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# Combating farmland abandonment

## Can we shift towards a proactive approach?

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## Highlights

- Underlying causes  $\neq$  triggering events/processes
- We often act on underlying causes
- Complementary approaches may be considered

# Outline

## ① Farmland abandonment: causes and facilitators

Examples

Risk of farmland abandonment: indicators

## ② Instruments to combat farmland abandonment

Examples

## ③ Final remarks

# Farmland abandonment: Definition

“A cessation of management which leads to undesirable changes in biodiversity and ecosystem services”

Terres & Nissini, 2013. *Assessing the risk of farmland abandonment in the EU*



# Causes: Relatively well known

## Underlying causes

- Biophysical aspects
- Farm and parcel structure

## Triggers

### Substantial changes:

- Technological
- Social or economic
- Political or institutional
- ...

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# Example: technological change



Photos: R.M. Anderson, 1925; L.M. Bugallo, 2009.

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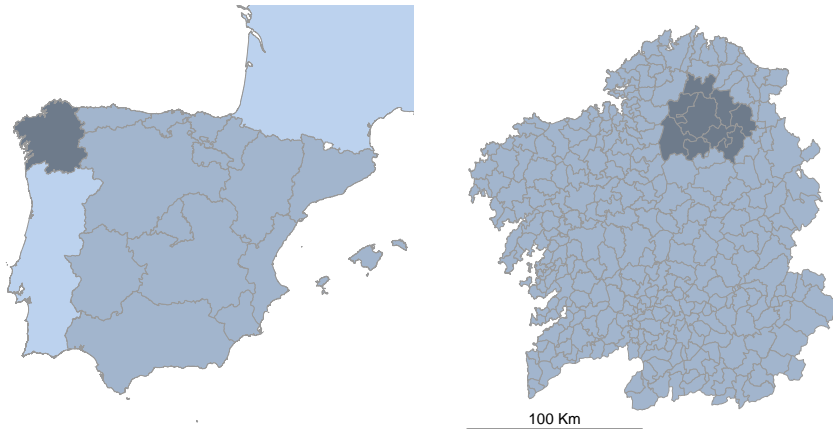
# Example: technological change

## Industrialization of farming

- Spatial specialization
- Changes in the location of farming
- Intensification / extensification

# Technology or policy change?

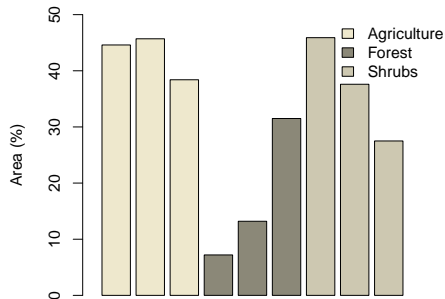
Example: accession of Spain to EEC in 1986



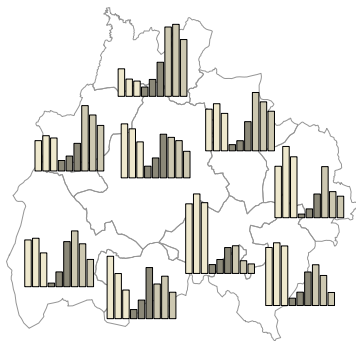
Corbelle, Butsic, Enríquez & Radeloff, under review.

# Technology or policy change?

Example: accession of Spain to EEC in 1986



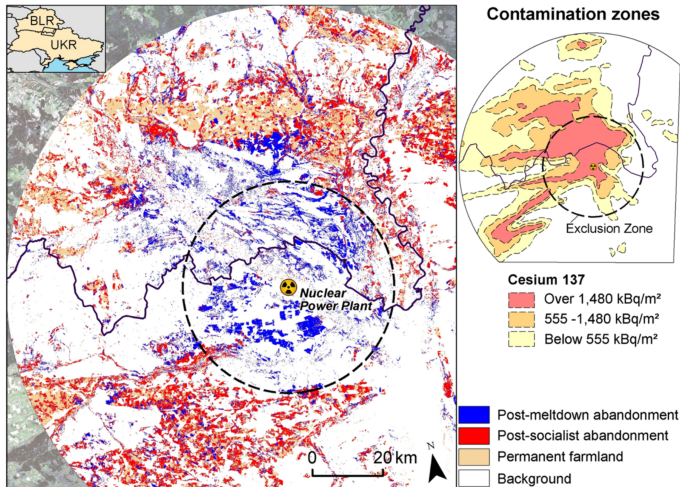
Percentage of each class in 1956, 1984, and 2009



Corbelle, Butsic, Enríquez & Radeloff, under review.

# Policy or catastrophic changes?

Example: collapse of Soviet Union and Chernobyl accident



Hostert, Kuemmerle, Prishchepov, Sieber, Lambin & Radeloff, 2011. *Env. Res. Letters*, 6(4).



