capability** of identifying and implementing quality signs (need of major public support).

- **EU PDO-PGIs appear too costly** for the protection of GI products based on low marketable landraces and involving small-scale supply systems (tailored qualification is needed).

**LIMITS**
Valuing the adoption of different quality signs and collective marketing strategies, in accordance with the level of GI agrobiodiversity products market potential and characteristics of related ABOFS.

High marketability and capacity of upscaling

- EU and National Registries for “conservation varieties” seed commercialization (traceability)
- EU PDO-PGIs

Low marketability and small-scale

- Participatory Guarantee Systems (PGS)
- Collective marks (committees, associations)

Landraces with no current market value

- New Public National Mark of “custodian farmers” (ongoing discussion) for the valorization of conservation efforts and subsequent medal effect
Conclusions

Our research aims to corroborate the role of market valorization through GIs related quality signs in biodiversity-oriented food systems agro-ecological transition and for a inclusive and sustainable territorial development.

We think further public and private efforts are needed for RIPE:

- **Research** - ABOFS characterization and analysis
- **Innovation** - Innovating quality signs for GI agrobiodiversity products
- **Policy** - Enhancing public valorization tools and support mechanisms for fairly remunerating and incentivizing collective conservation and valorization initiatives
- **Education** - Specific technical support and capacity building approaches for empowerment
Thank You!
References


References


Concluding Remarks

Agricultural GIs and agro-biodiversity are two sides of the same coin as both converge on the points of conservation and GI goes further with market returns. Therefore, ensuring conservation of agro-biodiversity and protecting them with GI would help the farmers with multiple benefits. GI should not be viewed as a standalone factor, but should be viewed as a developmental tool intertwined with other programmes like rural development, environment protection and agro-biodiversity conservation. However, efforts should not stop with identification of GIs alone but should have market strategies and also focus on value addition. Agro-biodiversity conservation efforts of farmers should be recognised with incentives.


However, we claim that sustainability transitions in the agri-food sector to enhance biodiversity deviate from other sustainability transitions (e.g. socio-technical transition dynamics in the mobility and energy sector) due to the central role of ecology. Two key characteristics, i.e. the place-based dependencies of agricultural systems and the public goods’ character of biodiversity, shaped dynamics of change in the agricultural sector in various ways:

1. Due to the place-based embeddedness, change is dependent on the engagement of a significant number of landowners who are part of existing regimes. These regime actors often need to be enabled and incentivized to partake in the transition process. These incentives come from exogenous sources of novelty. In our case, NGOs play a prominent role in developing incentive systems.

2. Including biodiversity and the protection of nature shapes transition dynamics in the sense that there is a strong focus on the development of incentive mechanisms due to the public goods’ character of biodiversity. Even when biodiversity-friendly niche practices break through to the regime in the agricultural sector, it is unlikely that they will be competitive at scale without continued incentives. Innovation in our case is thus less likely to lead to reduced costs compared to previous studies on the energy and mobility domain. Therefore, there is a high dependence on processes of institutional change that create financial incentives. The search process for new business models that, on the one hand lead to nature conservation and on the other hand, lead to income for landowners is key in this transition process.

3. Agricultural landscapes show large geographical, biophysical and ecological variation. The place-based character of novel agricultural practices implies that these practices cannot be scaled across different geographical regions without adaptations to local ecological circumstances. The spatially sticky character of solutions depend on the environmental conditions, thus there is a need for a specific fit between social-ecological conditions and innovation. This not only holds for novel agricultural practices, but also for the institutional conditions that incentivize these novel practices. The place-based character of both practices and institutions is likely to lead to complex scaling dynamics, perhaps more than in energy and mobility sustainability transitions that have been frequently studied.

This study could also contribute to neighboring fields studying sustainable transformations in the context of ecosystem conservation (e.g. social-ecological systems, transformative adaptation and sustainable pathways (Olsson et al., 2014; Moore et al., 2014; Westley et al., 2011; Patterson et al., 2017)). Studying these transformations from different scientific lenses is valuable as it can
However, it is important to consider that not all agrobiodiversity products have great commercial and economic potential, despite their high environmental, social, and cultural value, and that policies aimed at differentiated insertion of agrobiodiversity products in the market will always have limited impact, and should be only part of broader public policies for agrobiodiversity conservation and use.

SANTILLI, 2012 “Geographical Indications for Agrobiodiversity Products: case studies in France, Mexico and Brazil”

Agroecology at its most basic, is the application of ecological principles in agriculture. This is a complex concept, however, because both agriculture and ecology are dynamic fields, undergoing rapid change in response to mounting evidence that the global food system is unsustainable because agriculture, as currently practiced, is a major driver of climate change\(^1\) and the breaching of other planetary boundaries.\(^2\) Ecology refers both to a scientific discipline\(^3\) and to political movements concerned with protection of the environment.\(^4\) Agriculture is a subject focus rather than a scientific discipline, encompassing the set of practices through which people produce food to which various scientific disciplines are applied.\(^5\) Agroecology encompasses all of this complexity.

Although ecological science began as a subdivision within biology, it has more recently emerged as an interdisciplinary field with many different branches, including political ecology,\(^6\) many of which link biological, physical, and social sciences. Agriculture is also evolving, with an increasing realization that it is often not useful to separate production of food from other aspects of whole agri-food systems\(^7\) that embrace the production and consumption of food and all that is involved between these two events along food chains.\(^8\) This includes considering the multifunctionality of agriculture with respect to the full range of ecosystem services, such as water yield and quality, pollination, and biodiversity conservation, as well as food production, that are derived from agroecosystems.\(^9\)

Agroecological approaches involve the application of integrated ecological, economic and social principles to the transition of smallholder farming systems, towards greater resilience. This involves adapting 13 generic agroecological principles to local circumstances.

These trends in ecology and agriculture come together in an emerging transdisciplinary focus on understanding and managing coupled social-ecological systems.\(^4\) A key reason agroecology is gaining traction in the discourse on adaptation is that it is perceived to bridge ecological and social dimensions associated with development of resilient food systems in the face of climate and other global change.\(^11\) Today, agroecology embraces science, a set of practices, and a social movement,\(^12\) as well as the integration of these three elements to design and implement more sustainable food systems. In practice,

13 principles of Agroecology

1. Recycling
   Preferentially use local renewable resources and close as far as possible, resource cycles of nutrients and biomass.

2. Input Reduction
   Reduce or eliminate dependency on external inputs.

3. Soil Health
   Secure and enhance soil health and functioning for improved plant growth, particularly by managing organic matter and by enhancing soil biological activity.

4. Animal Health
   Ensure animal health and welfare.

5. Biodiversity
   Maintain and enhance diversity of species, functional diversity and genetic resources and maintain biodiversity in the agroecosystem over time and space at field, farm, and landscape scales.

