

Ambrogio Lorenzetti, The Allegory of Bad and Good Government

Protecting soil for protecting man

Costanza Calzolari, CNR - IRPI



7th European Congress
on Regional Geoscientific Cartography
and Information Systems
Sustainable Geo-Management

Bologna, Italy, June 12th – 15th 2012



Outlines

- n Soil consumption and land take affect humans and human activities
 - q Health issues
 - q Well-being
 - q Food security



Agricultural calendar, Pietro Crescenzi (1233-1320)



Soil contamination



n Contaminants transfer from soil

q Direct ingestion

q Powders inhalation

q Direct contact

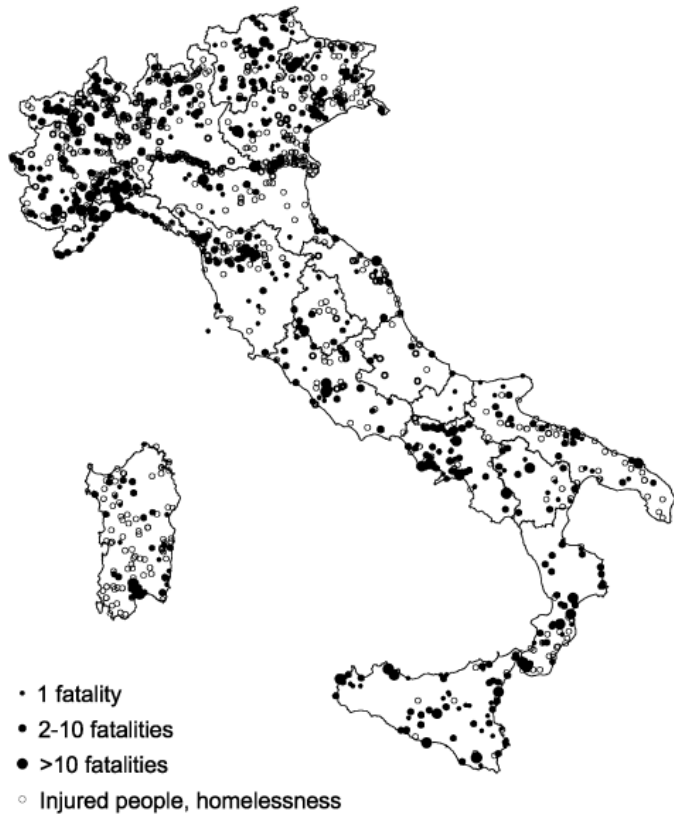
q Food chain

n Water contamination

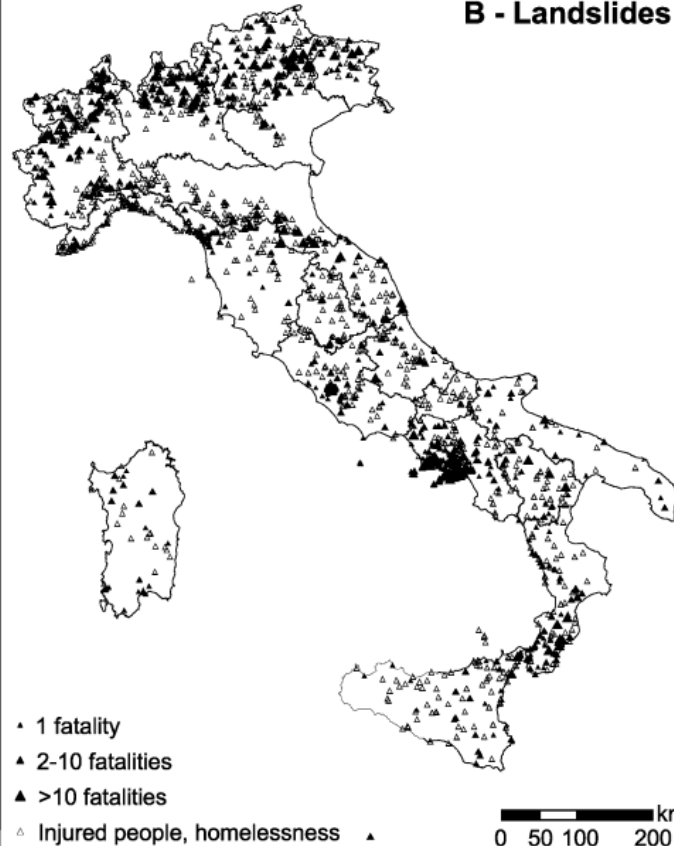


Geohydrological risks

A - Floods



B - Landslides



n > 45,000 fatalities in 2580 flood and landslide events, between 1300 and 2002 (Guzzetti et al, 2005)

n > 450,000 landslides recorded (APAT, 2007)

