

Food security  
Agriculture



Sustainability  
Agro-environment

Advanced methodologies  
Rural planning

New challenges

## Measuring agriculture and rural planning with advanced methods



**Three agro-economical-statistical conferences will take place at  
EXPO 2015 - Italian Pavilion, Monday, 31 August 2015**

*Initiatives selected by the Conference of Italian University Rectors*

**I. New challenges and cross-cutting issues in agricultural and rural planning**

***Second session:***

***Rural land management and planning: crosscutting and interdisciplinary issues***

***Urban VS Rural development***

***by Roberto Fanfani***

***(Alma Mater studiorum – Università di Bologna)***

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## Measuring agriculture and rural planning with advanced methods

**The urban and rural development processes are strictly related to:**

- **continuous and non-linear changes among multi-dimensional aspects:**
  - demographic, socio-economic, environment and resources endowment , Cultural heritage and landscape, Institutional and governance aspects.*
- **changing of the U/R relationships over time and space.**

**The complex and changing relationships amplify the difficulties to define:**

- **a taxonomy of rural and urban areas**
- **and, even more, an appropriate policy mix for development**



## Measuring agriculture and rural planning with advanced methods

**To better understand the close relationships between U/R areas we could consider some aspects of demographic changes.**

- **Some interesting examples from Italy**

**a country that after WW2 has experienced a rapid process of development:**

- **a fast passage from agriculture to industrialization**
- **a great change of resident population**
  - **inside the country (from countryside to cities, from South to Nord)**
  - **A great migration toward european countries**

