Preparing the assessment of High Nature Value Farming in Rural Development Programmes 2014-2020

HNV Farming in Italy – Context indicator CI37
Land cover approach

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Programming period 2007-2013 – regional level

- Lack of a common understanding of HNVF concept
- Lack of a common method of identification
- Lack of adequate and sufficient data

Indicators implemented in RDPs/MTEs according to best available data at regional level and best available information, level of knowledge/local experience

Many different solutions among Regional RDPs/MTEs (in terms of methods and type of data used)

Land cover approach	Emilia Romagna, Lazio, Sardinia, Veneto, Abruzzo, Tuscany, Umbria, Campania, Marche, Apulia, Sicily, Trento, Lombardy, Aosta Valley, Liguria	15
Land cover approach based on Natura 2000	Basilicata, Bolzano, Calabria, Friuli Venezia Giulia, Piedmont,	5
Not estimated	Molise	1

Source: Report for Italy prepared for IEEP (Trisorio et al., 2013)
High Nature Value farming throughout EU-27 and its financial support under the CAP, Final Report 2014

Programming period 2007-2013 – national level

- Impossibility to consistently aggregate indicator values
- Need for a national framework (comparability among Regions)

- In 2014 RRN provided a national framework based on a common method
  - Development of a "national" method following CE Guideline document
- Preliminary identification of official data sources
  - Data available at national level (with NUTS2 detail) and updatable
    - FADN; Farm Structure Survey, Census 2010;
      AGRIT (Ministry of Agriculture Survey); Natura2000 factsheets;
      CLC; National Forestry Inventory; Common Birds

RETE**RURALE**
NAZIONALE
201420**20**

mip**a**af
Ministero delle
politiche agricole
alimentari e forestali

AGRIT data 2010 (MiPAAF):
% Utilized Agricultural Area (UAA)
% land cover classes HNVF
Unit of analysis:
Grid of cells 10 x 10 km (2725 cells cover the whole national territory)

Extracted data
% of AGRIT cell covered by the following *potentially* HNVF land cover classes :
ARABLE CROPS
-rice
-Alfalfa
-temporary meadows
-fallow land or without crops in place
PERMANENT CROPS
-vineyards
-olive groves
-nut trees
FODDER CROPS
-meadows
-permanent pastures
Family vegetable gardens and orchards annexed to farms

+

Trees outside forest

CORINE Land Cover data
Boundaries of the polygons assigned to Class 3: forests and semi-natural areas (hierarchical level 1)
Minimum mapping:
25 ha

Derived data
Edge lenght of natural and seminatural environments per AGRIT cell

Natura 2000 data
For each SCI/SPA:
-list of species in Habitats Directive (Annex II and IV) associated with HNVF (Paracchini, 2008)
-geographical coordinates of their centroid

Extracted data
Number of species falling into each AGRIT cell

Unit of analysis: AGRIT cell 10 x 10 km
Score: sum of scores (calculated separately for each of the 3 types of HNVF)

type 1
Definition: Farmland with high proportion of seminatural vegetation.
Agricultural land cover classes considered: Meadows and permanent pastures (AGRIT)
Indicator: % land cover on AGRIT cell

type 2
Definition: farmland with a mosaic of low intensity agriculture and natural and semi-natural landscape elements
Agricultural land cover classes considered: Rice, Alfalfa, temporary meadows, fallow land, olive groves, vineyards, nut trees, family vegetable gardens and orchards annexed to farms (AGRIT)
Indicator: Density of trees outside forest (AGRIT) and edge density of natural and seminatural environments (CORINE Land Cover)

type 3
Definition: Species of European conservation interest.
Indicator: Number of species (European list) in SCI/SPA (Natura 2000).

