Alternatives for tobacco in Europe: outlook and impacts

Stefano Ciliberti, Ph.D. (Dept. of Agric., Food and Env. Sc., Perugia University)
Outline

- Impact of tobacco cultivation
- The SD challenges
- Outlook for tobacco
- Is there life beyond tobacco?
- Research contributions for evaluating alternatives
- A qualitative multicriteria evaluation
- Implications for stakeholders towards an integration strategy
- Final remarks
For sustainable development to be achieved, it is crucial to harmonize three core elements: economic growth, social inclusion and environmental protection. These elements are interconnected and all are crucial for the well-being of individuals and societies.
The impact of tobacco cultivation

- Social, economic and environmental

Energy for curing, Pesticides, Water, Fertilizers

High investments, Fair income level

Labour intensive crop, smoke diseases
The UN SDG: opportunity or threat?
Outlook for tobacco in EU: is there life after the end of CAP support?

- Bad image for negative impact on health (negative externalities)
- End of coupled public support that compensated for social and energy dumping
- Strong reduction of production and cultivated areas
- Declining consumption of tobacco products in 5-10 yrs
- Strong pressure on stakeholders
Outlook for tobacco growers: is there life after the end of CAP support?

- Increasing focus on efficiency and profitability
- High costs for workers and energy
- Quality of production is a key asset for EU tobacco growers
- High demand for innovation (product, process, organization)
- Need for a better coordination in order to increase revenue
Why do farmers still rely on tobacco?

- The farmers rely on tobacco cultivation because of the following factors (Kienle et al, 2015):
  1) Stable and reliable contractual relationships for deliveries gives security in tobacco sale
  2) Risk minimization due to presence of strong and influential tobacco industry
  3) Tobacco provides a high money cash once a year
  4) It is assumed that the GI from the tobacco crop is higher than for any other crop
  5) Uncertainties about alternative income opportunities
  6) Uncertainties about market opportunities for alternative crops

Kienle et al. (2015), Alternative to tobacco cultivation – towards an evidence based approach, Land use policies 45, 199-203.
What future for tobacco?

- One of the strongest arguments brought up against a phasing-out of tobacco cultivation is the social aspect of rural farm workers.

- It is generally assumed that the total labor demand for tobacco cultivation on average amounts to about 1600 working hours per hectare.

- However, uncertainties are high regarding the change of labor demand and it is known that the job argument has always a strong influence on policy makers.
Facing the uncertainties: what future beyond tobacco?

- Risk of trade-off between economic benefit and social and environmental externalities (time is essential!)

- Risk of abandonment of agricultural activities and depopulation of rural areas

- Difficult to predict consequences due to alternative choices

- Risk of unbalanced relationship between what research suggests and what policymakers/stakeholders promote: need for combining quantitative evidences and negotiation ability
A (possible) role for research institutions

- **Challenges:** identify reliable alternatives to tobacco in a SD framework

- **Need for an evidence-approach VS a policy-based approach**

- **Issues at stake:** holistic methods, data, collaboration with stakeholders
Methodological perspective

- A multi-criteria approach in order to evaluate the possible impacts of different tobacco diversification/integration alternatives on income, employment and environment (Kienle et al., 2015).

- Strong need for updated data and statistics on:
  - Production plan of the study area (distribution of agricultural crops in the study region)
  - Technical and economic coefficients (yield of crops, prices, variable costs, labor hours per hectare)
  - Characteristics of the selected agricultural area (in terms of socio-economic characteristics, like structure and number of farm holdings, family size, family labor)
  - Environmental issues (e.g., applied fertilizer per hectare per crop grown, type and amount of pesticides per hectare per crop grown)

Kienle et al. (2015), Alternative to tobacco cultivation – towards an evidence based approach, Land use policies 45, 199-203.
Expected contributions

- Models should allow to properly evaluate alternatives to tobacco farming based on both:
  - Economic impacts (GI, cash flow, market opportunity, D&S, supply chain), and
  - Social impacts (employment, rural family, human capital demographic trends)
  - Institutional impacts (contracts, collective arrangements, enforcement, role of policymakers)
  - Environmental impact (energy consumption, use of pesticides, GHG emissions)
Expected contributions (2)

- Analyses could be based on type of farms according to size, since it is the most hampering aspect for tobacco diversification.

