

**New models of agricultural production
and associated socio-spatial relations:
Implications for socio-ecological resilience
in Alentejo (Southern Portugal)**

ICS Book on Sustainability

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Central question

Socio-spatial relations emerging out of the intensification and financialisation of agriculture

Focus:

New **actor-networks** generated through rapid change

Effect on **place-based** relations between economy, community and ecology

Case study:

agricultural intensification in the region under direct influence of the Alqueva irrigation system since 2002

Olive oil production

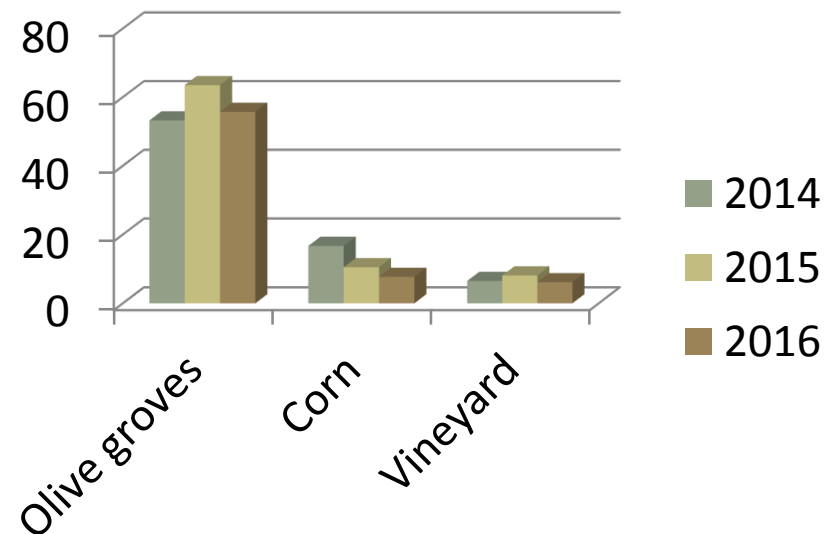


Figure 1.

Top three irrigated crops in the Alqueva system from 2014-2016 (NB: percentages may decrease as new irrigation blocs start operating; in fact there was an absolute increase from 20.000 to 32.000 hectares of irrigated olive groves)

Definitions

Socio-spatial relations

the multiple, inter-dependent ways in which the social constructs the spatial; a territory, a geographic scale for managing natural resources, a network of horizontal collaboration, a sense of place with unique features;