Value of (within the cell)	Score
< = first 3 quartiles	1
> third quartile	$1 + x/max(x)$

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Index components

Extent:

Land cover   ➡️   Selection of land cover classes potentially of low intensity (AGRIT)

Quality / level of Natural Value

Score according to the following indicators:
Type 1: % land cover on AGRIT cell
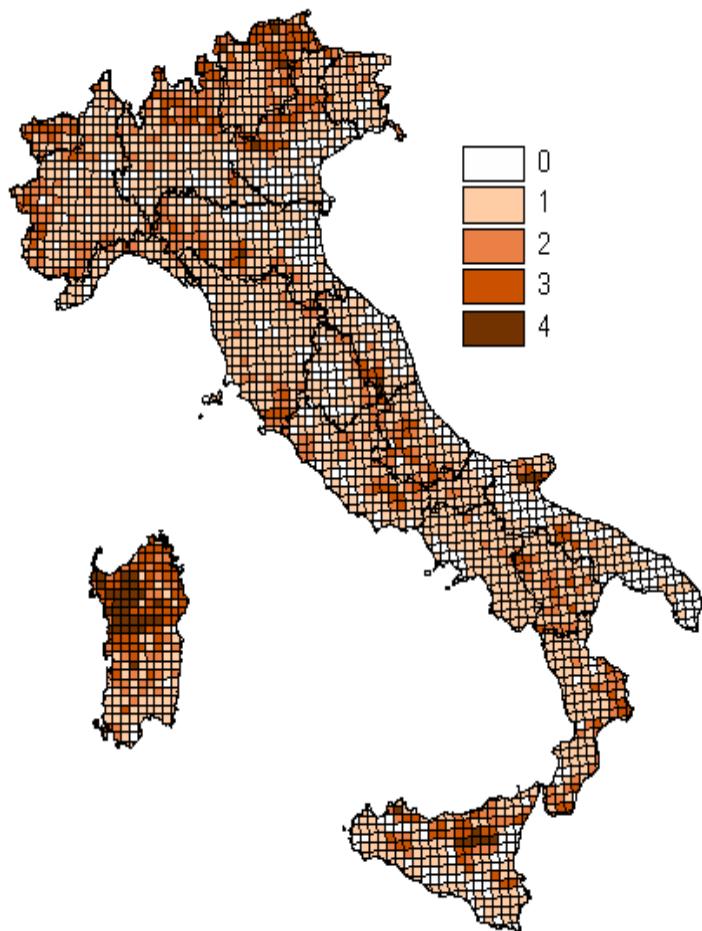
Type 2: Density of trees outside forest (AGRIT) and edge density of natural and seminatural environments (CORINE Land Cover

Type 3: Number of species (European list) in SCI/SPA (Natura 2000)

Indicator 1
(Meadows and permanent pastures)
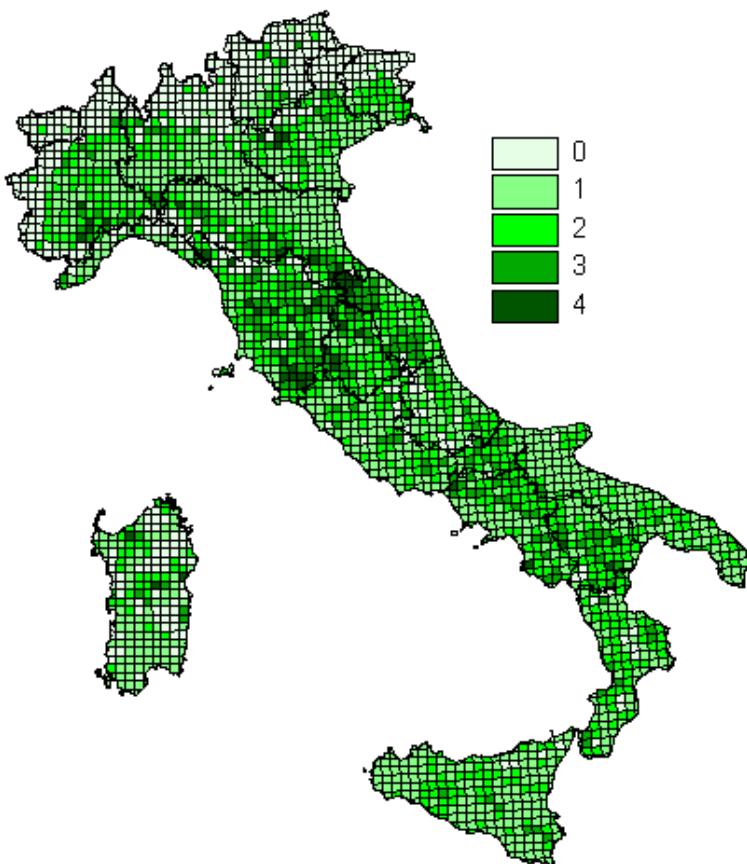
Classification of scores