- Moreover analyses based on size allow a direct link with different countries:
  - Small (Greece, Bulgaria, Southern Italy)
  - Medium (Poland, Spain, Hungary)
  - Large (France, Germany, Northern Italy)
Expected contributions (3)

- Aim: identify valuable and affordable alternatives increasing sustainability as a whole according to SDGs

- Including social, economic and environmental aspect in the evaluation is a must

- Feasibility and replication on a high scale is also relevant for a reliable strategy of diversification
The importance of being a real (and feasible) alternative

What must be taken into account?

1) Real market opportunities at a specific geographical level
2) Presence of reliable infrastructures for transportation, processing and so on
3) Quality of institutions (enforcement of rules)
4) Labour intensity
5) Opportunities for family workers employments
6) Amount of investments requested (machinery, energy)
7) Need for financial resources
8) Expected cash flow
9) Expected farm incomes and/or family farm income
10) Environmental issues (additional costs, public acceptability)
A qualitative evaluation

- An example of a (normative approach to) multicriteria evaluation

Table 1A – Specific requirements of sustainable alternatives for tobacco according to farm size

<table>
<thead>
<tr>
<th>Size/Dimension</th>
<th>Economic</th>
<th>Social</th>
<th>Institutional</th>
<th>Environment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Small (Greece,</td>
<td>Moderate investment</td>
<td>Labour intensive production</td>
<td>Enforcement of contracts with local buyer</td>
<td>Short supply chains</td>
</tr>
<tr>
<td>Bulgaria, Southern</td>
<td>High value added</td>
<td>Employment of family workforce</td>
<td></td>
<td>Local markets</td>
</tr>
<tr>
<td>Italy)</td>
<td>Market potential at local level</td>
<td></td>
<td></td>
<td>Organic method</td>
</tr>
<tr>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Medium (Poland,</td>
<td>Medium/high investment</td>
<td>Creating new jobs in on-farm activities</td>
<td>Public aids for SMEs</td>
<td>Logistics efficiency</td>
</tr>
<tr>
<td>Spain, Hungary)</td>
<td>Moderate cash flow and GO level</td>
<td>If the case, family workforce employed in off-farm activities</td>
<td></td>
<td>Organic method</td>
</tr>
<tr>
<td></td>
<td>Market potential at regional/national level</td>
<td></td>
<td></td>
<td>Certifications (CF, WF, animal welfare)</td>
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</tr>
<tr>
<td>Large (France,</td>
<td>Level of investment is not a constraint</td>
<td>Creating new jobs in on-farm activities</td>
<td>Support of POs/Ols</td>
<td></td>
</tr>
<tr>
<td>Germany, Northern</td>
<td>Exploit economies of scale</td>
<td>If the case, workforce employed in off-farm activities</td>
<td></td>
<td></td>
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<tr>
<td>Italy)</td>
<td>Market potential at world level</td>
<td></td>
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</table>
A qualitative evaluation – small farms

Table 1A – Specific requirements of sustainable alternatives for tobacco according to farm size

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<th>Environment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Small (Greece, Bulgaria, Southern Italy)</td>
<td>▪ Moderate investment ▪ High value added ▪ Market potential at local level</td>
<td>▪ Labour intensive production ▪ Employment of family workforce</td>
<td>▪ Enforcement of contracts with local buyer ▪ Public support for SMEs</td>
<td>▪ Short supply chains ▪ Local markets</td>
</tr>
</tbody>
</table>

Table 2A – Examples of sustainable alternatives according to requirements of table 1

<table>
<thead>
<tr>
<th>Size (Greece, Bulgaria, Southern Italy)</th>
<th>Examples of alternatives</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) For some regions traditional livestock farming of some special meat races may be a good solutions. They could maintain income and temporal employment losts cold be replaced by new jobs in on-farm processing activities (e.g. cheese making, meat process).</td>
<td></td>
</tr>
<tr>
<td>2) The vast majority of small tobacco farmers may choose an alternative which gives high income per agriculture area. Some alternatives available may have medium/high investment costs, such as green house production with hydroponics or aquaculture. However they are quite away from the experience of tobacco farmers and could represent only an individual solution.</td>
<td></td>
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<tr>
<td>3) Organic field vegetable production will maintain or even improve farm income, temporal employment may be maintained and, moreover, it can create new jobs in on-farm activities (manipulating, packing or processing)</td>
<td></td>
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</tbody>
</table>
A qualitative evaluation – medium farms

- Table 1B – Specific requirements of sustainable alternatives for tobacco according to farm size