- **Demographic changes over time and space in Italy**

- **Demographic changes in the structure of population in U/R areas**

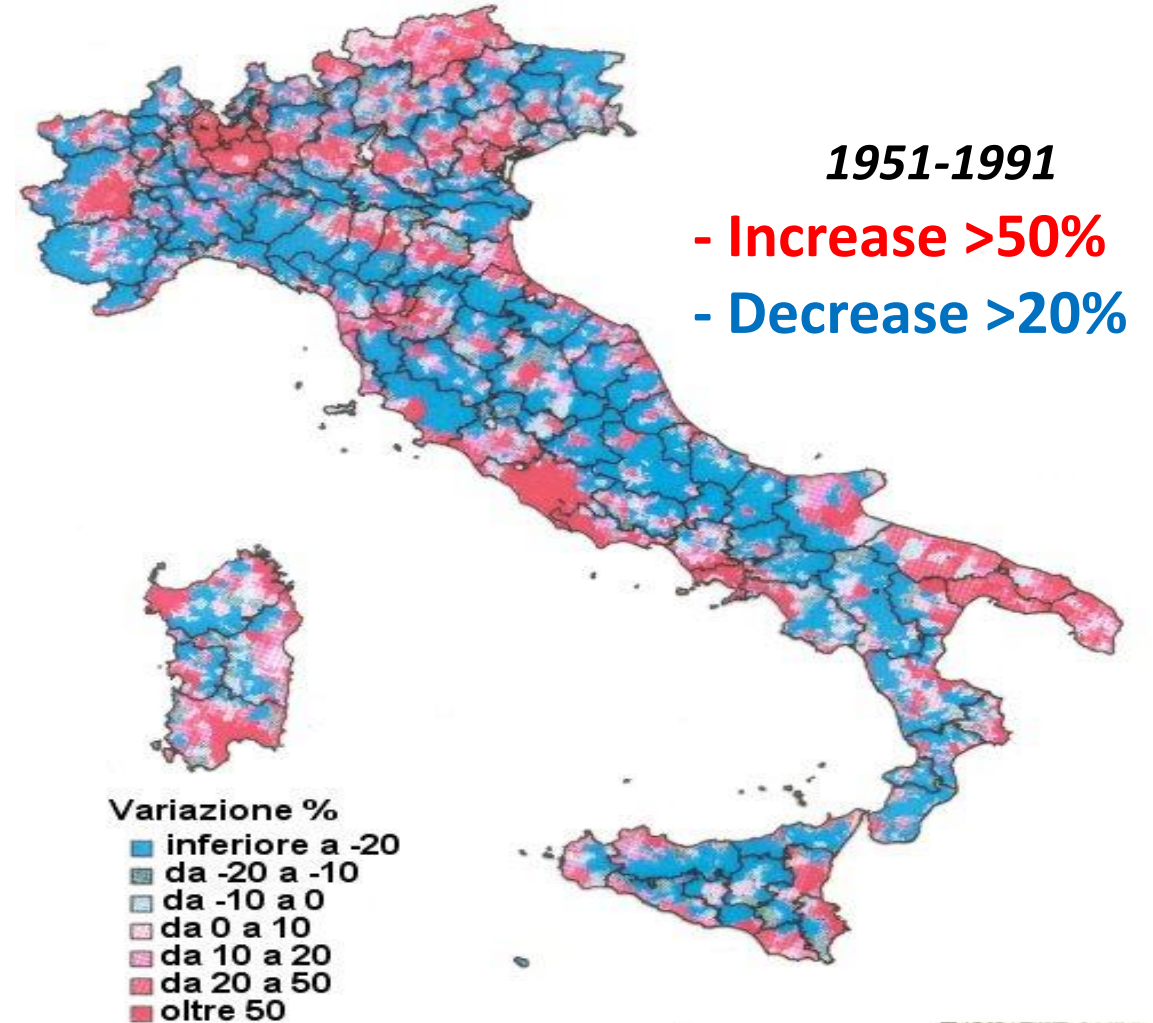


## Measuring agriculture and rural planning with advanced methods

### Demographic changes of resident population in Italy over time (1951-1991) and space (municipalities)

- The great change of resident population between 1951-1991 has interested:
- >30% of population change residence with
  - Increase by more than 50%
  - Decrease by more than 20%

DINAMICA DELLA POPOLAZIONE RESIDENTE 1951-1991





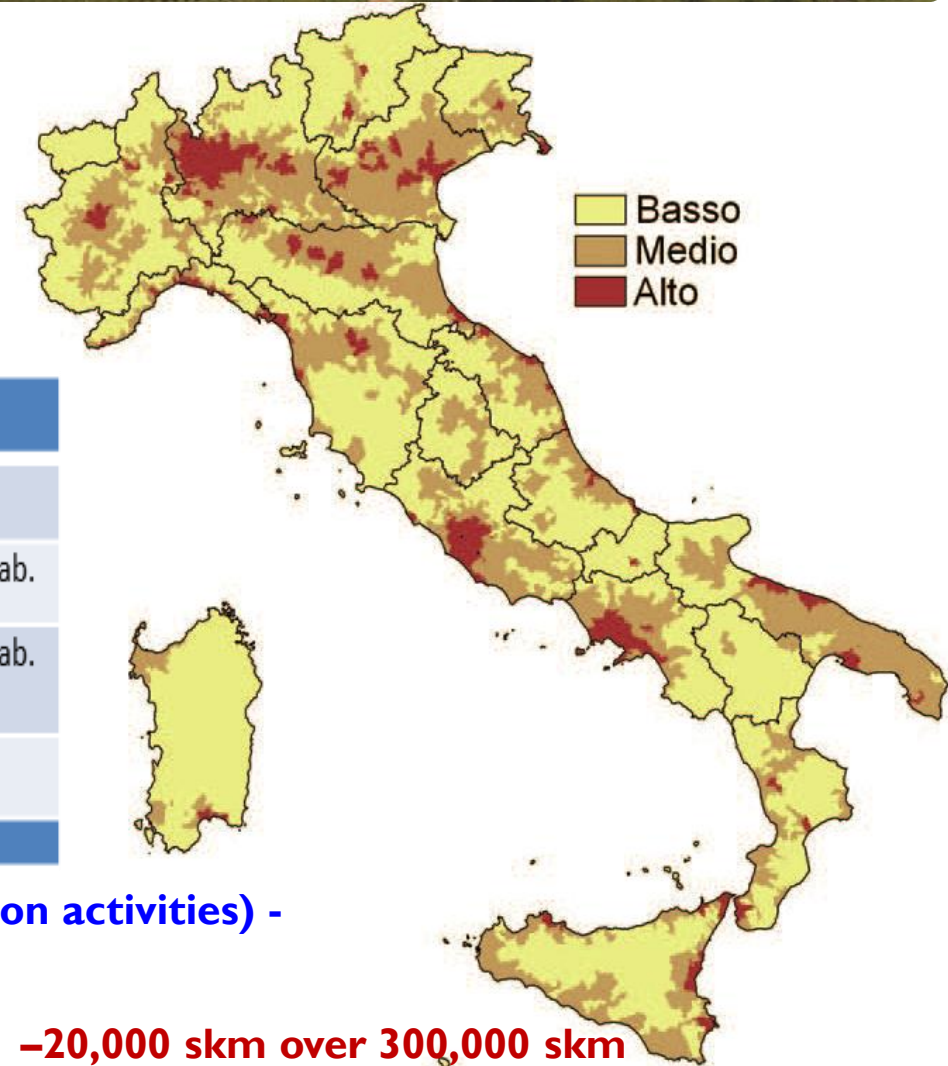
## Measuring agriculture and rural planning with advanced methods