6. Synergy
   Enhance positive ecological interaction, synergy, integration, and complementarity among the elements of agroecosystems (plants, animals, trees, soil, water).

7. Economic Diversification
   Diversify on-farm incomes by ensuring small-scale farmers have greater financial independence and value addition opportunities while enabling them to respond to demand from consumers.

8. Co-Creation of Knowledge
   Enhance co-creation and horizontal sharing of knowledge, including local and scientific innovation, especially through farmer-to-farmer exchange.

9. Social Values and Diets
   Build food systems based on the culture, identity, tradition, social and gender equity of local communities that provide healthy, diversified, seasonally, and culturally appropriate diets.

10. Fairness
    Support dignified and robust livelihoods for all actors engaged in food systems, especially small-scale food producers, based on fair trade, fair employment, and fair treatment of intellectual property rights.

11. Connectivity
    Ensure proximity and confidence between producers and consumers through promotion of fair and short distribution networks and by re-embedding food systems into local economies.

12. Land and Natural Resource Governance
    Recognize and support the needs and interests of family farmers, smallholders, and peasant food producers as sustainable managers and guarantors of natural and genetic resources.

13. Participation
    Encourage social organization and greater participation in decision-making by food producers and consumers to support decentralized governance and local adaptive management of agricultural and food systems.
Agroecology and agrobiodiversity
Caratteristiche del prodotto

• **Caratteristiche morfologiche** distintive

• **Caratteristiche agronomiche:**
  - Rusticità e buona capacità di adattamento ai contesti montani
  - Scarsa produttività rispetto agli ibridi

• **Valore culturale e simbolico:** è parte della cultura agricola, ed è percepito come prodotto emblematico della Garfagnana e della Media Valle

• Connessioni con la **gastronomia locale**, utilizzo per la preparazione di piatti tipici (polente, biscotti ....)

• Iscritto nell’elenco dei **Prodotti Agroalimentari Tradizionali**

• **Proprietà nutriceutiche:** alto contenuto in fenoli, flavonoidi e carotenoidi (studio UNIPI 2012)
Il sistema di conservazione

- Ruolo della Comunità Montana (attiva dal 1976 per la tutela dell'agrobiodiversità locale)
- Dal 2008: Sezione della BRG presso il Centro la Piana
- 5 Coltivatori custodi, 2 tipologie: Tradizionale (memoria) vs Dinamica (innovazione)
- Rete di conservazione
- Altri utilizzatori

In sostanza emergono due sistemi: da una parte quello della rete di conservazione e sicurezza che raggruppa nel complesso una decina di aziende, dall'altra quello delle aziende che coltivano Formenton Ottofile ottenuto prevalentemente da sementi riprodotte o autoriprodotte da soggetti al di fuori del sistema della Rete di conservazione.
La valorizzazione

- **2003**: Comitato di Tutela del Formenton Otto file Garfagnana e marchio (Statuto e disciplinare e marchio ad uso degli aderenti)

- **Poi costituito in Associazione** (con nuovo marchio registrato a UIBM nel 2008 e 2021 e disciplinare), non partecipano custodi

- **5 Coltivatori Custodi**: canali individuali

- **Tre iniziative** con perno su mulini locali, basate su reti stabil di coltivatori ma senza legami con la BdG
  - Prevalenza del mercato locale, vendita diretta a privati, ristorazione

- **Premio di prezzo** significativo
  - **Domanda** in crescita
Un caso particolare...

Tenuta di un piccolo sistema produttivo la cui reputazione è basata sulle varietà locali. Un caso particolare:

- per la presenza di **tredici varietà** locali a rischio di estinzione, iscritte sia nel Repertorio Regionale che nel Registro nazionale delle varietà delle piante da frutto Mipaaft, coltivate in un territorio geograficamente molto circoscritto all’interno di un sistema “storico” di produzione

- 19 varietà (13 + 6) iscritte al registro PAT

- Per la **diversità interna a queste varietà** (e del rischio di estinzione):
  - Varietà locali ancora valide anche per i mercati moderni (varietà a polpa dura e di discreta pezzatura);
  - Varietà più adatte alla vendita diretta e alla trasformazione (varietà a polpa morbida, piccola dimensione del frutto)
  - Varietà ritenute invece ormai poco adatte per la valorizzazione commerciale.

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### Varietà locali degli associati al Comitato per la Tutela e Valorizzazione della ciliegia di Lari, anno 2017

<table>
<thead>
<tr>
<th>Varietà locale</th>
<th>n. pianta</th>
<th>% su locali</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marchiana</td>
<td>242</td>
<td>48%</td>
</tr>
<tr>
<td>Usigliano</td>
<td>52</td>
<td>10%</td>
</tr>
<tr>
<td>Cuore</td>
<td>37</td>
<td>7%</td>
</tr>
<tr>
<td>Gambolungo</td>
<td>35</td>
<td>7%</td>
</tr>
<tr>
<td>Crognola</td>
<td>28</td>
<td>5%</td>
</tr>
<tr>
<td>Siso</td>
<td>28</td>
<td>6%</td>
</tr>
<tr>
<td>Di Giardino</td>
<td>22</td>
<td>4%</td>
</tr>
<tr>
<td>Morella</td>
<td>21</td>
<td>4%</td>
</tr>
<tr>
<td>Papalina</td>
<td>14</td>
<td>3%</td>
</tr>
<tr>
<td>Di Nello</td>
<td>13</td>
<td>3%</td>
</tr>
<tr>
<td>Precoce di Cevoli</td>
<td>11</td>
<td>2%</td>
</tr>
<tr>
<td>Di Guglielmo</td>
<td>5</td>
<td>1%</td>
</tr>
<tr>
<td>Morellona</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td><strong>Totale</strong></td>
<td><strong>566</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

*Fonte: Comitato per la Tutela e Valorizzazione della ciliegia di Lari*
In ogni caso, proprio per permetterne la riproduzione e la commercializzazione, tutte le tredici varietà di ciliegio di Lari iscritte al Repertorio Regionale sono state iscritte nel 2012 anche al Registro nazionale per la commercializzazione delle varietà delle piante da frutto e dei portainnesti (nella categoria varietà con descrizione ufficialmente riconosciuta), che infatti riporta numerose varietà di piante da frutto “di interesse locale”. Dal ottobre 2012 l’iscrizione di nuove varietà fruttifere al registro potrà avvenire solo con una descrizione completa e confermata dai test DUS (Distinguibilità, Uniformità e Stabilità), e quindi l’iscrizione di varietà di interesse locale dovrà seguire le stesse procedure previste per l’iscrizione di una qualsiasi varietà fruttifera (in particolare l’obbligo di test con prove di campo e due fruttificazioni per verificare se la varietà è distinta, uniforme e stabile), non essendo prevista per i fruttiferi, al contrario di quanto accade per le sementi di specie erbacee, una sezione speciale destinata all’iscrizione di “varietà da conservazione” che preveda procedure meno gravose per l’iscrizione al registro.