Guzzetti et al, 2005



7th European Congress
on REgional GEOscientific Cartography
and Information Systems
Sustainable Geo-Management

Bologna, Italy, June 12th – 15th 2012



Well-being



<http://en.landschaftspark.de/>



7th European Congress
on Regional Geoscientific Cartography
and Information Systems
Sustainable Geo-Management

Bologna, Italy, June 12th – 15th 2012



Food security

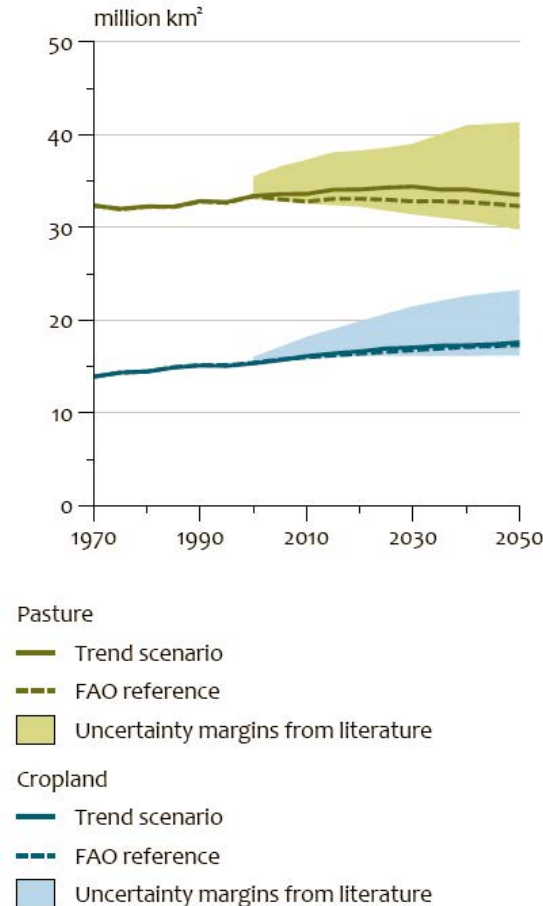
- n To guarantee long-term food security for European citizens and to contribute to growing world food demand (COM(2010) 672 final)
 - q Food security as the necessary conditions to have physical and economic access, in socially acceptable ways, to sufficient, safe, nutritious food to maintain a healthy and active life
 - n already threatened at global scale by land degradation processes, e.g. desertification
 - n by competition for energy crops
 - n and, in densely populated and industrialised areas, by soil consumption, mainly by sealing



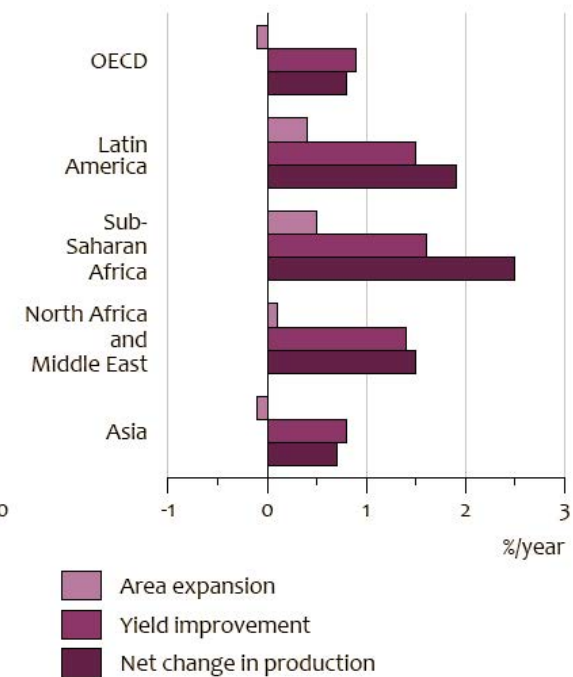
Global trends

- n Increasing global demand for land
 - q Food
 - q Fibers
 - q Energy
- n Slower growth of crop yield rates
- n Higher pressure on natural environments