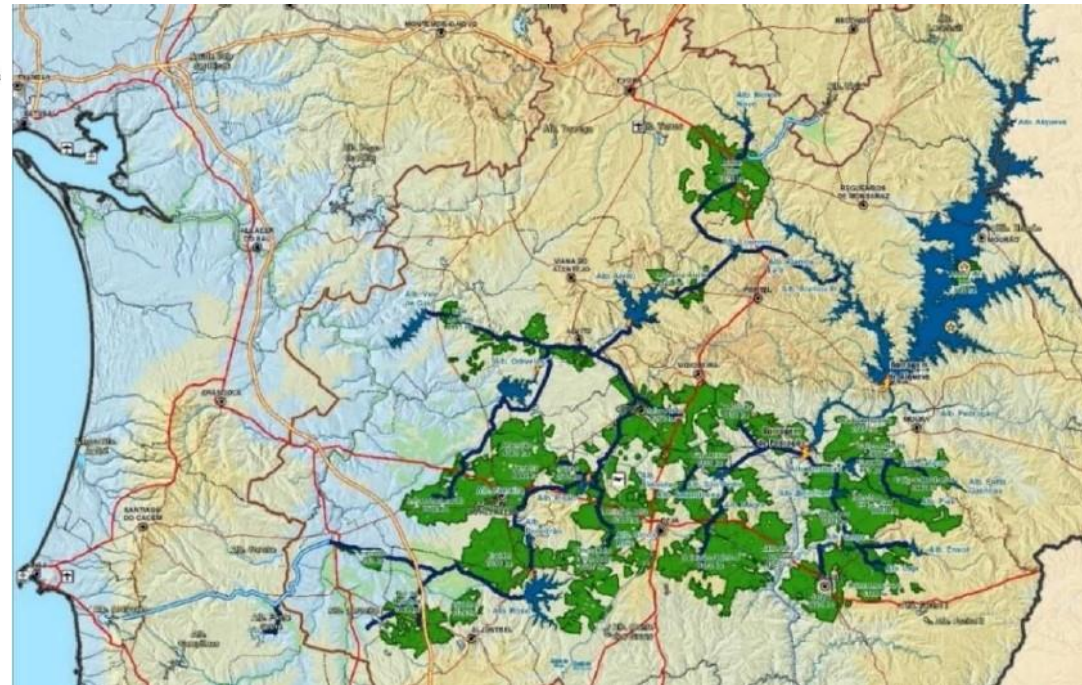
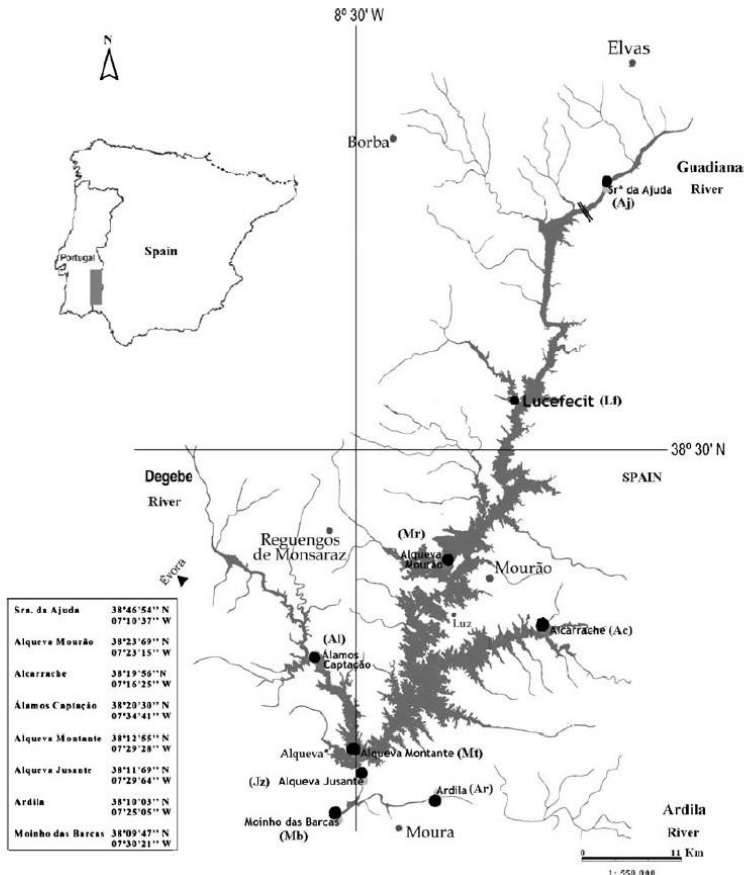
Actor-network

new heterogeneous networks constituted by both social (individuals, organisations, rules in use) and material elements (e.g. technologies, infrastructures, genes, olive tree varieties, fungi, fauna).