		Classe			
	0	**1**	**2**	**3**	**4**
Percentile	<21°	>21°	>76°	>90°	>98°

Indicator 2
## *Mosaic of low intensity agriculture/natural, semi-natural area+ trees outside forest*

0
1
2
3
4

Classification of scores

	Classe				
	0	**1**	**2**	**3**	**4**
Percentile	<21°	>21°	>76°	>90°	>98°

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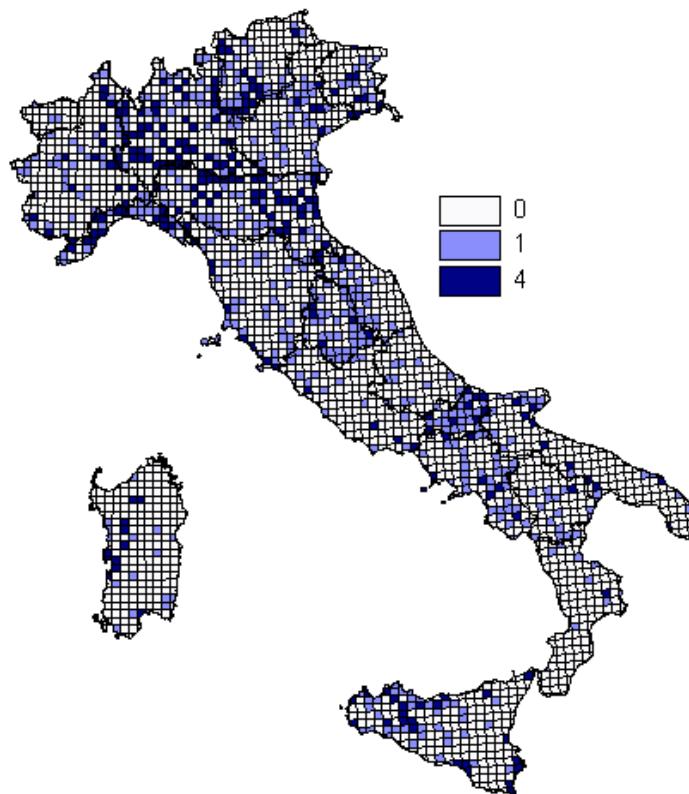
Indicator 3
Number of relevant species in SCI/SPA