È in corso di valutazione la previsione anche per le specie fruttifere di una sezione del Registro (o un nuovo registro specifico) con descrizioni varietali semplificate e/o con tolleranze maggiori sui test e restrizioni alla commercializzazione (areale, quantità), così come già avviene per il settore delle sementi di specie erbacee. In questo modo molte varietà locali potrebbero essere registrate ufficialmente senza sostenere eccessivi oneri finanziari128 facilitando la conservazione delle varietà in via di estinzione come è avvenuto con le sementi.
Un caso particolare

Questa diversità delle varietà locali si riscontra anche all’interno del minore o maggiore uso di queste varietà all’interno delle imprese cerasicole locali.

Volendo sintetizzare e semplificare:

- **Imprese di media dimensione** orientate ai canali moderni (mercati all’ingrosso, GDO) non sembrano interessate alle «vecchie varietà» (con un paio di eccezioni)

- **Imprese di piccola-media dimensione** orientate a canali innovativi (vendita diretta, mercati contadini, GAS, trasformazione aziendale) che invece puntano sulle varietà locali → coltivatori custodi

- **Piccole aziende non imprese**: hobbisti, part-time, cittadini, che spesso prediligono le varietà locali per «passione e tradizione». Questo a sottolineare la funzione identitaria e sociale della ciliegia a Lari

- **Wholesale market (informal agreements)** → restaurants and retail
- **GDO (cooperative)**
- **Sagra della Ciliegia, direct sales + processing (in farm)**
I coltivatori custodi, e oltre

Attualmente sono 7 i coltivatori custodi, e coprono quasi per l’intero il panorama delle varietà locali.

Si tratta perlopiù di aziende di dimensione contenuta, specializzate nella produzione di frutta dove la ciliegia rappresenta una parte importante (maggiore del 50%) dell’attività.

Le varietà locali sono presenti anche presso coltivatori non custodi, anche se in misura inferiore, e la loro attenzione è focalizzata soprattutto sulle varietà a polpa dura (tipologia durone), quali la Marchiana.

Un’indagine 2017 sulla maggior parte dei produttori agricoli aderenti al Comitato (tra cui coltivatori custodi) mostra come su circa 2.000 piante dichiarate, circa il 30% era costituito da varietà locali.
Iniziative di valorizzazione

Ulteriore aspetto di interesse è dato dalla numerosità delle iniziative di valorizzazione che, negli ultimi quindici anni, sono state portate avanti dal Comitato per la Tutela e Valorizzazione della Ciliegia di Lari (2003)

- Sagra delle ciliegie (63° edizione 2019)
- Progetto trasformazione (Regione Toscana) – impianto collettivo per la trasformazione in confettura
- Lari Città delle Ciliegie
- Scuole primarie e secondarie del territorio
- Università e progetto recupero varietà locali
- Richiesta dell’IGP
- Iniziative coi ristoranti locali
Richiesta dell’IGP

*La richiesta di IGP Ciliegia di Lari è stata presentata nel corso del 2018: sia nella relazione storica che nella relazione tecnica l’importanza della presenza di varietà locali e della cultura del ciliegio nel territorio è un elemento più volte sottolineato per la dimostrazione del legame tra qualità/reputazione e origine territoriale.

Art. 2. - Caratteristiche del prodotto

Per la produzione della «Ciliegia di Lari» e' consentito anche l'utilizzo di altre cultivar di ciliegio derivanti dalla ricerca varietale, a condizione che ne sia dimostrata, attraverso prove sperimentali e documentali, la conformità del metodo di ottenimento e delle caratteristiche qualitative del frutto al presente disciplinare di produzione. L'utilizzo di queste cultivar per la produzione della «Ciliegia di Lari» deve essere preventivamente comunicato e valutato dal Ministero delle politiche agricole alimentari e forestali che ‘potra’ acquisire allo scopo il parere tecnico dell'organismo di controllo o di altro soggetto.
Richiesta dell’IGP

Art. 2. - Caratteristiche del prodotto (cont.)
L'indicazione geografica protetta «Ciliegia di Lari» all'atto dell'immissione al consumo deve rispondere alle seguenti caratteristiche:

- Caratteristiche qualitative: Sapore naturalmente dolce e fruttato; Frutti provvisti di peduncolo; Gradi brix non inferiori a 14°.
- Calibro - I frutti destinati al consumo fresco devono avere un calibro minimo di 22 mm, **fatti salvi i frutti appartenenti alle varietà autoctone e tradizionali per i quali è ammessa una pezzatura minima di 13 mm.**
- Caratteristiche sanitarie ed estetiche dei frutti: integri, senza danni; puliti, privi di sostanze estranee visibili; sani, esenti da marciumi e da residui visibili di prodotti fitosanitari; esenti da parassiti.

Direct sales by custodians and other users (farm, local traditional markets)

Collective production and marketing strategy (3 custodian farmers): indirect sales (small retailers, GDO, processors, Horeca), logo, packaging

Other promotion initiatives by local actors (events, markets, interviews)

Diffuse willingness among local supply chain actors to participate in collective marketing strategies and integrated supply chain projects
The Valtiberina Red Onion conservation and valorization system
<table>
<thead>
<tr>
<th><strong>PRIVATE GOODS AND SERVICES</strong></th>
<th><strong>PUBLIC GOODS AND SERVICES</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Agrobiodiversity food products valorizing the Valtiberina Red Onion use and identity attributes</td>
<td>Recovery and uniform characterization of the Valtiberina Red Onion threatened local genetic resource and related traditions</td>
</tr>
<tr>
<td>On farm didactic activities and hospitality services</td>
<td>Landrace denomination and identification as part of the Tuscany specific agrobiodiversity assets and common territorial capital (public repertories)</td>
</tr>
<tr>
<td>By-products (re-usable waste; natural pigments; natural fertilizers)</td>
<td>Valtiberina Red Onion pure seed publicly controlled conservation and local circulation and cultivation (public guarantee on the landrace securing and collective property rights)</td>
</tr>
<tr>
<td>Preservation, renewal and enhancement of local farmers’ natural, cultural and social assets</td>
<td>Preservation and enhancement of the landrace specific traditional rural landscape, agricultural practices and typical food (non-food) uses and consumption habits</td>
</tr>
<tr>
<td>Agri-food products valorizing the use and distinctive qualities of other plant species used by local farmers for the onion four-year crop rotation</td>
<td>Contribution to the maintenance and enhancement of the quality of soil, air and water in the Valtiberina Red Onion legally admitted zone of conservation and cultivation (the locally adapted and resistant variety and sustainability-based market trends favor the onion extensive cultivation)</td>
</tr>
<tr>
<td></td>
<td>Enhancement of local farmers and supply chain actors’ knowledge over the landrace, related traditions and its specific market potential and territorial linkage</td>
</tr>
<tr>
<td></td>
<td>Valtiberina Red Onion based products role as experience goods and services: contributing to consumers entertainment, educating them on agrobiodiversity values and critical conservation aspects, increasing their emotional involvement and responsible buying behavior</td>
</tr>
<tr>
<td></td>
<td>Contribution to the enhancement and reproduction of the Tuscan Valtiberina specific social capital</td>
</tr>
<tr>
<td></td>
<td>Valtiberina Red Onion food production contribution to higher consumers health and safe nutrition (distinctive food and nutritional functions)</td>
</tr>
</tbody>
</table>
Table 1. The Valtiberina Red Onion case study data sources.