(Sustainable) Place

strong and mutually reinforcing dynamics between economy, community and ecology

Case study context

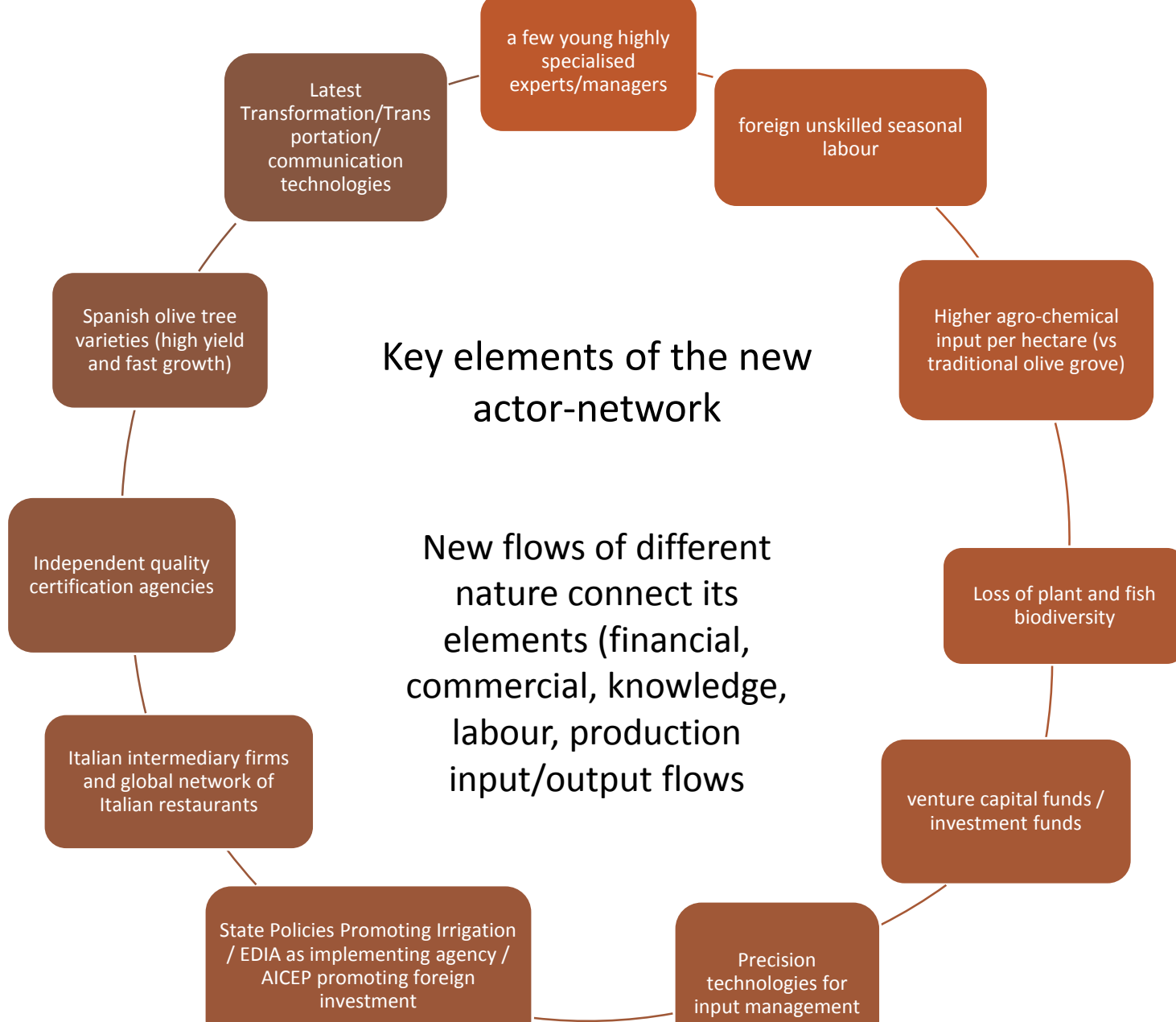


- Benefits 120 000 ha of agricultural land (construction of irrigation blocks ended in 2015; further 47.000 hectares being planned)
- Source of drinking water for 200 000 people / 20 municipalities in its area of direct influence

Key findings

In the olive sector cycle of intensification-financialisation-technoscience investment promoted by state and private investors

This is quickly generating a new dominant multi-scalar actor-network associated with intensive and super-intensive olive olive groves, and vertical integration of supply chains



Key findings

The new dominant actor-network is braking with previous links between economy, community and ecology

There is no exact assessment of the extent to which new financial, trade and labour flows are disconnecting new economic actors from local communities

- But there are indicators that point to a high risk that this may be happening

There is no full assessment of the extent to which new production input & output flows associated with the new actor-network are damaging the ecological resources and processes underpinning community and agrarian economy

- But there is an increasing number of objective data from agronomic and life sciences research, indicating to the high risks involved

The role of institutions

Signs of lack of capacity to recognise risk, monitor key indicators and experiment with new solutions

Lack of adaptive capacity to deal with large scale disruption of social-ecological systems caused by climate change

Importance of engaging in learning and decision processes at biophysical scale (landscape / water catchments) connecting stakeholders and different types of knowledge and expertise

