The Italian agricultural areas with significant natural constraints: the fine-tuning approach with economic and structural factors

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Introduction

In 2019, a municipal-scale review of areas affected by natural constraints (ANCs) relating to climate, soil and morphology was developed based on the biophysical criteria stated by the EU regulation no. 1305/2013 on Rural Development, replacing the previous Less-Favoured Areas classification.

The municipalities identified were subsequently subjected to a Fine-Tuning process to exclude from the Italian designation of the ANCs those areas in which the biophysical handicaps have been offset by human intervention and or technical progress.

Objective

Application of structural and economic indicators to define the new geography of the Italian ANCs municipalities, other than mountain.

Materials and methods

National datasets were collected, harmonized and processed to calculate structural and economic indicators used in the Fine-Tuning process.

Biophysical criteria		Fine-Tuning approach	Thresholds
Climate	Low temperature	Standard Output Livestock density Greenhouses	Municipality SO(euro/ha) > 80% National SO(euro/ha) Livestock Unit/ha equal to 0,8 Municipality greenhouse surface > 50%
	Dryness	Standard Output Irrigation Greenhouses	Municipality SO(euro/ha) > 80% National SO(euro/ha) Municipality irrigated surface > 50% Municipality greenhouse surface > 50%
Climate and soil	Excess soil moisture	Standard Output Livestock density	Municipality SO(euro/ha) > 80% National SO(euro/ha) Livestock Unit/ha equal to 0,8
Soil	Limited soil drainage	Standard Output Livestock density Specific management practices- Rice	Municipality SO(euro/ha) > 80% National SO(euro/ha) Livestock Unit/ha equal to 0,8 Municipality rice surface(ha) > 50%
	Unfavourable texture and stoniness	Standard Output Livestock density	Municipality SO(euro/ha) > 80% National SO(euro/ha) Livestock Unit/ha equal to 0,8
	Shallow rooting depth	Standard Output Livestock density	Municipality SO(euro/ha) > 80% National SO(euro/ha) Livestock Unit/ha equal to 0,8
	Poor chemical properties	Standard Output Livestock density	Municipality SO(euro/ha) > 80% National SO(euro/ha) Livestock Unit/ha equal to 0,8
Terrain	Steep slope	Standard Output	Municipality SO(euro/ha) > 80% National SO(euro/ha)