| | 0 |
| 1 |
| 4 |
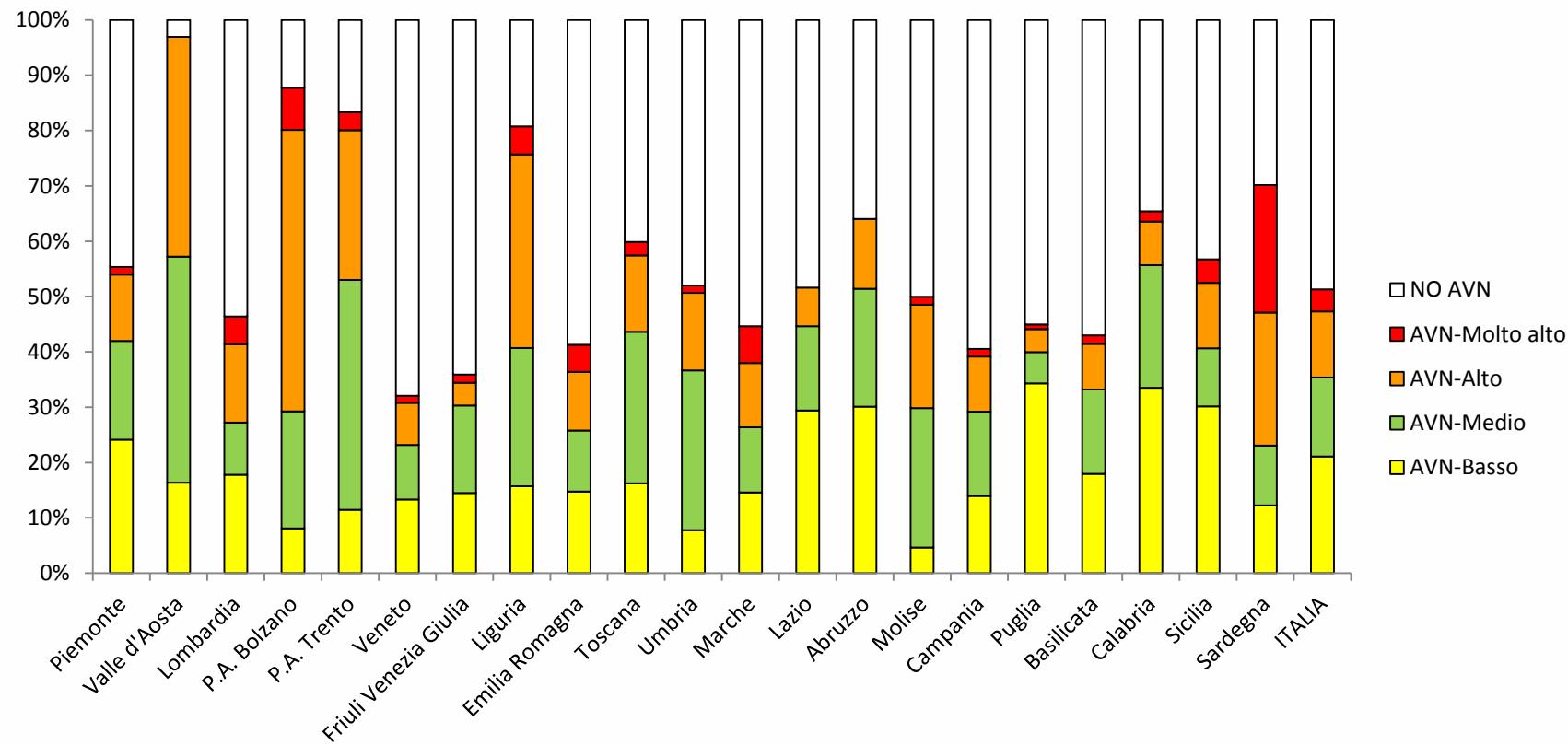
classification of scores		
	Classe	
	0	**1**	**4**