The Degree of urbanization in Italy increased with great importance of High and medium degrees Year 2001 – (municipalities, Lau2 level)-

**High (44%), Medium (39%), Low (16%)**

Urbanization degree in Italy and EU (%)			
	Italy(%)	EU-27(%)	
High(alto)	44,6	47,0	Densità popolazione >500 ab/Km2 e >50,000 ab.
Medium (medio)	39,3	25,0	Densità popolazione >100 ab/Km2 e >50,000 ab. Close to high density area
Low (basso)	16,1	28,0	The other areas

European Statistics on Income and Living Conditions, Eu-Silc- Unità amministrative locali (Lau2) - Comuni per l'Italia



**Surface of inhabited localities in Italy ( towns + production activities) -**

**National average**

**Relevance: (2011) 6.7% of Total Land Area (2011) -20,000 skm over 300,000 skm**

**Changes (2000-2011): + 8.8 % of surface (2000-2011)**

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## Measuring agriculture and rural planning with advanced methods

The complexities to define a taxonomy of rural and urban areas  
depend on  
the diversities existing within and between U/R areas.



## Measuring agriculture and rural planning with advanced methods

The complexities to define a taxonomy of rural and urban areas

### Some characteristics of Urban Areas

- Dimensions of cities (small, medium, big, metropolitan areas)
- Urbanization degree (High, medium, low)
- Dynamic changes of
  - Population (growing, stable, decreasing)
  - Economic activities (manufacturing, services, tourism)
  - Services, Higher education and S3

#### Some characteristics of Urban Areas in Italy and in the EU

City Dimension (Italy)		Urbanization degree (Italy/Eurostat)		Dynamic changes (%)	
Small	< of 50,000 ab.	Low	<i>No medium and High</i>	Decreasing	> -5%
Medium	50 to 250,000 ab.	Medium	<i>Densità popolazione &gt;100 ab/Km2 e &gt;50,000 ab. Close to high density area</i>	Stable	-5 to +5%
Large	> 250,000 ab.	High	<i>Densità popolazione &gt;500 ab/Km2 e &gt;50,000 ab.</i>	Growing	> +5%
Metropolitan	ten areas (Mi, To, Ge, Bo, Fi, Roma, Na, Pa)				

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## Measuring agriculture and rural planning with advanced methods

The complexities to define a taxonomy of rural and urban areas

### The increasing complexity to define Rural areas is related to the utilization of:

- **Simple indicator** (i.e. density of population-OECD)
- **Multiple-Threshold indicators**
- **Multiple sets of indicators** (demographic, socio-economic, resource endowment, Human capital, Territorial capital, specific disadvantages)
- **Dynamic trends of variables or set of variables**
- **More detailed analysis at disaggregated territorial level (NUTS2, Lau 2)**