STRUCTURAL INDICATORS

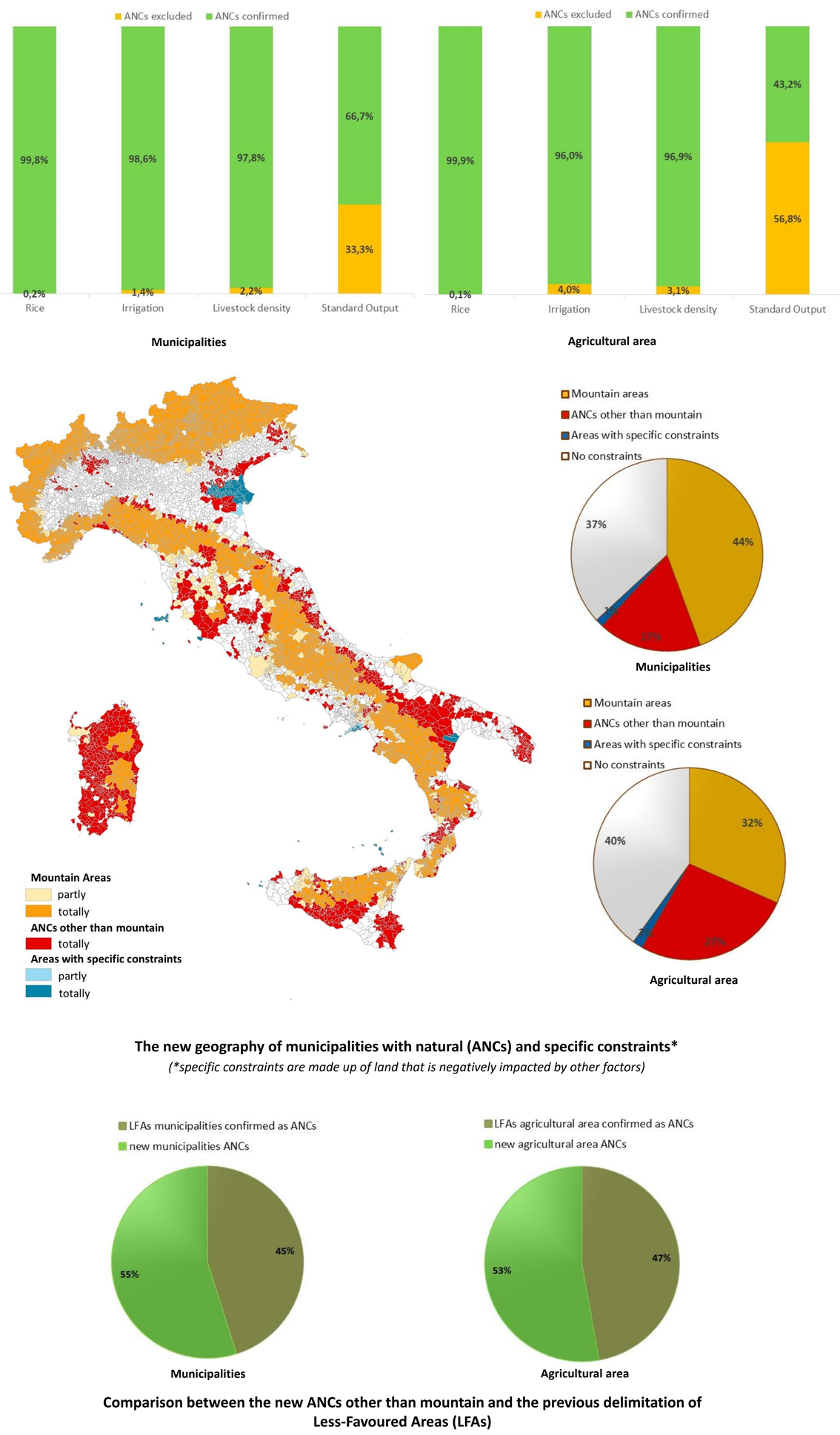
- **Irrigation** Calculation of the percentage of irrigated areas at municipal level by using the georeferenced irrigation districts (2019) from the National information System for the management of water resources in agriculture (SIGRIAN).
- **Greenhouses** Calculation of area covered with greenhouses at municipal level by using data from the National agricultural information system (SIAN) → No considerable impacts were found.

ECONOMIC INDICATORS

- **Standard Output** Calculation of Standard Output coefficients at municipal level by land use (data from SIAN) through the integration of statistical and administrative sources: ISTAT crop production statistics, Farm Accountancy Data Network (FADN) and National Database of the Zootechnical Register (BDN).
- **Livestock density** Calculation of livestock load per unit area (ha) at the municipal level for all animal species bred on the territory using data from the National Database of the Zootechnical Registry (BDN).
- **Specific management practices – Rice** Identification of areas where the presence of specific rice cultivation practices involves flooding of cultivated fields; in this case biophysical constraints are not considered as a handicap.

Results

INTEGRATION OF FINE–TUNING INDICATORS - STATISTICS



Conclusions

The Fine-Tuning process concludes a long reform path that has involved areas affected by significant natural constraints other than mountain, identified through the application of objective and homogeneous criteria for all Member States.

The new ANCs classification restyles the entire geography of weak agricultural areas in terms of productivity, included mountains and areas with specific constraints, which is the reference framework for the support schemes provided by the CAP aimed at ensuring income aid to the farmers and counteracting negative phenomena (abandonment of the earth, desertification, etc.).

References

1. European Parliament and Council, 2013. Regulation EU n. 1305/2013 of 17 December 2013 on support for rural development by the European Agricultural Fund for Rural Development (EAFRD) and repealing Council Regulation (EC) No 1698/2005.
2. *Fine-tuning in areas facing significant natural and specific constraints*, guidelines edit by DG AGRI- European Commission. Brussels: 2016.
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