Percentile	<70°	>70°	>90°
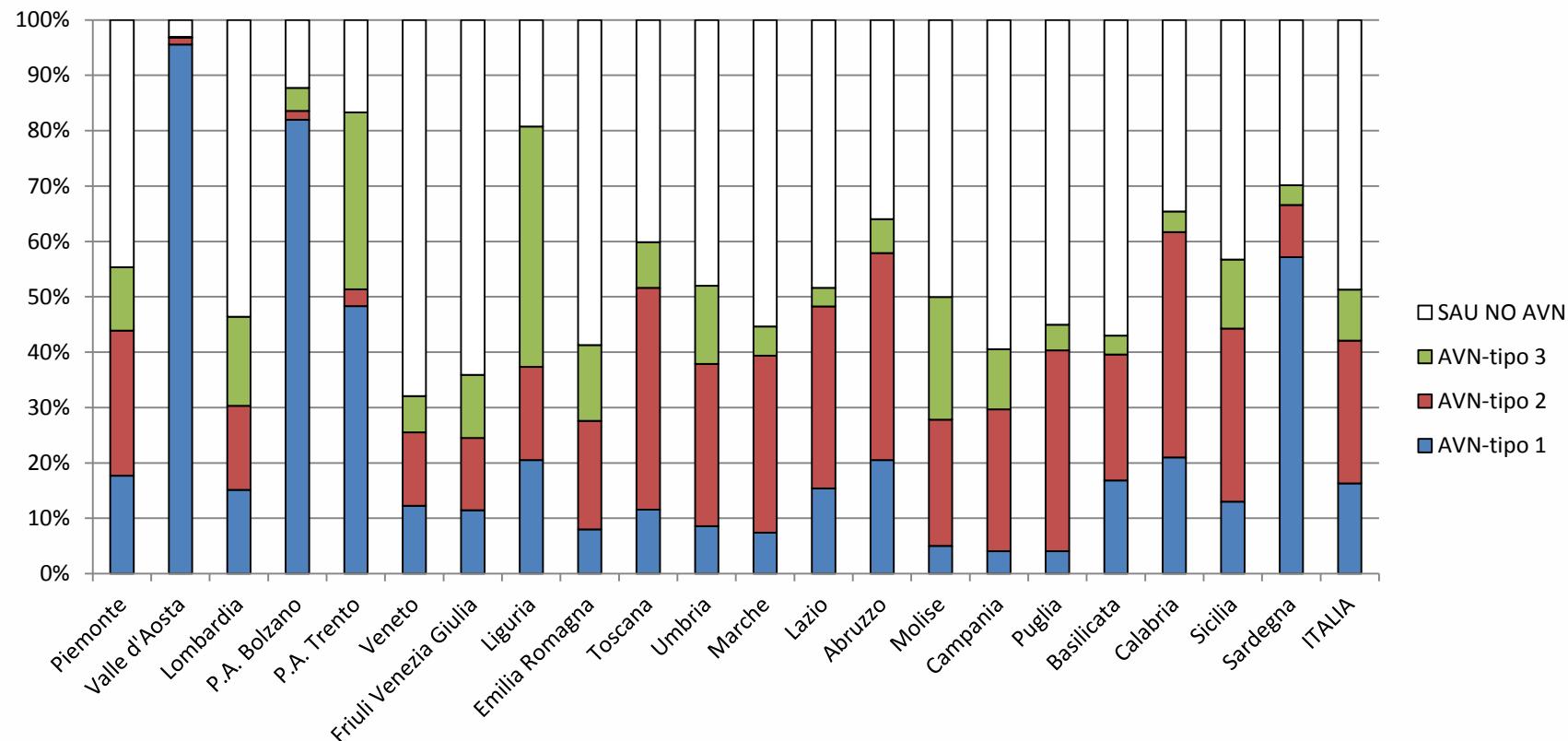
UAA potentially of HNV, by nature value classes