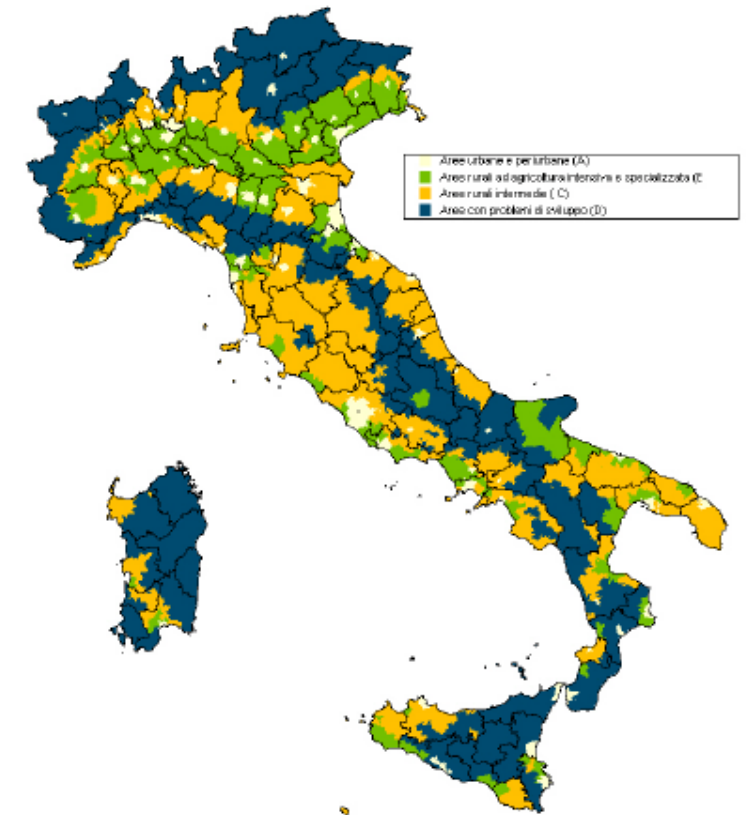
## Measuring agriculture and rural planning with advanced methods

The complexities to define a taxonomy of rural and urban areas  
Rural Development Plans of 2014-2020 consider  
four typologies of areas

- a) Urban and peri-urban areas;
- b) Specialised Intensive Agriculture Rural areas;
- c) Intermediate Rural Areas;\*
- d) Rural areas with Comprehensive Development Problems\*

\* In rural areas (c) and (d) it applies a new governance approach – the “Community Led Local Development ” (CLLD) – and may use structural Funds (ERDF, ESF, EMFF- In rural areas (d) it is possible to use specific measures and programmes such as the one for Mountain areas.

\*\* A new map of Rural Disadvantaged areas will be defined in 2017. The new classification will utilise a complex system of indicators: socio-economic, but also technological and environmental indicators (low temperature, heat stress, soil drainage, soil texture and stoniness, soil rooting depth, soil chemical properties, soil moisture balance and slope).



- a) Urban and periurban areas;
- b) Rural areas with intensive agriculture;
- c) Rural areas intermedie;\*
- d) Rural areas with development problems\*.-



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## Classification of disadvantages

### Disadvantaged Rural areas (dir.CE 268/75)

- Mountain areas, tot. delimited (art.3 par.3)

- Mountain areas, part. delimited (art.3 par.3)

- Areas in danger of depopulation, tot. delimited (art. 3, par. 4);