<table>
<thead>
<tr>
<th>Primary data sources</th>
<th>Affiliation</th>
<th>No. of interviewees</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Ministry of Agricultural, Food and Forestry Policies (Italy)</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Tuscany Region Offices</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Custodian farmers</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>Other local farmers involved in the Conservation and Security Network</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Germplasm Bank</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Local processors</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Local restaurants</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Research centers</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Secondary data sources</th>
<th>Description of data sources</th>
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</thead>
<tbody>
<tr>
<td>Legal documents and regulations</td>
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<td>Tuscany Regional Repertories fact sheets</td>
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<tr>
<td>Available statistics (official statistics and local grey data sources)</td>
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<td>Reports (grey institutional or project-based sources)</td>
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<tr>
<td>Media sources (e.g., newspapers, social posting)</td>
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<tr>
<td>Other case-specific documents (e.g., associations statutes, activity reports, etc.)</td>
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</table>
1. Conceptualizing territorial approaches to rural development

2. Enhancing territorial resources: a Socio-ecological systems (SES) approach

3. Combining public and private action

4. Empowering territorial actors

Design and testing of new holistic and systemic models for the identification, evaluation and support of RD strategies based on local specific resources valorization

ISSUES

Our elaboration on McGinnis and Ostrom, 2014; Maréchal et al., 2016; Dwyer et al., 2015
Our elaboration on Vandecandelare et al., 2010; Scaramuzzi et al., 2016; Belletti and Marescotti, 2021

1. Conceptualizing territorial approaches to rural development
2. Enhancing territorial resources: a Socio-ecological systems (SES) approach
3. Combining public and private action
4. Empowering territorial actors

Focusing on the analysis and characterization of the human action processes underlying the realization of effective governance settings and management solutions for the inclusive and sustainable valorization of local specific resources

Origin-linked Quality virtuous circle
Building on Brunori et al. (2018) [30], we identified the concept of agrobiodiversity-oriented food systems as localized agri-food systems based on:

(i). The **identification and preservation** of underutilized, neglected and in particular threatened landraces and related traditions [21,24,60];

(ii). The **collective use** of the identified and protected local genetic and cultural resources for the creation of landrace-based **agrobiodiversity products**, both goods (e.g., fresh food, food preparations, by-products, etc.) and services (e.g., visits, didactic activities, etc.) [61,62];

(iii). The **participatory qualification, marketing, and territorial valorization** of landrace-based agrobiodiversity products [32,33,63].
ABOFS as SES: sustainability and RTD performance

The “effects category” (generation of private and public goods and services that benefit the society and the ecosystem). This category aims at evidencing how the development of landrace-based localized agri-food systems characterized by quality valorization virtuous circles can **combine the production of private goods and services** (e.g., local farmers access to threatened landraces genetic material and other provisioning ecosystem services, landrace-based food products and services supply, reusable waste, etc.) **with the one of public goods and services** (e.g., biodiversity and rural culture preservation, provision for food security and safe nutrition, contribution to social education and leisure, enhancement of rural landscape and other social and environmental goods and services, etc.) and **generate benefits for both the society and the ecosystem**. The latter can be identified as the beneficial effects stemming from the several stages of the virtuous circle and sustaining the agrobiodiversity-oriented food system reproduction and sustainability.

They could be analyzed considering the **changes induced by the system development in economic, social and environmental dimensions at a local and territorial level and even in a wider global perspective** (e.g., higher income and competitiveness of local farmers and agri-food chains, growth of local economies, protection of the environment and the ecosystem, enhancement of social and cultural capital and human well-being, etc.).
ABOFS as SES: the overridden governance category

Multi-level institutions and governance settings are analyzed as an overridden cross-category which transversely affects the structure and functionality of all the other identified SES categories.

The model identifies it as the specific systems of formal or informal rules, institutions and principles (e.g., property rights) underlying and determining the structure and beneficial effects of the interactions between agrobiodiversity resources and human action in the quality valorization virtuous circle.

Public policies, legal regimes and market institutions are also taken into consideration.

How governance is shaped is a key determinant for the production, equitable distribution, and sustainable use of the private and public goods and services generable from the restoration and valorization of underutilized and neglected landraces in localized agri-food systems.

At the same time, the interaction between actors and the functioning of the virtuous circle can modify existing institutions and governance settings, and/or generate new ones, based on a long-lasting participative process of acknowledgement and actualization of the values of agrobiodiversity [66].
Governance in SES

The structuring effects of institutions and governance settings must be considered as a key determinant in providing adequate conditions, enabling processes of social learning, and supporting public and private stakeholders’ cognition and coordinated action towards rural territorial resources valorization (Shand, 2016; Melchior and Newig, 2021).

Sustain the enhancement and coordination of public policies and private strategies - within and among different institutional levels -, allowing for a better recognition, integration, and balanced satisfaction of all the interests at stake, both public (e.g., optimization of the socio-environmental performance of territorial assets) and private (e.g., diversification of rural incomes, increase in local products and supply chains positionings, etc.) (Forster et al., 2021; Rounsevell et al., 2021; Belletti et al., 2017).

Research findings should be translated into new policy directions, advances in legislation, and private actors’ mobilization, sustaining the realization of effective governance approaches – both on private and public sides -, capable to adapt to the specific necessities of different contexts, and optimize territorial resources economic, social, and environmental potential.

- **On private side**: stable multi-actor networks, capable to sustain the enhancement of stakeholders’ capacity of self-management and self-organization, and to assure an equitable sharing, and fair distribution of generated multiple benefits (Khilelu, 2011; Thiele, 2011).
- **On the public side**: the creation of new joint strategic orientations, the harmonization of concurring jurisdictions, and the supply of new specific valorization tools, are expected to furtherly sustain territorial actors’ cognition and co-responsible action, towards the conservation and sustainable use of local specific human, natural, and cultural capital (Ambrosio-Albalá and Bastiaensen, 2010; Cairol et al., 2009).
- **... providing specific measures and tools**, dealing with the case of common territorial assets, as the one of agrobiodiversity and biocultural heritage. In this sense, providing a public support (preferential access to financial measures and projects; technical assistance, professional training, payments, public valorization tools) is fundamental to synergically combine the respect of common property regimes, with the possibility of using these resources for the creation, marketing, and territorial valorization of differentiated origin and quality products (Ostrom, 1990; Tittonell, 2014; Tschopp et al. 2018; Timmermann and Robaey, 2016; Mazè et al., 2021).
Governance in SES

To synthesize, the above-described evolutions of private strategies, policies, and legal orientations are evaluated by literature, with a view to the realization of effective multi-level or polycentric governance settings (Ostrom and B Janssen, 2004; Penker et al., 2022; Di Gregorio et al., 2019).