|	HNV - low		HNV - medium		HNV - high		HNV – very high		HNV – Total area		Total UAA
	ha	% UAA	ha	% UAA	ha	% UAA	ha	% UAA	ha	% UAA	ha
Piedmont	218.672	24,1	161.527	17,8	108.875	12,0	12.482	1,4	501.554	55,3	906.348
Aosta Valley	8.059	16,3	20.162	40,9	19.623	39,8	-	-	47.844	97,0	49.349
Lombardy	175.893	17,8	92.955	9,4	140.169	14,2	49.543	5,0	458.559	46,4	988.650
P.A. Bolzano	12.764	8,1	33.213	21,1	79.985	50,9	12.048	7,7	138.009	87,8	157.274
P.A. Trento	10.324	11,5	37.396	41,5	24.363	27,1	2.925	3,2	75.009	83,3	90.064
Veneto	113.344	13,3	83.634	9,8	64.621	7,6	11.164	1,3	272.763	32,1	850.277
Friuli Venezia Giulia	36.562	14,5	40.006	15,8	10.268	4,1	3.776	1,5	90.612	35,9	252.482
Liguria	8.897	15,7	14.150	25,0	19.795	35,0	2.864	5,1	45.706	80,7	56.612
Emilia Romagna	170.982	14,8	127.800	11,0	122.721	10,6	56.906	4,9	478.409	41,3	1.158.292
Tuscany	124.961	16,3	210.187	27,3	106.038	13,8	19.131	2,5	460.316	59,9	768.598
Umbria	26.079	7,8	96.463	28,9	46.680	14,0	4.484	1,3	173.707	52,0	334.204
Marche	73.180	14,6	58.920	11,8	58.114	11,6	33.379	6,7	223.593	44,6	501.138
Lazio	197.499	29,4	102.317	15,2	46.883	7,0	-	-	346.699	51,6	671.633
Abruzzo	116.400	30,1	82.343	21,3	48.772	12,6	-	-	247.515	64,0	386.622
Molise	9.735	4,7	52.603	25,2	39.122	18,7	3.022	1,4	104.482	50,0	209.064
Campania	78.398	14,0	85.420	15,2	55.907	10,0	7.748	1,4	227.473	40,6	560.879
Apulia	489.542	34,3	80.093	5,6	59.269	4,2	12.088	0,8	640.992	44,9	1.426.586
Basilicata	90.543	17,9	77.010	15,3	41.493	8,2	7.760	1,5	216.806	43,0	504.550
Calabria	171.116	33,5	113.330	22,2	40.199	7,9	9.656	1,9	334.301	65,4	511.081
Sicily	437.736	30,2	152.297	10,5	171.382	11,8	61.833	4,3	823.247	56,7	1.451.487
Sardinia	105.931	12,2	93.524	10,8	207.933	24,0	199.366	23,0	606.755	70,1	865.057
ITALY	2.676.615	21,1	1.815.350	14,3	1.512.212	11,9	510.175	4,0	6.514.351	51,3	12.700.247
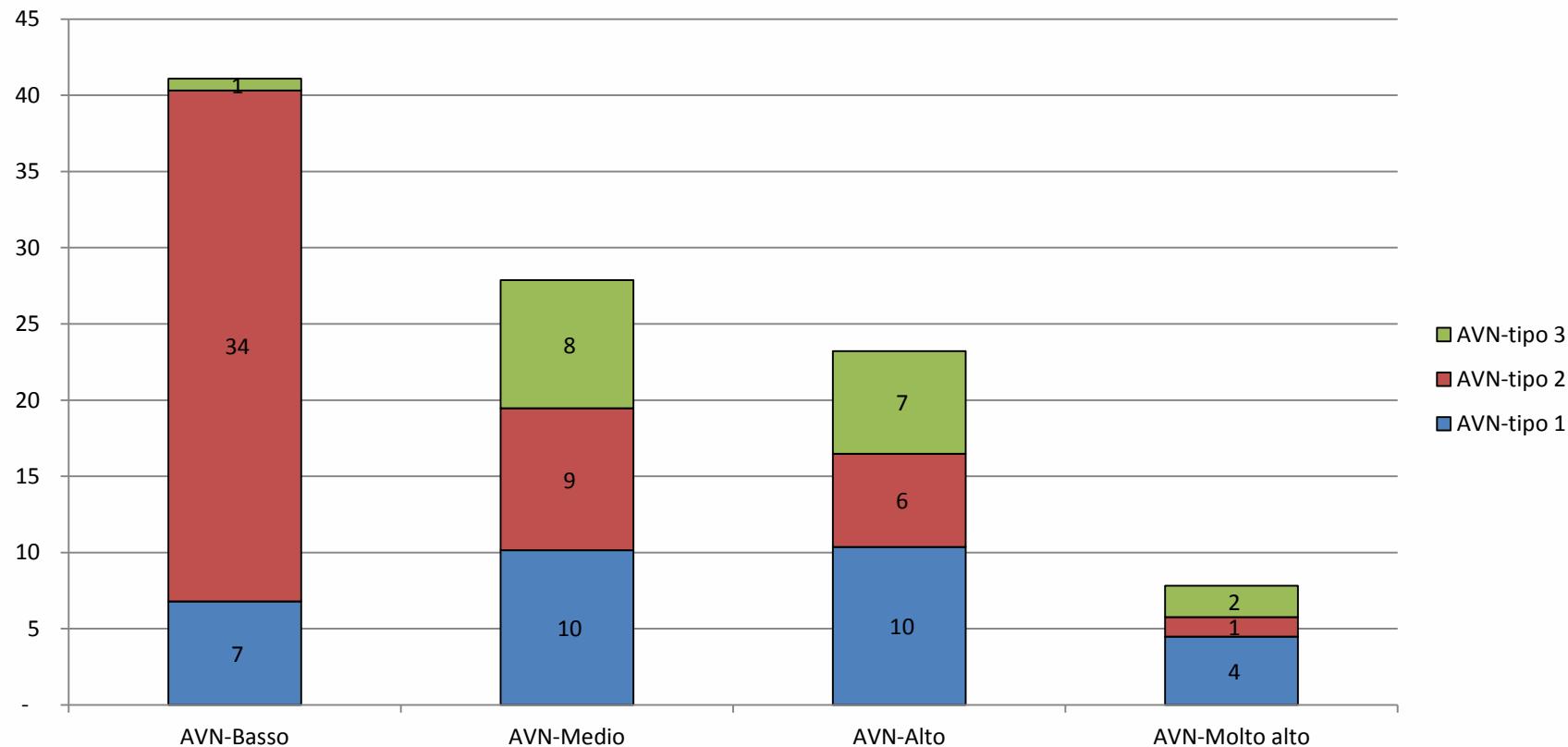
Percentage of regional UAA by level of Nature Value