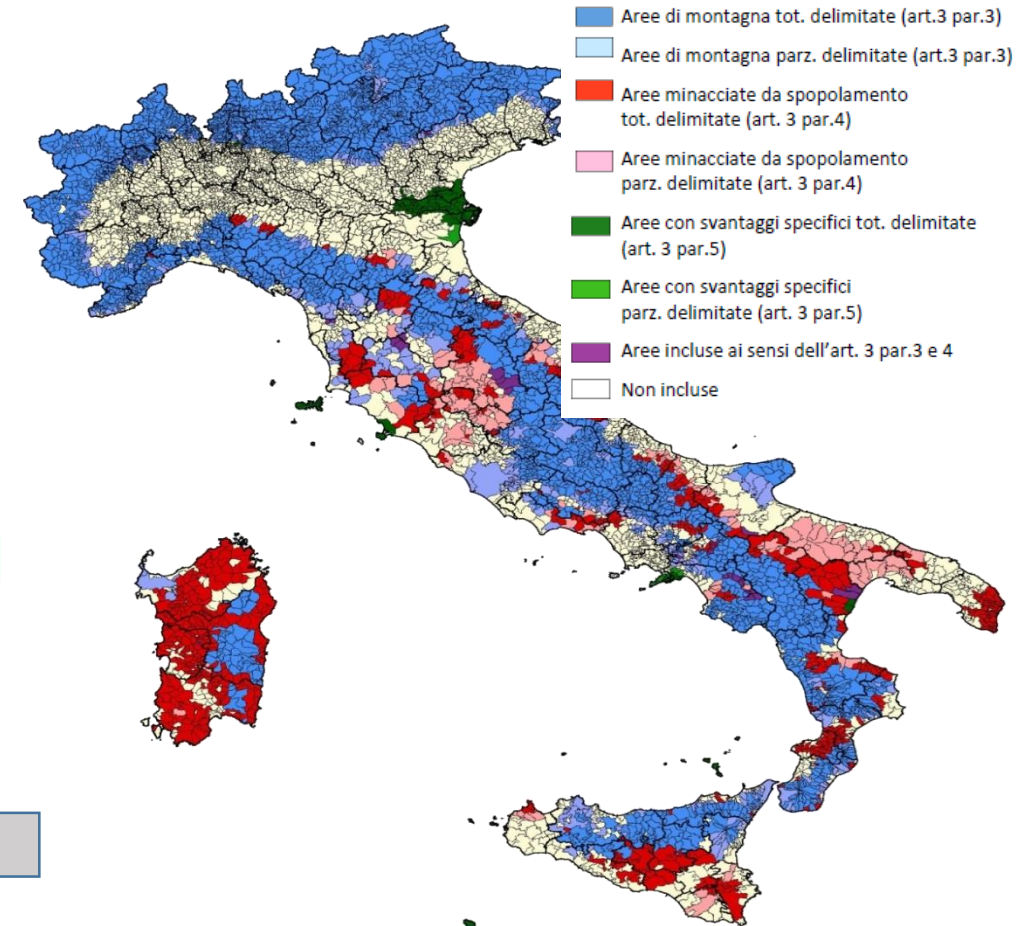
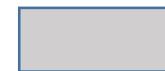
- Areas in danger of abandonment, partially delimited (art. 3, par. 4);

- Areas affected by specific handicaps, tot. delimited

(art. 3, par. 5);

- Areas affected by specific handicaps, part. delimited (art. 3, par. 5); Areas included art. 3 par. 3 and 4

- Not INCLUDED





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## Different URBAN AND RURAL AREAS –

### Mapping different URBAN AND RURAL AREAS

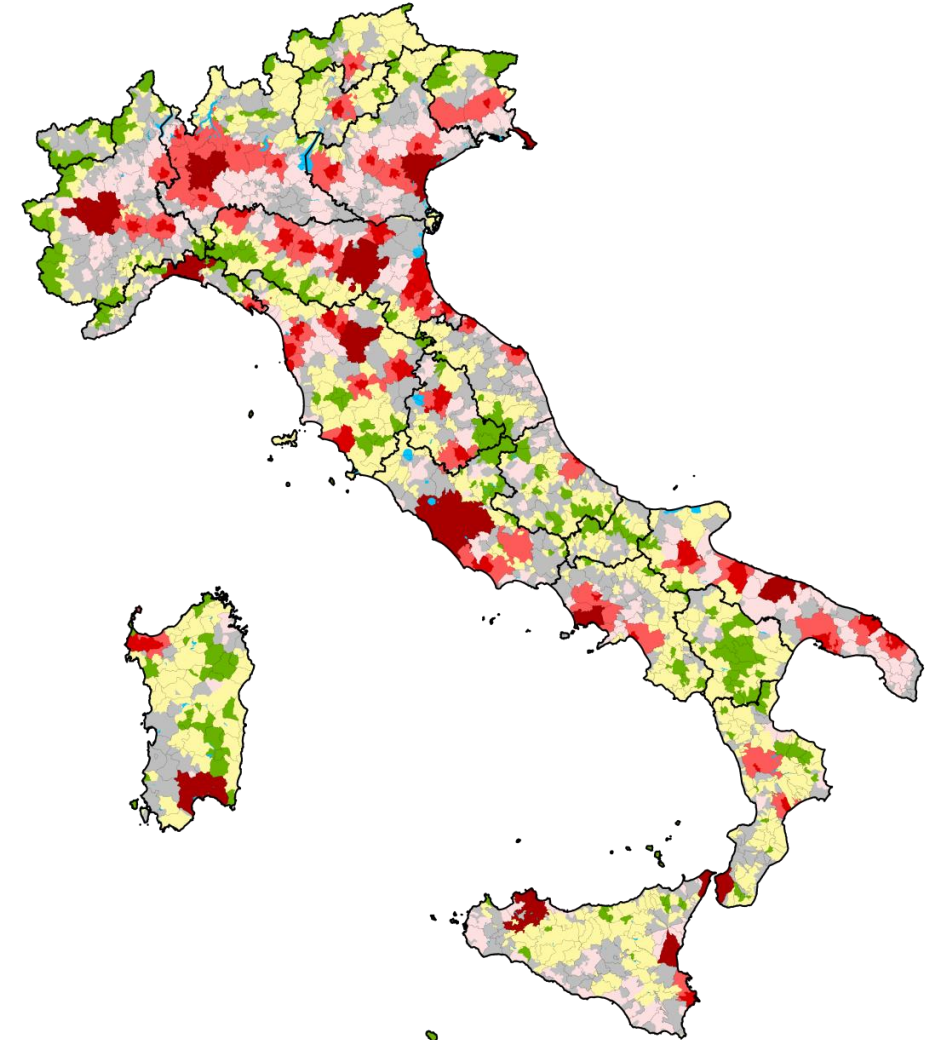
(an example, CAIRE 2014)

