Processing tomato supply chain of northern Italy

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The value of collective actions and cooperation/social capital - focus on PEGASUS mapping results
Profile of the case study area

- Interregional supply chain (Emilia-Romagna, Lombardy, Piedmont, Veneto, Province of Bolzano)

- 39,000 hectares under tomato (96% IP, 4% organic), 2,000 producers grouped under 15 Producers Organisations, 24 processing industries operating in 29 plants, almost 3 million tons of tomatoes processed (*)

- focus on 37 municipalities around Parma and Piacenza (14,000 ha, 600 producers, 1.7 million tons processed)

- intensive agricultural (and agri-industrial) area
  - Arable crops (tomato, wheat, maize)
  - Forage and livestock farming

* Data referred to 2016 campaign

This project has received funding from the European Union’s Horizon 2020 research and innovation programme under grant agreement No 633814
Provision of environmental and social benefits

Main beneficial outcomes investigated:
- healthy functioning soil
- water quality and quantity

Major turning points:
- **agricultural mechanisation** in the 80s (improved soil, irrigation and pest management and disease control)
- **integrated production** in the 90s (regional technical standards for integrated production, in collaboration with research centres and producers organisations)
- **microirrigation** (and fertirrigation) in the 2000s (improved efficiency and distribution uniformity)
Drivers

Provision favoured:

- initially by private initiative, driven by the **market mechanisms** (input/cost reduction and increasing demand for social and environmental sustainable food products)
- but supportive role of **public policies** (direct and indirect focus)
- then by **collective action**, at present coordinated and supervised within the Inter-branch Organisation

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Role of private initiative

• driven mainly by cost saving practices/techniques and increasing demand for social and environmental sustainable food products:
  ✓ continuous **innovation in production and processing** practices and techniques
  ✓ generalised voluntary participation in recognized and independently certified **quality and traceability schemes**

• endorsement and respect of voluntary binding economic, environmental and social code of conduct rewarded by:
  ✓ increasing **appreciation of consumers** on national and international market
  ✓ **price (and income) stability** within the supply chain
Role of policies (1)

• supportive role of policies (direct and indirect focus)

✓ financial support:
CMO, RDP, regional funds for Integrated Production, promotion of cooperation, innovation, promotion activities, processing and commercialisation, increase in agricultural production value added

Sequenced combination:
– CAP Common Market Organisation (CMO) forced farmers organisations and processing firms to cooperate in a more effective way
– Reduction of CAP support: Interbranch Organisation, adaptation through a proactive strategy. Key role of investment on research and innovation and self regulation (product and management system certifications adopted by all producers/POs)

✓ advice and technical assistance:
regional services provide plant protection service, meteorological service, prediction and early-warning service, monitoring networks, regional Certification QC (Controlled Quality) for IP crops
### Role of policies (2)

<table>
<thead>
<tr>
<th>Role of policies</th>
<th>Policy interventions/measures/tools</th>
<th>ESBOs involved</th>
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<td>Promoting and supporting collective action</td>
<td>- Creation of Producers Organisations</td>
<td>Soil/water</td>
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<td>- Creation of the Inter-branch Organisation</td>
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<td>Complementing private schemes</td>
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<td>Soil/water</td>
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<td>Supporting individual actions</td>
<td>- Cross-compliance guidelines</td>
<td>Soil/water</td>
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<td></td>
<td>- Regional measures supporting improvements in agricultural production</td>
<td>Soil/water</td>
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<td></td>
<td>- Investment in technological innovation</td>
<td>Soil/water</td>
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</table>

*Source: our elaborations based on focus groups in the study area*
Role of collective action (1)

The strength of the value chain is in **collective action**

The provision of environmental and social benefits derives from collective actions mechanisms rooted within the supply chain

Active involvement of all the relevant stakeholders is favoured by:

- **social capital** embedded at local level
- long-standing and adaptive **cooperative attitude**
- sense of **ownership**
- strong **leadership**

From an institutional point of view, collective action (driven by private initiative, supported by public policies and public actors) generates **new governance and contractual arrangements** leading to cooperation for an integrated quality approach throughout the supply chain based on codified distinguished rules.
Role of collective action (2)

Governance arrangements in the tomato sector ensued from the development of:

✓ new organisations associating:
  - at an earlier stage, producers (Producers Organisations),
  - later on, producers and processing firms (the association District of processing tomato and then the Inter-branch Organisation);