Total



Underlying trends



van Vuuren and Faber, 2009



7th European Congress
on REgional GEOscientific Cartography
and Information Systems
Sustainable Geo-Management

Bologna, Italy, June 12th – 15th 2012



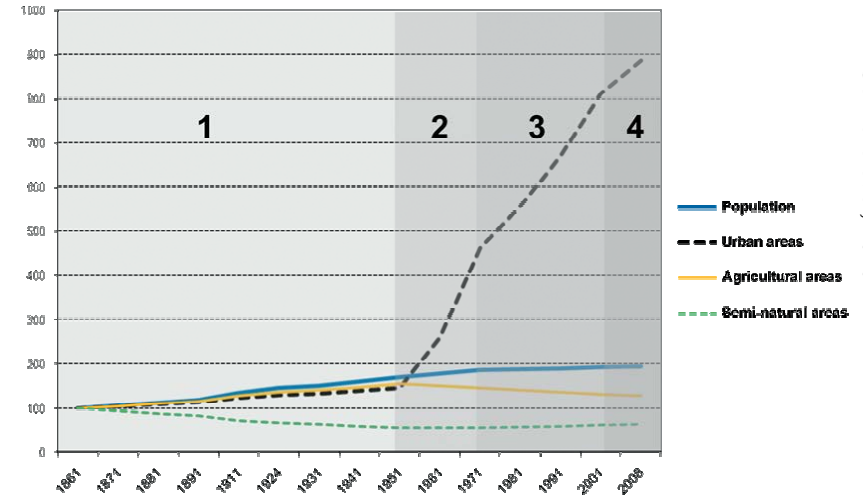
Local trends

n Present

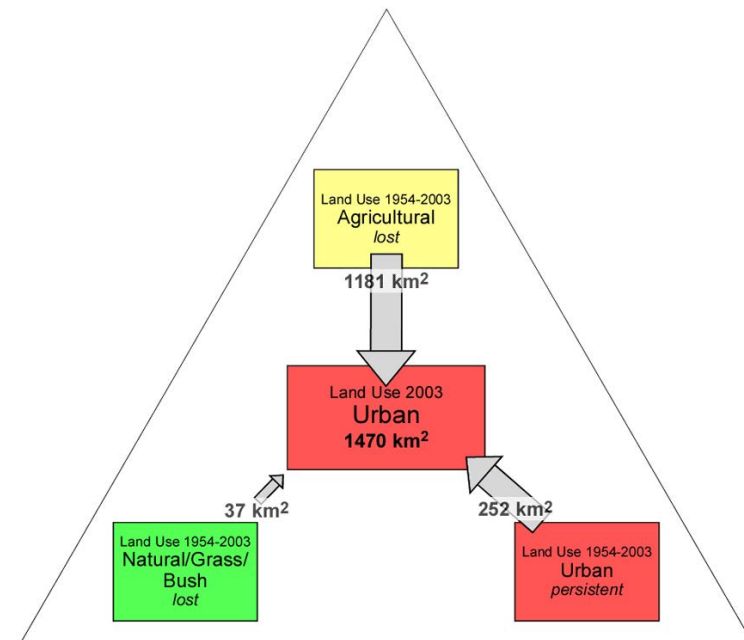
- q - Agricultural land
- q ~ Forests and natural grassland
- q + Urban

n Future

- q New expansion following global trends?
- n Where?
- n How?
- n Consequences?



