

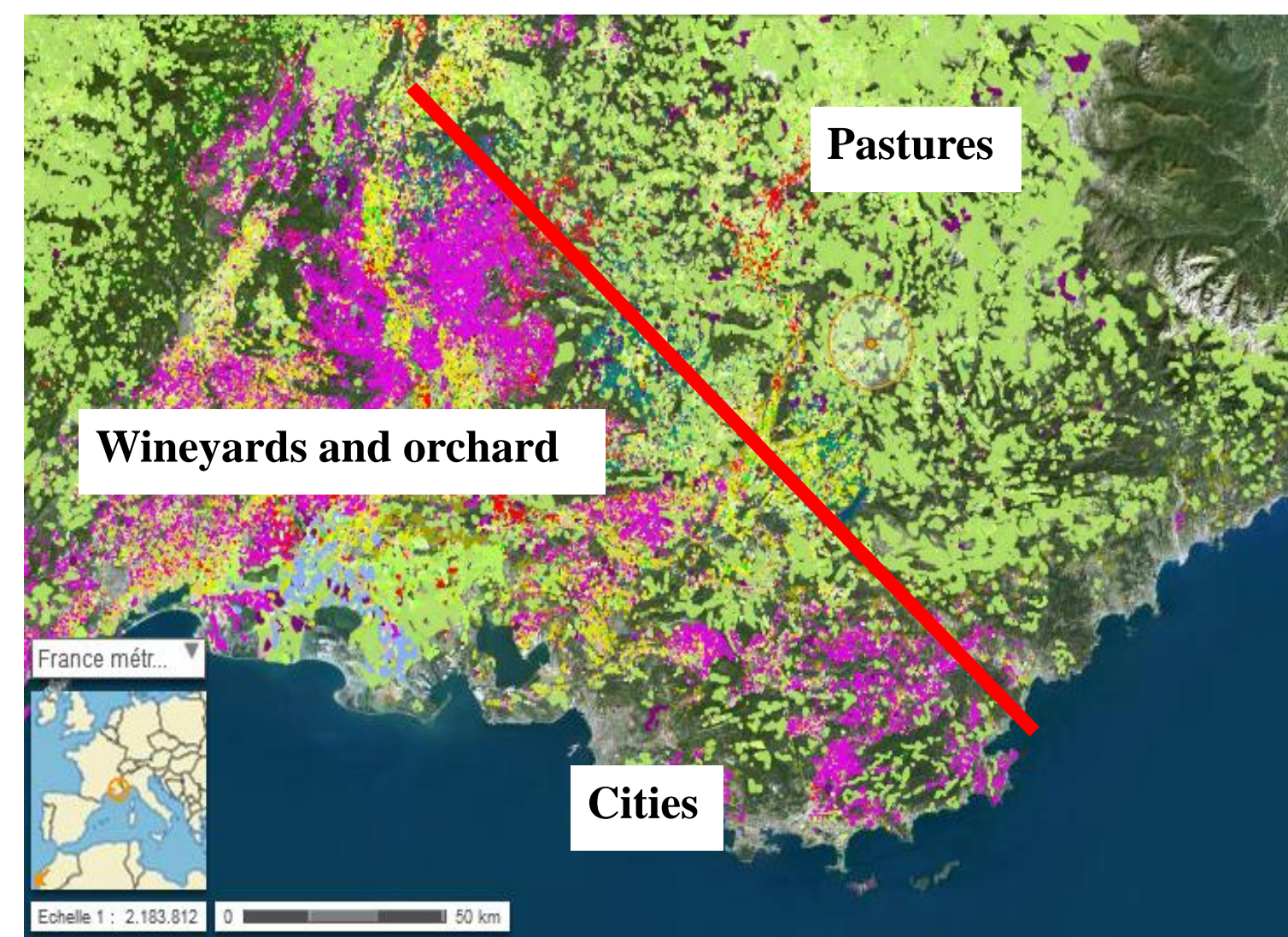
Crop livestock integration at landscape level in Mediterranean : a comparative case studies analysis

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Previously sheep farming in French Mediterranean areas was relying on forage resources combination from contrasted component of landscape (Sylva, Saltus and Ager) and mixed farm was the pivot. Crop and livestock integration is now stake at territory level to increase forage self-sufficiency, efficiency in resource consumption and adaptation to global change.