#### -----URBAN- PERI-URBAN Areas

- Metropolitan Cities
- Cities with > 90.000 residents
- Local system of Cities with >250,000 residents
- Other Local system > 35,000 inhabitants and > 200,000 inhabitants with great accessibility (<30')

#### -----RURAL areas

- Intermediate Areas
- Internal Areas (comuni con meno di 50.000 abitanti accessibili in 30')
- Ultra-peripheral internal areas
- Regional border





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Different URBAN AND RURAL AREAS in Italy- see previous slide

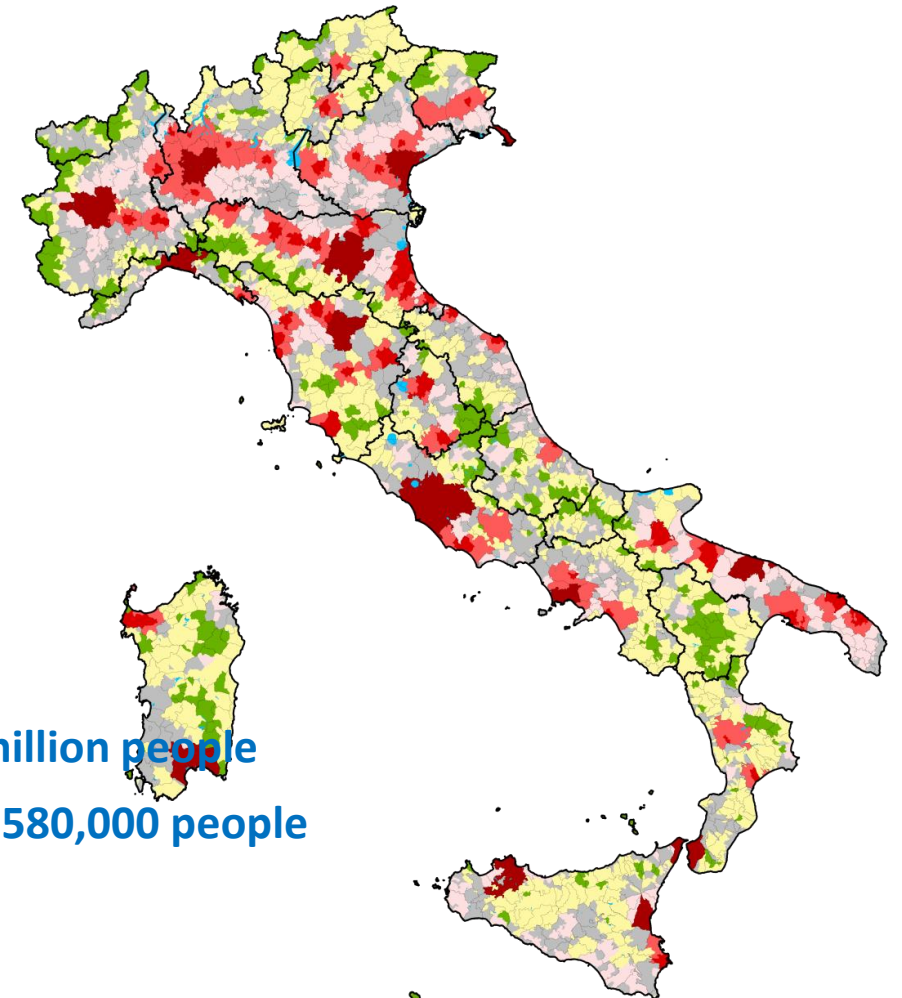
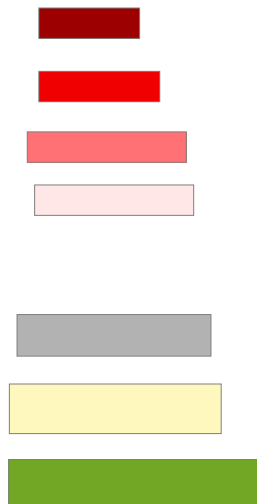
### The 60 million population in Italy (2010):