<table>
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</thead>
<tbody>
<tr>
<td>Medium (Poland, Spain, Hungary)</td>
<td>- Medium/high investment</td>
<td>- Creating new jobs in on-farm activities</td>
<td>- Public aids for SMEs</td>
<td>- Logistics efficiency</td>
</tr>
<tr>
<td></td>
<td>- Moderate cash flow and GO level</td>
<td>- If the case, family workforce employed in off-farm activities</td>
<td>- Support of POs/OIs</td>
<td>- Organic method</td>
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<tr>
<td></td>
<td>- Market potential at regional/national level</td>
<td></td>
<td>- Enforcement of collective arrangements</td>
<td>- Certifications (CF, WF, animal welfare)</td>
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</tbody>
</table>

- Table 2B – Examples of sustainable alternatives according to requirements of table 1

<table>
<thead>
<tr>
<th>Size</th>
<th>Examples of alternatives</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medium (Poland, Spain, Hungary)</td>
<td>- <strong>Granivorous livestock</strong> farming entails high investment costs but they may give high farm incomes. However, the high number of farms which may choose this diversification alternative can result in market imbalance.</td>
</tr>
<tr>
<td></td>
<td>- <strong>Rural tourism</strong> could be a very individual solution as it is in most of the concerned regions already exploited</td>
</tr>
</tbody>
</table>
A qualitative evaluation – large farms

Table 1C – Specific requirements of sustainable alternatives for tobacco according to farm size

|-------------------------|---------------------------------------------------------------------------|---------------------------------------|----------------------------------------|---------------------------------------|
| Large (France, Germany, Northern Italy) | • Level of investment is not a constraint  
• Exploit economies of scale  
• Low GO/ha  
• Market potential at world level | • Workforce employed in off-farm activities | • Support of POs/OIs  
• Enforcement of collective arrangements | • Organic method  
• Certifications (CF, WF, animal welfare) |

Table 2 C– Examples of sustainable alternatives according to requirements of table 1

<table>
<thead>
<tr>
<th>Size</th>
<th>Examples of alternatives</th>
</tr>
</thead>
</table>
| Large (France, Germany, Northern Italy)   | • They may implement all possible diversification alternatives. They may avoid income losses thanks to high investments, with positive effects also on employment.  
• **Energy crops** entail high investments, allow exploiting economies of scale and reducing fixed costs and lastly provide medium-high GO/ha. It causes a complete loss of employments due to introduction of mechanized crops.  
• **Arable crops** represent the «extrema ratio». They entail moderate investments, allow exploiting economies of scale and reducing fixed costs and lastly provide low GO/ha for larger farms. On the other hand temporal employment is completely lost and need to be allocated in off-farm activities.  
• **Permanent tree crops** could represent only an additional activity since they could entail losses in income and temporal employment lost. |
Implications (1)

- Towards the alternative perspective: **integration**, why not?

- Promote the **combined cultivation** of tobacco and other crops

- A **strategy of sustainable integration** of tobacco cultivation

- Carefully evaluate market opportunities and impacts on incomes and workers alternative solutions based on farm size
Implications (2)

- Relevant role of **mesoinstitutions** (POs, IO, ELTI) in fostering such a process of sustainable integration

- **Support farmers in evaluating alternative options**

- **Promote studies and research** to provide updated info for farmers

- Establish stable relation with relevant stakeholders for alternative productions
Implications (3)

- Need for a *continuous interplay with policymakers* to promote the integration strategy by means of financial incentives

- Widen the range actions of ELTI and national OIs, POs to promote the *shift from a specialization model to an integration model for tobacco*

- Better valorise the role of tobacco in providing social (positive) externalities (job, fair income) that positively affects the vitality of rural areas in EU
Final remarks

- Against a backdrop characterised by an uncertain outlook for the European tobacco (due to high production costs, declining demand and the end of the CAP support), it is crucial to carefully evaluate feasible and sustainable alternatives to tobacco in EU with a evidence-based (multicriteria) approach.

- In this regard, it is central the active role of mesoinstitutions that coordinate demand and supply (such as POs and IOs) in order to govern and foster a strategy aimed to integrate tobacco with other productions and embrace all the sustainability dimensions.
Final remarks

As a last resort, these «integrative crops» to tobacco should act as a «market safety net». Therefore they have to ensure:

- High profitability
- Stable market perspective
- No negative impact on the environment
- A high level of employment
- Adaptability to the institutional environment
Thanks for the attention!

Stefano Ciliberti, Ph.D. (Dept. of Agric., Food and Env. Sc., Perugia University)
Email: stefano.ciliberti@unipg.it