Exploring the impacts of CAP relative to climate with respect to adaptation

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I wish to support the following argument:

- Adaptation policy is not enough to compensate climate risks or to take advantage of opportunities
Too hot, too dry for crops, more floods

Review

Adaptation strategies for agricultural water management under climate change in Europe

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ABSTRACT

Climate change is expected to intensify the existing risks, particularly in regions where water scarcity is already a concern, as well as create new opportunities in some areas. Efforts to develop adaptation strategies for agricultural water management can benefit from understanding the risks and adaptation strategies proposed to date. This understanding may assist in developing priorities for the adaptation of
Boreal
- Alteration of permafrost
- Increased floods
- Increased land use for agriculture

Continental
- Increased floods
- Shifts in optimal conditions for farming
- Soil erosion

Mountain regions
- Loss of glaciers
- Alteration of hydrological regime
- Loss of biodiversity

Mediterranean
- Increased drought
- Decreased water availability
- Deterioration of water quality
- Increased irrigation needs
- Loss of biodiversity

Source: Iglesias et al., 2015
Screening options for adaptation and mitigation: 

a) Agricultural water management

**Purely environmental adaptation**
- Decrease crop land

**Fully agricultural adaptation**
- Negotiate water with other users
- Supplement water
- Improve water efficiency at the field level
- Policy incentives to water saving
- Diversification of agricultural activities
- Improved institutional governance

Mitigation potential:
- Low
- Med
- High
Socio-ecological adaptation to climate change: A comparative case study from the Mediterranean wine industry in France and Australia

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\textbf{Abstract}

The article aims to present a systemic and comparative framework to study adaptation to climate change in agricultural systems. Mediterranean viticulture, projected to experience significant and rapid changes in climate, is used as a case study. We apply an international socio-ecological approach focusing on viticulture in Roussillon (France) and McLaren Vale (Australia). Mixed-methods, including analysis of meteorological data, semi-structured interviews and field observations, guide an analysis of the exposure, vulnerability and adaptive capacity of the wine industries in both regions.
Full benefit of measures =

benefit of adaptation
adjustment to risks and opportunities (local): effort or benefit of implementation (local), market effects (regional, global)

+ benefits of mitigation
adjustment to policy targets (global): effort or benefit of implementation (local), market effects (regional, global), reduction of GHG (global)
Benefit of adaptation

Global-only measures

Loss of adaptation

Incoherent measures

Loss of mitigation

Smart measures

Local-only measures (self-benefit)

Benefit of mitigation
A user perspective on the gap between science and decision-making. Local administrators’ views on expert knowledge in urban planning

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c Faculty of Geosciences, Utrecht University, P.O. Box 80.115, 3508 TC Utrecht, The Netherlands
Reducing vulnerability: policy action
(Iglesias et al., 2010)
HadCM3/HIRHAM B2 scenario, 2071-2100, (% yield change)

<table>
<thead>
<tr>
<th>Region</th>
<th>Adap.Policy Urban / Env (1)</th>
<th>Adap.Farm (2)</th>
<th>Adapt.Policy Econ /Rural Dev (3)</th>
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<td>Boreal</td>
<td>25 to 30</td>
<td>34</td>
<td>35 to 40</td>
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<td>-10 to -10</td>
<td>-7</td>
<td>-5 to 0</td>
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<td>4</td>
<td>5 to 10</td>
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<td>Alpine</td>
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<td>25 to 40</td>
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<tr>
<td>Med. South</td>
<td>-50 to -25</td>
<td>1</td>
<td>0 to 20</td>
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</table>

(1) Emphasis on water resources protection and urban development
(2) Farm adaptation without policy support (private)
(3) Emphasis on agricultural production and rural development
Climate change risk to 'one in six species'
Complexity of CAP theory (architecture)
adaptation model
role of private, int’l sectors
CAP effects for mitigating climate risks
Complexity of CAP
Adaptive capacity: components

Source: Iglesias et al., 2011
Water scarcity in the media: Enough?

Source: Iglesias et al., 2015
## Adaptation: Institutional responsibilities

### Public investment need?

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### EU Directive?

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### National Strategy?

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### Local Strategy?

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### River District Strategy?

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Source: Iglesias et al., 2015
Adaptation: Sectoral responsibilities

Source: Iglesias et al., 2015
García de Jalón et al (2014) Behavioural barriers

- Scepticism: 56%
- Lack of concern: 50%
- Fatalism and helplessness: 63%
- Externalising responsibility: 55%
- Blaming a lack of adequate policy: 36%
- Reluctance to change: 87%

Barriers reflecting personal beliefs, more complicated to overcome

Barriers reflecting limitations in knowledge, less complicated to overcome
Thank you!