- **46 million in Urban areas (3/4)**

- 55% in highly urbanised areas
- 20% of population in peri-urban areas.

- **14 million in rural areas (1/4)**

- 15% intermediate areas
- 8% internal areas,
- 1% ultra-peripheral (remote) areas



- The internal rural areas: 42% of national territory with only 5 million people
- The remote rural areas: 10% of the national territory with only 580,000 people



## Measuring agriculture and rural planning with advanced methods

### Great structural changes in Agriculture and Land utilisation in Rural areas over the last 50 years: 1961-2010

The profound change of the territorial distribution of population has been accompanied and in large part determined by:

- The decline in the number of Farms,
- the shrinking of Agricultural areas,
- the reduction in the number of days worked



## Measuring agriculture and rural planning with advanced methods

### Great structural changes of Farms and Land utilisation (last 50 years:1961-2010)

- **Number of Farms** - **62%**
- **Total Agricultural Areas (TAA)** - **35%**
- **Utilised Agricultural Area (UAA)** - **26%**

### Total territorial area of Italy

(302.073 sqkm: 35% mountain, 42% hill )

- **1961** - TAA was **> 90%** of Total
- **2010** - TAA was **< 60%** of Total

	Farms		(TAA)		(UAA)	
	Number (000)	Var %	HA (000)	Var %	Ha (000)	Var %
UNIVERSO ITALIA						
1961	4.294	-	26.572	-	-	-
1970	3.607	<b>-16,0</b>	25.065	<b>-5,7</b>	17.491	
1982	3.269	<b>-9,4</b>	23.631	<b>-5,7</b>	15.843	<b>-9,4</b>
UNIVERSO UE*						
1982	3.133	-	22.398	-	15.973	-
1990	3.023	<b>-3,5</b>	22.702	<b>1,4</b>	15.046	<b>-5,8</b>
2000	2.396	<b>-20,7</b>	18.767	<b>-17,3</b>	13.182	<b>-12,4</b>
2010	1.621	<b>-32,4</b>	17.081	<b>-9,0</b>	12.856	<b>-2,5</b>

\* Universo UE, comprende le aziende con più di un ettaro ed una produzione superiore a 2500€.



## Measuring agriculture and rural planning with advanced methods

### *Acceleration in Farms and agricultural land reduction in the last decades*

- 1982-2010:
- 50% of Farms\* (1,5 mln)
  - 24% of TAA (5,3 mln Ha)
  - 20% of UAA (3,0 mln Ha)