- Specifically, on the one hand, multi-level governance settings should be investigated, considering their specific potential in creating synergic and coordinated linkages between local governance systems, and the ones organized at a wider regional, national, and international level. Accordingly, the latter are essential to provide for a fairer spreading of power among all relevant stakeholders, both: vertically, among the many levels of government; and horizontally, across multiple public and private actors (Lamine et al., 2012; Pollermann et al. 2014; Cairney et al., 2019).

- On the other hand, polycentric governance settings should also acquire a growing attention, in particular, when considering the organization and management of common territorial assets (Carlisle and Gruby, 2019; Secco et al., 2010; Kliem and Sievers-Glotzbach, 2021). To illustrate, polycentricity implies the development of multiple centers of semiautonomous decision making, at both vertical and horizontal level, capable to jointly interact, and coordinate their action, both in a competitive and cooperative way.
Landraces and agro-biodiversity products

A landrace is a domesticated, locally adapted, traditional variety of a species of animal or plant that has developed over time, through adaptation to its natural and cultural environment of agriculture and pastoralism, and due to isolation from other populations of the species. Landraces are generally distinguished from cultivars, and from breeds in the standardized sense, although the term landrace breed is sometimes used as distinguished from the term standardized breed when referring to cattle.

Agrobiodiversity products (i.e. those based on the local crops and varieties that farmers cultivate, and on non-timber forest products that they gather from their agricultural landscape).

- Agrobiodiversity products reach a large portion of consumers for marketing in street markets, allowing a link between farmers, socializing knowledge, and bringing consumers the products, enabling explore new markets.
- Agrobiodiversity products reach a range of Consumers Attracted by better quality of life, seeking sustainability and value the tacit-explicit knowledge. These products are marketed through the fairs Primarily Aimed at solidarity economy. Thus Provides closer links between producers and Consumers.

Valverde, 2015; Simon et al, Agrobiodiversity, livelihoods and markets
Table 3. A socio-ecological categorization of the Valtiberina Red Onion localized agri-food system drivers.

<table>
<thead>
<tr>
<th>Socioeconomic Drivers</th>
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<tbody>
<tr>
<td><strong>Public policy and institutional framework</strong></td>
</tr>
<tr>
<td><strong>International and EU-integrated policies and legal framework</strong></td>
</tr>
<tr>
<td>Both the international and EU institutional frameworks sustain and regulate the ongoing integration between environmental and rural development goals and policy measures (e.g., EU Biodiversity Strategy for 2030; Europe 2020 strategy for sustainable, smart and inclusive growth; EU CAP evolution, Rural Development Policy, etc.) [11,51,112]. Agrobiodiversity resource protection and valorization are recognized as a self-standing objective closely related to rural territorial growth and sustainable development issues.</td>
</tr>
<tr>
<td>More or less specific national and local laws and policies are provided, supporting and regulating public–private participatory initiatives towards conservation of local genetic resources and related traditions, sustainable use, and equitable sharing of benefits, with particular attention to underutilized or neglected landraces.</td>
</tr>
</tbody>
</table>
AGROBIODIVERSITY: THE LEGAL AND POLICY FRAMEWORK

Protection and safeguarding of genetic resources of food and agricultural interest or genetic material of plant, animal or microbial origin with actual or potential value for agriculture and food: conservation, sustainable use, fair and equitable sharing of benefits

INTERNATIONAL AGREEMENTS AND COMMITTEMENTS
- Convention on Biological Diversity of Rio de Janeiro (CBD, 1992)
- International Treaty on Plant Genetic Resources for Food and Agriculture (FAO, 2001)
- Cartagena Protocol (CBD, 2000)
- Ngoya Protocol (CBD, 2010)
- UN SDGs GOALS

EU POLICY
Policy coherence and integration for the conservation of genetic resources and biodiversity
- Framework programmes, action plans, regulations, communications
- CAP: agri-environmental measures RDP
- Common catalogue of varieties, section for 'conservation varieties' (seeds)
- EU Green Deal, Biodiversity 2030, F2F strategies, FOOD2030

THE ITALIAN NATIONAL FRAMEWORK
- Piano Nazionale sulla biodiversità di interesse agrario (Conf. Stato-Regioni, 2008)
- Strategia nazionale per la biodiversità (Conf. Stato-Regioni, 2010)
- Linee guida nazionali per la conservazione in situ, on farm ed ex situ della biodiversità vegetale, animale e microbica di interesse agrario (Mipaaf, 2012)
- L. 194/2015 Disposizioni per la tutela e la valorizzazione della biodiversità di interesse agricolo e alimentare
- Registro Nazionale per la commercializzazione delle sementi, sezione per le «varietà da conservazione»

THE ITALIAN REGIONAL FRAMEWORK
- Specific and non-specific regional laws for the protection of local genetic resources of agricultural, zootechnical and forestry interest
FAO (2001) International Treaty on Plant Genetic Resources for Food and Agriculture

Article 1 - Objectives
1.1 The objectives of this Treaty are the conservation and sustainable use of plant genetic resources for food and agriculture and the fair and equitable sharing of the benefits arising out of their use, in harmony with the Convention on Biological Diversity, for sustainable agriculture and food security.

1.2 These objectives will be attained by closely linking this Treaty to the Food and Agriculture Organization of the United Nations and to the Convention on Biological Diversity.
**FAO 2001 & CBD 2010**

*International Treaty on Plant Genetic Resources for Food and Agriculture (FAO, 2001)*
The Treaty is a new, legally binding instrument which seeks to ensure the conservation and sustainable management of plant genetic resources for food and agriculture, as well as the fair and equitable sharing of the benefits arising from their use (art. 1.1). At the crossroads of agriculture, commerce and the environment, the Treaty also aims to promote synergy in these areas (preamble). As one commentator put it, this newly born treaty is "the latest innovation to address the intersection of international environmental, agricultural and trade law". (Earth Negotiations Bulletin, 2001)

*Ngoya protocol (CBD, 2010)*
Access to genetic resources and the fair and equitable sharing of the benefits arising from their utilization is one of the three objectives of the Convention on Biological Diversity (CBD). At its tenth meeting, the Conference of the Parties adopted the [Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization](https://www.cbd.int/protocol/nagoya/). This agreement created a framework that balances access to genetic resources, including those related to traditional knowledge of indigenous and local communities, on the basis of prior informed consent and mutually agreed terms, with the fair and equitable sharing of benefits, thereby contributing to the conservation and sustainable use of biodiversity. The Protocol entered into force in 2014, 90 days after the date of deposit of the fiftieth instrument of ratification.
Agrobiodiversity-specific Italian National and Tuscany Regional policies and institutions

- A multi-faceted path involving both national policy makers and regional administrations culminated in the adoption of the specific national law 194/2015 under implementation [91], establishing a uniform multi-layered national system for agrobiodiversity protection and valorization supplementing and harmonizing the existing regional policy goals and measures.