A big shift in mediterranean land use

Specialized crop farms on lowlands and environmental hazards increasing (biodiversity, decreasing in soil fertility...)



Example of the Provence alpes cote d'Azur region in France

Withdrawal of livestock farming in mountains, few economical returns for local development, livestock farms weakened regarding forage self-sufficiency

This research rely on comprehensive interviews of stake holders in south of France (Alps and plains of Provence region, Pyrenees and roussillon plain) to identify socio technical network, going on of collective action, involvement of livestock farmers in crop-livestock integration initiatives, consequences on livestock farms and practices

3 ways to foster crop livestock integration at landscape level

Vicinity grazing on cash crop fields based on traditional neighborhood relationship



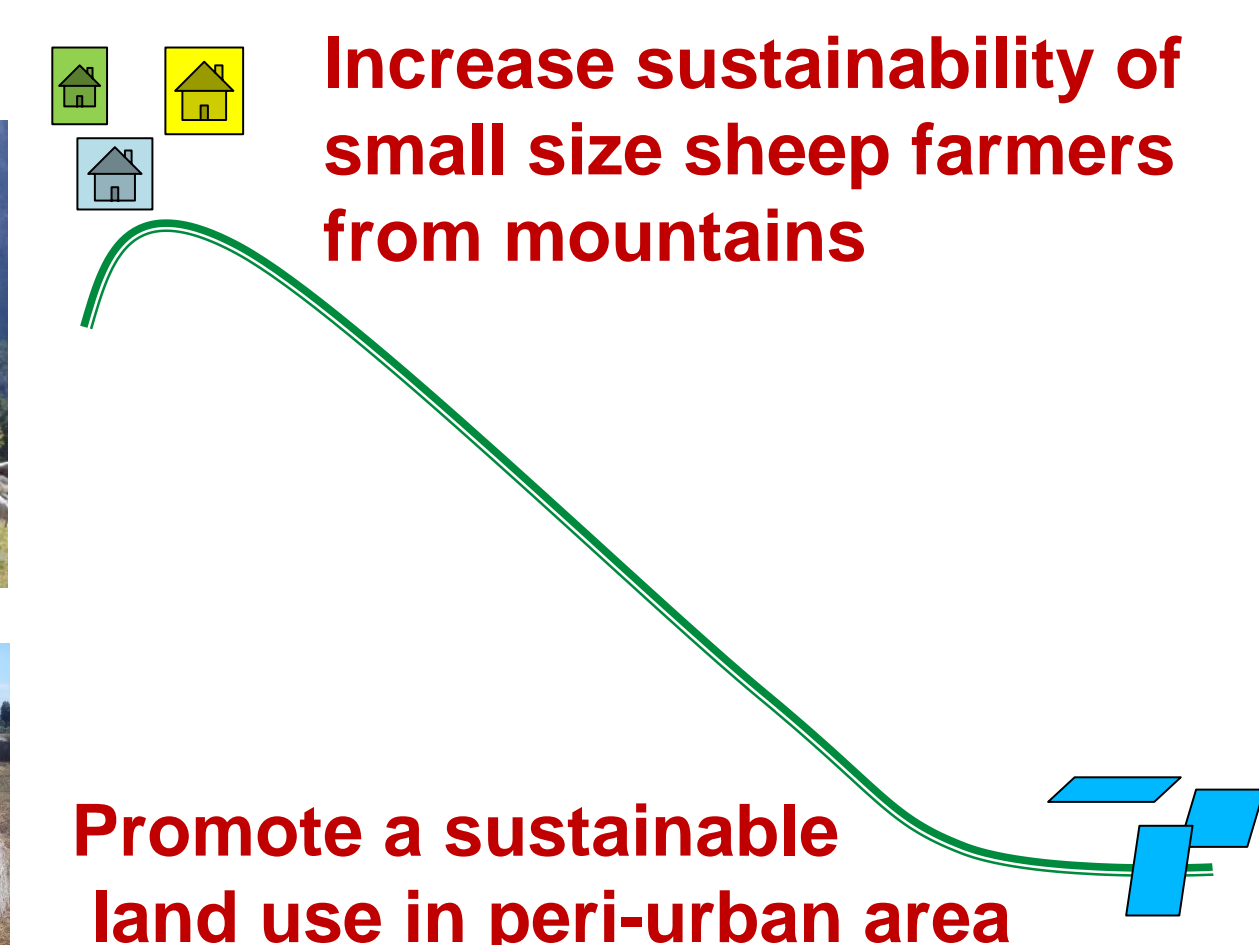
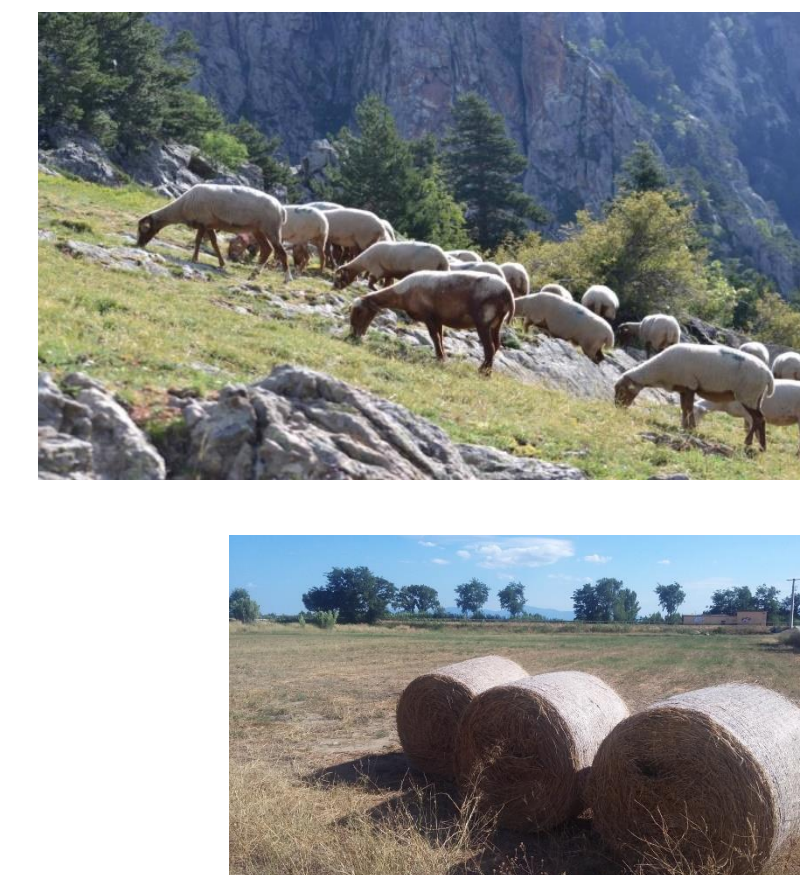
This integration remains possible in foothill areas where a diversity of production system are still operating. It relies on inter-individual relationships inherited from traditional social organization, decreasing and of limited perspectives due to disintegration of rural communities and local specialization. The renewing of this forms of crop livestock integration could helps in maintaining high value landscapes.

Distant winter grazing based on lateral agreement between livestock farmer and vineyard owners



This crop livestock integration connects mountain livestock farmers and vineyard land owners in lowlands. It is based on mobility for farmers and flock and a wide social network. The flock moves to graze vineyards during winter season. Large size flocks are concerned allowing in return new enlargements. It allows farmers to escape limited access for resources in mountainous valleys and accompany in plains the conversion of vineyard to agro ecology. But these actions don't take place in explicit territorial development schemes.

Distant production of winter forage (D.F.) on removed peri-urban vineyard of plain



The Fricato project is associating local stakeholders from lowland and landless livestock farmers from the foothill of the Canigou mountain. It aims at giving access for livestock farmers to the peri-urban abandoned arable lands to grow forages on an agro-ecological way. This is so promoting diversified landscapes of lowlands and livestock farming of foothills through delivering winter forages. Such projects could be extended at regional scale depending on the public incentives and involvement of local authorities to coordinate actions.

Future for crop livestock integration at landscape level...

These actions at landscape level are ways for recoupling crop and livestock. Their sustainability rely on territorial and non-sectorial policies that have to be more strongly stated.

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