### *Strong reduction in Mountain and Hill areas*

#### Mountain areas

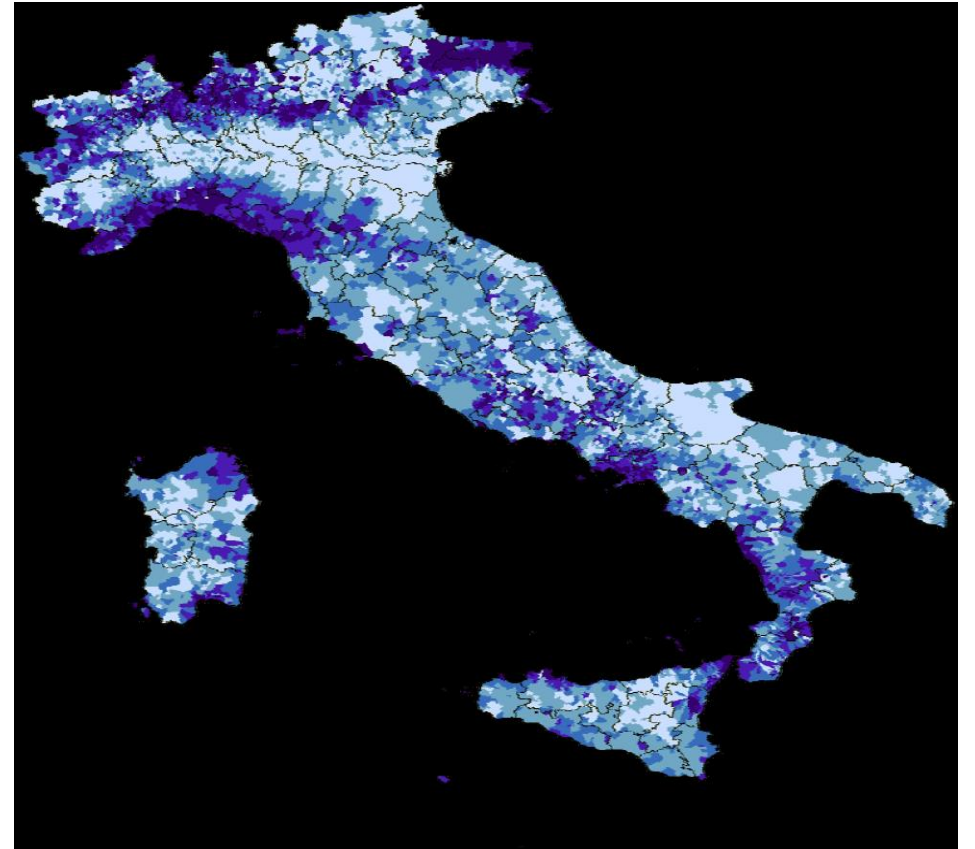
- - 408.000 farms - 60%
- - 2,5 mln Ha of TAA -34%

#### Hill areas

- -731.000 farms - 47%
- -2,2 mln Ha of TAA -23%

#### Lowland areas

- - 373.000 farms -42%
- - 570 mln ha of TAA -11%



Reduction of TAA 1961-2010 (Caire)

- greater than 80%
- less than 20%

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**Measuring agriculture and rural planning with advanced methods**

## How to reconcile **Urban** and **Rural** areas

**The better definition and classification of urban and rural areas and their structural and dynamic changes\***

**play a crucial role**

**in defining the road map for a possible reconciliation (partnership) between the different typologies of urban and rural areas**

\* in the previous part we presented some examples of possible taxonomy and structural changes, mainly referring to rural areas.

\*\* (REURBAN “Partnership for sustainable rural-urban development: existing evidences, 2012 “)

“rural-urban relationships as the basis for the partnership”



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## Measuring agriculture and rural planning with advanced methods

### How to reconcile and establish partnerships between Urban and Rural areas

- **Better food for better cities\***

- Satisfy Increasing need for better food and a healthy diet (secure, safety and quality of foods)
- Satisfy the food consumption of different aging groups and categories ( changing models inside as outside the family )
- Shortening the food chain and utilization of social innovation
  - availability of fresh food, organic and certified food, PDO - PGI foods and drinks, and traditional and local foods

- **Public goods and resources utilization**

- Sustainable agriculture and resources preservation,
- Improve the availability/distribution of natural resources (water, energy)
- Better provision of public goods inside the cities (greening) and in rural and peripheral areas (parks and natural reserves)

- **Infrastructure and services**

- **Improved accessibility in rural areas**

- ICT–Broadband National Plan for Rural and Urban Area (Rural development and Cohesion Funds)
- Accessibility and health, educational and social services
- Rural and cultural tourism
- **Higher education, Research and innovation, Smart specialisation (S3)**