- The new national system and the Tuscany Regional legislation (Regional law 64/2004 and Regional regulation 12/2007) [90,92] recognize and treat agrobiodiversity resources as territorial commons: (i). Local genetic resources and related traditional culture are publicly recognized as belonging to the territory where they originated and/or adapted, and as being an integral part of local specific assets; (ii). Both public engagement and the maintenance of public control and responsibility over the reproduction and use of agrobiodiversity assets is justified, with particular reference to recovery and conservation of threatened landraces.

- The combined national and regional systems set out the foundations of a polycentric governance structure, enhancing public and private action and collective participation networks for better acknowledgment and coherent management of threatened local genetic resources, considering:
  - The determinant role of the specific regional laws and policy framework in supporting local farmers and other stakeholders with respect to characterization of threatened landraces and the restoration of their knowledge and local cultivation;
  - The high expectations around implementation of the L. 194/2015 [91] valorization tools supporting the enhancement of agrobiodiversity product marketing and sustainable upscaling and territorial development of landrace-based localized agri-food systems.
THE TUSCAN LEGAL FRAMEWORK (pathfinder)

LR 64/04 «Tutela e valorizzazione del patrimonio di razze e varietà locali di interesse agrario, zootecnico e forestale» e RR 12/2007 «Regolamento di attuazione»

SERVIZI REGIONALI DELLE RAZZE E VARIETÀ LOCALI

- Commissioni tecnico-scientifiche

REPERTORI REGIONALI DELLE RAZZE E VARIETÀ LOCALI

- Segnalazione risorsa genetica locale

RETE DI CONSERVAZIONE E SICUREZZA

- Sezioni della Banca Regionale del Germoplasma
- Coltivatori custodi
- Altri soggetti pubblici o privati interessati a conservazione e valorizzazione

REGIONE TOSCANA
Giunta Regionale e Terre Regionali Toscane

ATTIVITÀ'

- Identificazione e caratterizzazione (no gentica) delle risorse locali (iscrizione ai Repertori)
- Conservazione «ex situ» (BRG) ed «in situ» (coltivatori custodi, solo per risorse a rischio estinzione)
- Valorizzazione:
  - Sostegno diretto ai coltivatori custodi
  - Co-finanziamento progetti specifici
  - Contrassegno (organic products)
  - Libero scambio modiche quantità di materiale genetico nella Rete

Portale dedicato: germoplasma.regione.toscana.it
**THE ITALIAN NEW NATIONAL SYSTEM (ongoing implementation)**

L 194/2015 “Disposizioni per la tutela e la valorizzazione della biodiversità di interesse agricolo e alimentare” (in corso di attuazione)

### ANAGRAFE NAZIONALE DELLA BIODIVERSITÀ' DI INTERESSE AGRICOLO E ALIMENTARE

**Risorse genetiche locali a rischio estinzione:**
- **Iscrizione di diritto** nell’Anagrafe per quelle già inserite in Repertori regionali/provinciali
- **Nuove iscrizioni:** in contemporanea nei Repertori regionali/provinciali e nell’Anagrafe nazionale

### RETE NAZIONALE DELLA BIODIVERSITÀ' DI INTERESSE AGRICOLO E ALIMENTARE

- **Banche del Germoplasma** ( strutture locali, regionali e nazionali per la conservazione del germoplasma ex situ)
- **Agricoltori e allevatori custodi**
- **Altri soggetti pubblici/privati interessati a conservazione e valorizzazione**

### ATTIVITÀ'

- **Identificazione e caratterizzazione** (no genetica) risorse locali a rischio di estinzione (iscrizione a Repertori ed Anagrafe)
- **Conservazione** «ex situ» (BRG) ed «in situ» (agricoltori ed allevatori custodi)
- **Valorizzazione:**
  - Comunità del cibo e dell’agrobiodiversità
  - Itinerari dell’agrobiodiversità
  - Giornata nazionale dell’agrobiodiversità
  - Iniziative presso le scuole
  - Sostegno ad interventi per la ricerca sull'agrobiodiversità
  - Sostegno alle attività di conservazione
  - Identificazione di risorse e cultivatori al fine di un accesso agevolato a progetti e finanziamenti

**MIPAAF, REGIONI, PROVINCE AUTONOME**
L 194/2015 – non patentability

Art. 9 - Tutela delle varietà vegetali iscritte nell'Anagrafe e dei prodotti agroalimentari tutelati da marchi

Al comma 4 dell'articolo 45 (oggetto del brevetto) del codice della proprietà industriale, di cui al decreto legislativo 10 febbraio 2005, n. 30, e successive modificazioni, dopo la lettera b) e' aggiunta la seguente:

[4. Non possono costituire oggetto di brevetto:]

«b-bis) le varietà vegetali iscritte nell'Anagrafe nazionale della biodiversità' di interesse agricolo e alimentare nonché' le varietà' dalle quali derivano produzioni contraddistinte dai marchi di denominazione di origine protetta, di indicazione geografica protetta o di specialità' tradizionali garantite e da cui derivano i prodotti agroalimentari tradizionali». 
L 194/2015 – conservation varieties

Art. 11 - Commercializzazione di sementi di varieta' da conservazione

1. Il comma 6 dell'articolo 19-bis della legge 25 novembre 1971, n. 1096, e successive modificazioni, e' sostituito dal seguente:
«6. Agli agricoltori che producono le varieta' di sementi iscritte nel registro nazionale delle varieta' da conservazione, nei luoghi dove tali varieta' hanno evoluto le loro proprieta' caratteristiche, sono riconosciuti il diritto alla vendita diretta e in ambito locale di sementi o di materiali di propagazione relativi a tali varieta' e prodotti in azienda, nonche' il diritto al libero scambio all'interno della Rete nazionale della biodiversita' di interesse agricolo e alimentare, secondo le disposizioni del decreto legislativo 29 ottobre 2009, n. 149, e del decreto legislativo 30 dicembre 2010, n. 267, fatto salvo quanto previsto dalla normativa vigente in materia fitosanitaria». 
L 194/2015 – Communities of food and agrobiodiversity

Art. 13

Communità del cibo e della biodiversità
di interesse agricolo e alimentare

1. Al fine di sensibilizzare la popolazione, di sostenere le produzioni agrarie e alimentari, in particolare della Rete nazionale di cui all'articolo 4, nonché' di promuovere comportamenti atti a tutelare la biodiversità di interesse agricolo e alimentare, il Ministero delle politiche agricole alimentari e forestali, le regioni e le province autonome di Trento e di Bolzano, anche con il contributo dei consorzi di tutela e di altri soggetti riconosciuti, possono promuovere, senza nuovi o maggiori oneri per la finanza pubblica, l'istituzione di comunità del cibo e della biodiversità di interesse agricolo e alimentare.