# Monitoring underlying causes: IRENA operation

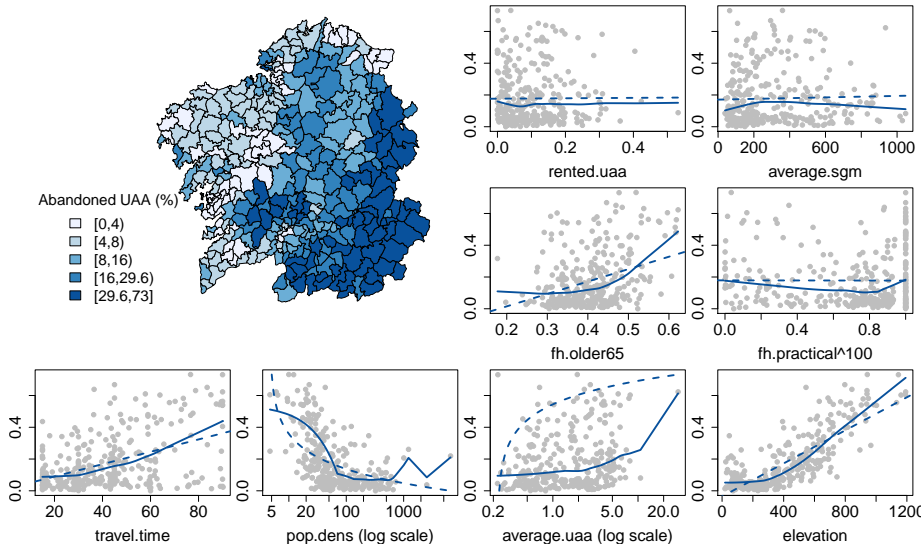
## Agro-Environmental Indicator 14: Risk of farmland abandonment

### *Drivers:*

- 1 Weak land market
- 2 Farm income under regional average
- 3 Low investment in the farm
- 4 Age of farm holder
- 5 Low farmer qualification
- 6 Previous trend of farmland abandonment
- 7 Remoteness, difficult access, and low population density
- 8 Low farm size
- 9 Farm enrolment in specific schemes

Terres & Nissini, 2013. *Assessing the risk of farmland abandonment in the EU*

# AEI 14: Empirical assessment



Corbelle & Crecente, 2014. *Land Use Policy*, 38.

# How to prevent farmland abandonment?

The focus on underlying causes

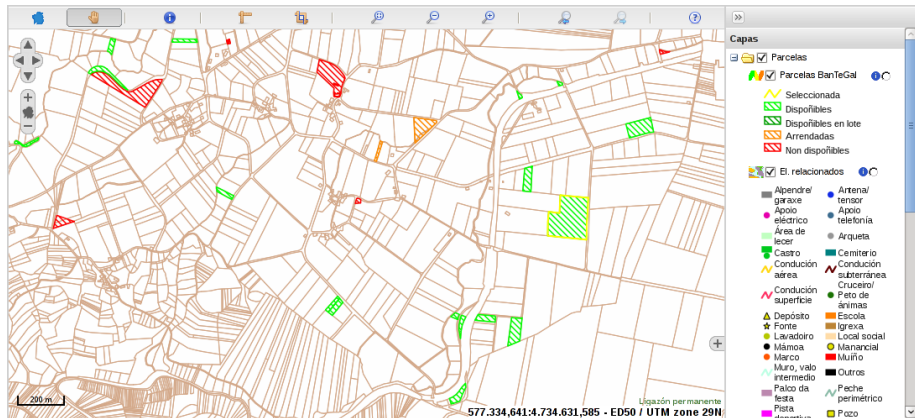
## European rural development policy

- **Payment for areas with natural handicaps**
- Financial support for land consolidation, afforestation, and early retirement

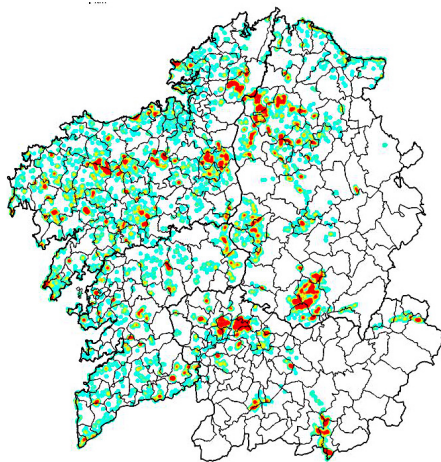
Answer by Mr Cioloş, on behalf of the Commission, to a written parliamentary question in January 2011.

# Example 1: Land Bank of Galicia, Spain

<http://sitegal.xunta.es>



## Example 2: MobilizaTe



*Heat map:* area (ha) fulfilling requirements in a 2 km radius

### Participants

- U. Santiago Compostela
- Foundation “Juana de Vega”
- Land Bank of Galicia
- Caja Rural (financial entity)
- Cooperatives and farms

### Initial requirements

- Maize productivity  $>9$  Tm / ha
- Land currently not in use

# Example 3: algorithm for multiple parcel exchange

## Initial parcel distribution



Corbelle, Porta & González, in preparation.

# Example 3: algorithm for multiple parcel exchange

Initial parcel distribution



Solutions produced (10 tests)

Corbelle, Porta & González, in preparation.

# Final comments

- We often focus on underlying causes of abandonment (...which is right)
- Complementary approaches may help





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