Di Genaro et al, 2010



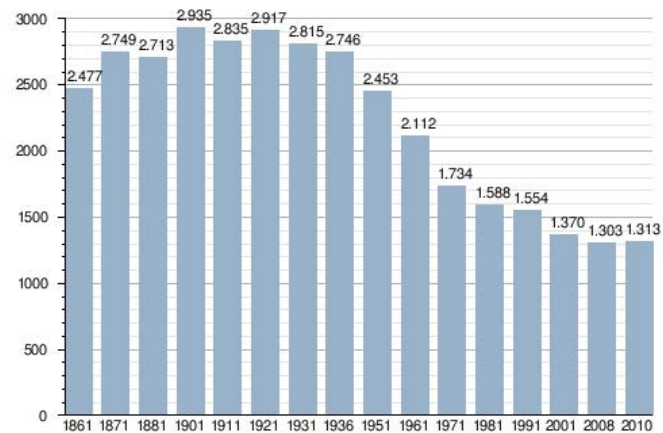
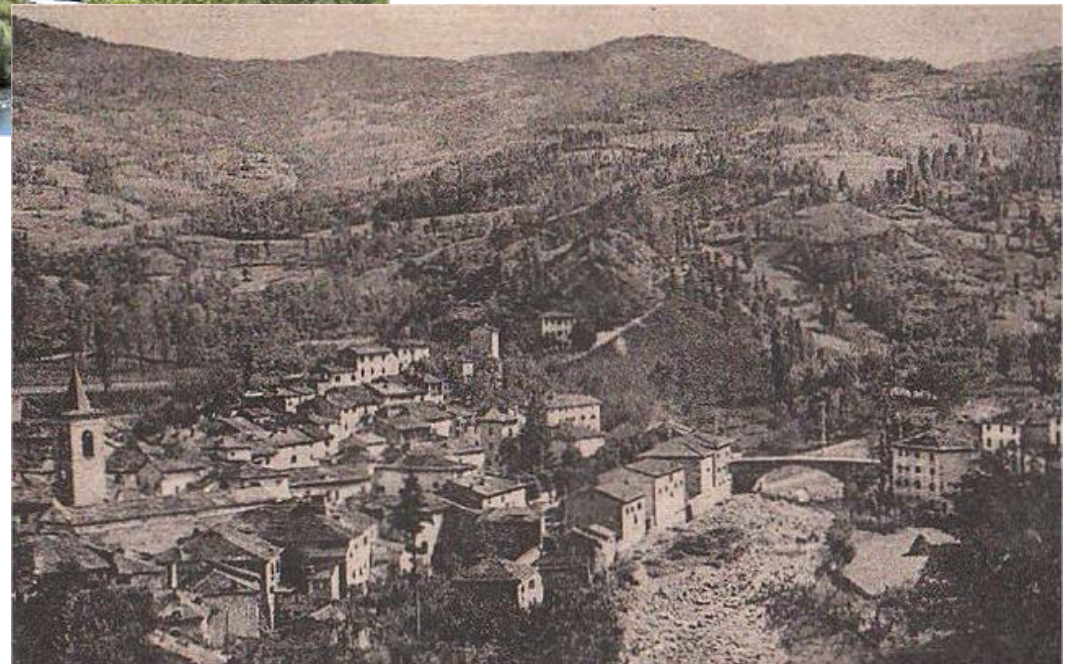
Regione Emilia Romagna, 2010



n Fiumalbo (MO)

q 2012

q Early 1900'ies



fonte ISTAT - elaborazione grafica a cura di Wikipedia



7th European Congress
on Regional Geoscientific Cartography
and Information Systems
Sustainable Geo-Management

Bologna, Italy, June 12th – 15th 2012



Concluding

- n Soil provides numerous services through its functions
- n Soil functions may be mutually exclusive
- n Preserving as many as possible, to preserve our common future



"Ciclo dei mesi", Trento, Castello del Buonconsiglio, dated 1400



Challenges for the governance of soil consumption

- n Soil is a limited resource, fertile soils even more limited
- n Countryside and town are both human environments in mutual relationships
- n Protect soil to preserve our common future



Ambrogio Lorenzetti (1290-1348): The Allegory of Bad and Good Government, Siena, Palazzo Comunale



7th European Congress
on REgional GEOscientific Cartography
and Information Systems
Sustainable Geo-Management

Bologna, Italy, June 12th – 15th 2012





Ambrogio Lorenzetti, The Allegory of Bad and Good Government



7th European Congress
on Regional GEOscientific Cartography
and Information Systems
Sustainable Geo-Management

Bologna, Italy, June 12th – 15th 2012