3. Gli accordi di cui al comma 2 possono avere come oggetto:
a) lo studio, il recupero e la trasmissione di conoscenze sulle risorse genetiche di interesse alimentare ed agrario locali;
b) la realizzazione di forme di filiera corta, di vendita diretta, di scambio e di acquisto di prodotti agricoli e alimentari nell'ambito di circuiti locali;
c) lo studio e la diffusione di pratiche proprie dell'agricoltura biologica e di altri sistemi colturali a basso impatto ambientale e volti al risparmio idrico, alla minore emissione di anidride carbonica, alla maggiore fertilità dei suoli e al minore utilizzo di imballaggi per la distribuzione e per la vendita dei prodotti;
d) lo studio, il recupero e la trasmissione dei saperi tradizionali relativi alle colture agrarie, alla naturale selezione delle sementi per fare fronte ai mutamenti climatici e alla corretta alimentazione;
e) la realizzazione di orti didattici, sociali, urbani e collettivi, quali strumenti di valorizzazione delle varietà locali, educazione all'ambiente e alle pratiche agricole, aggregazione sociale, riqualificazione delle aree dismesse o degradate e dei terreni agricoli inutilizzati.
Origin products

A product coming from a **traditional** production process based on **local specific resources** which give to the product some **specific quality characteristics** and its **reputation**, and which is usually labelled with the name of the locality it comes from.

The product is based on **common culture and a shared knowledge** at production and consumption level.

This means that the (name of the) product is a **public (common?) good, part of the local heritage and acquires a patrimonial status.** The right to use the name cannot be appropriated exclusively by only one firm.
Geographical name: Origin products and Geographical indicated products

**Origin Products**
goods where a given quality, reputation or other characteristic is essentially attributable to the geographical origin

**GI Products**
Origin Products which bear a Geographical Indication

**Protected-GI Products**
which are regulated and protected by some special national or international legal framework
Definition of Geographical Indications

Geographical indications (GIs) often identify origin products, they incorporate their reputation and, for that reason, they are protected as collective intellectual property rights according to different legal frameworks in many countries.

Collective labeling through GIs is often the pivot of valorization strategies activated by producers and other public and private stakeholders all around the world, following different aims and strategies.

Collective action and GIs local governance models are the key factors in determining the (positive and negative) effects of GI valorization initiatives on sustainability and public good provision.
Definition of Geographical Indications (TRIPS)

Article 22.1 of the TRIPS Agreement defines geographical indications as “...indications which identify a good as originating in the territory of a Member [of the World Trade Organization], or a region or locality in that territory, where a given quality, reputation or other characteristic of the good is essentially attributable to its geographical origin.” Trade-Related Aspects of Intellectual Property Rights (the TRIPS Agreement) 1994

INFO SU PROTEZIONE GI https://barzano-zanardo.com/it/approfondimenti/cosa-sono-e-come-tutelare-le-indicazioni-geografiche/
A geographical indication (GI) is a sign used on products that have a specific geographical origin and possess qualities or a reputation that are due to that origin. In order to function as a GI, a sign must identify a product as originating in a given place. In addition, the qualities, characteristics or reputation of the product should be essentially due to the place of origin. Since the qualities depend on the geographical place of production, there is a clear link between the product and its original place of production.

There are four main ways to protect a geographical indication:

- so-called *sui generis* systems (i.e. special regimes of protection); -> DOP/IGP/STG (UE e MS)
- using collective or certification marks
- methods focusing on business practices, including administrative product approval schemes; and (PAT?)
- through unfair competition laws.

These approaches involve differences with respect to important questions, such as the conditions for protection or the scope of protection. On the other hand, two of the modes of protection — namely *sui generis* systems and collective or certification mark systems — share some common features, such as the fact that they set up rights for collective use by those who comply with defined standards.

Broadly speaking geographical indications are protected in different countries and regional systems through a wide variety of approaches and often using a combination of two or more of the approaches outlined above. These approaches have been developed in accordance with different legal traditions and within a framework of individual historical and economic conditions.
GI definition (THE EU SUI GENERIS SYSTEM)

- If your product has a **specific geographical origin** and a reputation - a given quality or other characteristics of a product essentially attributable to it - you can protect it with a geographical indication (GI). Geographical indications protect:
  - agricultural products and foodstuffs
  - spirit drinks
  - wines
  - aromatised wines

- **Product names can be granted a 'geographical indication' (GI)** if they have a specific link to the place where they are made. The GI recognition enables consumers to trust and distinguish quality products while also helping producers to market their products better.

- **Geographical indications establish intellectual property rights for specific products, whose qualities are specifically linked to the area of production. EU**
GI definition (THE EU SUI GENERIS SYSTEM)

• The EU geographical indications system (PDO; PGI; GI) protects the names of products that originate from specific regions and have specific qualities or enjoy a reputation linked to the production territory (third-party controls).

• Voluntary certification schemes at national level or those run by private operators can also help consumers to be confident about the quality of the products they choose.

• In addition to the EU schemes, a large number of private and national food quality schemes or logos exist, covering a wide range of initiatives and operating between businesses or between businesses and consumers. In consultation with stakeholders, the European Commission developed guidelines showing best practice for the operation of such schemes. They can be granted by a third party or they are self-certification schemes.
PDO and PGI in the EU system

PDO and PGI mean the name of a region, a specific place or, in exceptional cases, a country, used to describe an agricultural product or a foodstuff originating in that region, specific place or country.

PDO

- The quality or characteristics of which are essentially or exclusively due to a particular geographical environment with its inherent natural and human factors, and
- the production, processing and preparation of which take place in the defined geographical area.

PGI

- which possesses a specific quality, reputation or other characteristics attributable to that geographical origin and
- the production and/or processing and/or preparation of which take place in the defined geographical area.
Art. 29.
Oggetto della tutela
1. Sono protette le indicazioni geografiche e le denominazioni di origine che identificano un paese, una regione o una località', quando siano adottate per designare un prodotto che ne è originario e le cui qualità, reputazione o caratteristiche sono dovute esclusivamente o essenzialmente all'ambiente geografico d'origine, comprensivo dei fattori naturali, umani e di tradizione.