✓ new rules and contractual arrangements between producers and processors enforcing the new organisation and the market:
  - technical innovation - involvement of producers, processing firms (and also institutions, universities and research centres and specialized technicians), beneficial effects that radically changed relationships between production, environment and consumers.
  - agreed rules and contracts - general rules contained in a Framework Contract and specific contractual conditions set in detailed Supply/Delivery Contracts;

Both of them influence the provision of environmental and social benefits:
  - directly (through the definition of specific farming and processing practices)
  - indirectly (through the price mechanism)
### Role of collective action (3)

<table>
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<th>Governance arrangements</th>
<th>Indirect effects on ESBOs</th>
<th>Direct effects on ESBOs</th>
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<tr>
<td>Institutional changes</td>
<td>Creation of Producers Organisation / supply chain association / Interprofessional Organisation</td>
<td>Positive effect on farm income via cooperation and better bargaining power of farmers</td>
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<tr>
<td>Contractual arrangements</td>
<td>Supply contracts between producers and processors</td>
<td>Positive effect on farm income via market programming and stabilisation of tomato prices</td>
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</table>

*Source: our elaborations based on focus groups in the study area*
Role of collective action (4)

- **collective action** of producers and processor:
  - mutual benefit and reciprocity
  - lower transactions costs
  - match between tomato supply and demand
  - cohesion and programming through inter-branch agreements/contracts
  - lays the basis for the stability to the tomato market

- coordination and supervision of the **Inter-branch Organisation**
  - balance of different motivations and divergent interests (producers, processors, consumers)
  - response to global competition but also to food and environmental challenges

✓ Producers in Producers Organisations
✓ Producers cooperatives processing their own product
✓ Associations of private processing firms

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Role of collective action (5)

Contractual arrangements: market/price stabilisation

*CREA survey
Key indicators of beneficial outcomes (1)

Key indicators by tomato farm size group (CS area)

* Elaborations on Agricultural Census data (2010)
Employment effects by tomato farm size class and by UAA (CS area)

*Elaborations on Agricultural Census data (2010)*
Other evidence of beneficial outcomes

- Acknowledged **reputation and quality**:
  - quality, traceability, innovation, and environmental factors determined strong **product differentiation** that provided added value for consumers and competitive advantage over other competitors

- **Labelling and certifications** are the means chosen to derive maximum benefit from attention to quality and to environmental issues:
  - System Certifications (management, environmental, ethical, food security performance)
  - Supply chain and product certifications (intrinsic qualities and conformity to requirements/schemes)
  - International standards and certifications (for exports, mainly hygiene and food safety)
Lessons for policy

• The provision of beneficial environmental and social outcomes results from the interaction of private initiative, policy support, collective action

• Fundamental role of:
  ✓ private initiative combined with policy support and interplay between private and public stakeholders for long-term sustainability
  ✓ governance arrangements and public institutions for long-term and successful collective action
  ✓ design and implementation of policies, when they support cooperative attitudes and flexible approaches and are not in conflict
  ✓ public awareness and appreciation, when it spurs demand for social- and environmental-friendly goods and gives rise to collective action

• Difficult assessment of causal relations between agricultural management and environmental and social benefits: in policy design it should be preferred a mixed approach, based on environmental results when possible or otherwise based on best practices available

• Importance of rooting policies more deeply in the social, cultural and economic dynamics of the territories and supply chains concerned
Lessons for practice

*Transferability of the approach/mecanism*

- In the north: organisational and technological innovation favoured price and market stability, notwithstanding the dramatic change in policy support and in global competition

- 2015: memorandum of understanding between the Inter-branch Organisation and southern Italy processing tomato district:
  - unitary promotion abroad of national traditional tomato production (where 70% of the tomato goes)
  - quantity and quality programming of tomato cultivation and processing in order to grant a fair remuneration of tomato at national level and to compete worldwide on quality and product differentiation under the same “made in Italy” brand

- organisational and social improvements that could help to sustain the market of southern Italian tomato district:
  - transparency and respect of agreed rules to overcome fragmentation and lack of coordination
  - traceability of agri-food products and food security measure to avoid food scandals
  - social responsibility of farms/firms to curb illegal employment and exploitation

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Thank you for your attention

For more information

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