Art. 30.
Tutela
1. Salva la disciplina della concorrenza sleale, salve le convenzioni internazionali in materia e salvi i diritti di marchio anteriormente acquisiti in buona fede, è vietato, quando sia idoneo ad ingannare il pubblico, l'uso di indicazioni geografiche e di denominazioni di origine, nonché l'uso di qualsiasi mezzo nella designazione o presentazione di un prodotto che indichino o suggeriscano che il prodotto stesso proviene da una località' diversa dal vero luogo di origine, oppure che il prodotto presenta le qualità che sono proprie dei prodotti che provengono da una località' designata da un indicazione geografica.
2. La tutela di cui al comma 1 non permette di vietare ai terzi l'uso nell'attività economica del proprio nome o del nome del proprio dante causa nell'attività medesima, salvo che tale nome sia usato in modo da ingannare il pubblico.
Disciplinari (DOP-IGP) – base del riconoscimento

- Code of practice
- Products specifications
- Code of rules

Regolamento d’uso (interno al consorzio/ministero)

- Regulations of use
Collective mark - code of industrial property (Codice proprietà industriale - DECRETO LEGISLATIVO 10 febbraio 2005, n. 30)

Art. 11. Marchio collettivo

1. I soggetti che svolgono la funzione di garantire l'origine, la natura o la qualita' di determinati prodotti o servizi, possono ottenere la registrazione per appositi marchi come marchi collettivi ed hanno la facolta' di concedere l'uso dei marchi stessi a produttori o commercianti.

2. I regolamenti concernenti l'uso dei marchi collettivi, i controlli e le relative sanzioni devono essere allegati alla domanda di registrazione.

3. Le disposizioni dei commi 1 e 2 sono applicabili anche ai marchi collettivi stranieri registrati nel Paese di origine.

4. In deroga all'articolo 13, comma 1, un marchio collettivo puo’ consistere in segni o indicazioni che nel commercio possono servire per designare la provenienza geografica dei prodotti o servizi. In tal caso, peraltro, l’Ufficio italiano brevetti e marchi puo’ rifiutare, con provvedimento motivato, la registrazione quando i marchi richiesti possano creare situazioni di ingiustificato privilegio o comunque recare pregiudizio allo sviluppo di altre analoghe iniziative nella regione. [...] L'avvenuta registrazione del marchio collettivo costituito da nome geografico non autorizza il titolare a vietare a terzi l'uso nel commercio del nome stesso, purché quest’uso sia conforme ai principi della correttezza professionale e quindi limitato alla funzione di indicazione di provenienza.

Art. 13. - Capacita' distintiva (MARCHI D’IMPRESA)

1. Non possono costituire oggetto di registrazione come marchio d'impresa i segni privi di carattere distintivo e in particolare quelli costituiti esclusivamente da indicazioni descrittive che ad essi si riferiscono, come i segni che in commercio possono servire a designare la specie, la provenienza geografica.

PARTICIPATORY GUARANTEE SYSTEMS (PGS)

Participatory Guarantee Systems (PGS), as defined by IFOAM, are "locally focused quality assurance systems. They certify producers based on active participation of stakeholders and are built on a foundation of trust, social networks and knowledge exchange."[1] (Official definition 2008). They represent an alternative to third party certification,[2] especially adapted to local markets and short supply chains. They can also complement third party certification with a private label that brings additional guarantees and transparency.

PGS enable the direct participation of producers, consumers and other stakeholders in:

- the choice and definition of the standards
- the development and implementation of certification procedures
- the certification decisions

Participatory Guarantee Systems are also referred to as "participatory certification".[3]

The International Federation of Organic Agriculture Movements (IFOAM) and the organic movement remain a leader[4] in the concept of PGS at the international level. IFOAM is running a program to recognize PGS in the organic sector. PGS is a tool that can be adopted not only for organic agriculture but is useful in various sectors.
PARTICIPATORY GUARANTEE SYSTEMS (PGS) – SlowFood feedback on EC proposal of revision of EU quality schemes

- On objective 4, Slow Food would like to highlight the importance of Participatory Guarantee Systems as an essential tool for small-scale producers as they are locally focused quality assurance systems.
- They certify producers based on active participation of stakeholders and are built on a foundation of trust, social networks, and knowledge exchange.
- Again, it is essential both for economic and social sustainability, that GIs’ groups of producers are embedded in the local social tissue in order to be both economically and socially sustainable.

https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/12664-Food-drink-EU-geographical-indications-scheme-revision_en

PARTICIPATORY GUARANTEE SYSTEMS (PGS) – Loconto, 2017

PGS focus on a democratisation of knowledge whereby the oversight systems for compliance with standards are created by producers, experts, and consumers who collectively ensure that the organic agriculture techniques are adopted (IFOAM, 2008).

Typically, PGS are networks created within local communities and consist of farmers, experts, public sector officials, food service agents, and consumers (Radomsky et al., 2014; Poméon et al. 2017).

The aim of this type of network is to create a local system of production and consumption whereby multiple stakeholders experiment with sustainable agriculture technologies on farms, but also collectively ensure that the organic agriculture techniques are adopted by setting standards and verifying their compliance.

In sum, PGS serve to provide a direct guarantee, through the formation of a local market, for sustainably produced food and agriculture products (Loconto and Vicovaro, 2016).

https://hal.archives-ouvertes.fr/hal-01581625/document
Sustainable valorization of GIs

Origin products, thanks to their links to local specific resources and mobilization of local actors, have the potential to enhance economic, social, and environmental sustainability of localized agrifood production systems and rural areas, and to provide different kinds of local and global public goods (e.g., territorial reputation, agricultural landscape, food heritage, etc.)

Sustainability is a key aspect of valorization:

- **Economic sustainability**: to obtain an increase in the added value of the product and its equitable distribution.

- **Social sustainability**: protection of traditions and cultural heritage, strengthening of links between people and local businesses, employment opportunities for young people, women, the elderly
Costs for firms

**Preliminary costs**: needed to apply for the registration (expertise for the drawing of technical and historical documents, rural animation, meetings...)

**Direct costs**: costs for inspections and certification. They vary according to the Specifications and the structure of the production system.

**Indirect costs**: costs for adapting firm structure and organization to comply with the Specifications. Ex. New plants, new organization to keep separate two production processes, higher prices for quality raw materials.

**Non-compliance costs**: due to the part of the production which cannot be sold as PDO/PGI because it doesn’t reach the minimum standard required by the Specifications

**Other costs**: promotional activities to support the reputation, often collective ones
Benefits for firms

- **Price premium**: due to certified quality, market cleaning

- **Sales increase**: the increased reputation of the product may stimulate an increase of the demand

- **Stable long-lasting relations**: the certification system may help consolidating supply-chain relationships and sales channels.

- **New marketing channels**: the PDO/PGI gives the chance to open new marketing channels (i.e. export, niche markets, tourists)

- **Quality “logic”**: the introduction of quality certification and controls may help firms to “modernize” the production methods and their organization

- **“medal” effect**: having PDO/PGI products in the assortment qualify all the production of the firm