Percentage of UAA HNV (potential), by type

UAA potentially of HNV in Italy, by level of value and type

Programming period 2014-2020 – national level

- CI 37 http://www.reterurale.it/flex/cm/pages/ServeBLOB.php/L/IT/IDPagina/13563

   Data base on context indicators provided by the RRN
   http://www.reterurale.it/flex/cm/pages/ServeBLOB.php/L/IT/IDPagina/12112

- Same approach (land cover approach)
- Refinement of method: new parameters (land cover) and more biodiversity data

- Farming system approach (Farm structure survey; Census data; FADN). Refinement and exploration of potentialities of previous studies (Trisorio *et al.,* 2012; Trisorio *et al.,* 2013)

- Study on HNVF impact indicator

Land cover approach

Land cover data (AGRIT survey 2016)

Use of parameters allowing a higher focus on low intensity farming

All LC classes
- Presence of irrigation (irrigated-irr. type/not irrigated)

Permanent crops
- Presence of green cover
- Tree density
- Management conditions (managed/abandoned)
- Presence of terraces

Meadows and permanent pastures
- Sign of grazing

Biodiversity data

In collaboration with the Ministry of Environment, Birdlife Italy (LIPU)

- Spatialised data on species and habitats (Natura 2000) from the 3° National Report

- Data on meadows and permanent grassland species

- Farmland birds

Weaknesses

- Data updating (uncertainty due to financial resources constraints)

- Possible instability of sample design (size of sample, new parameters, different stratification of sample, etc)

- Need of multiple type of data/data sources

- No links to farms

- Level of geographical detail of results (Possible need of further regional effort)

    Land cover estimates available for the AGRIT cells derive from sample surveys, not allowing a precise localization of land covers classes. The latter requires a further detailed territorial characterisation based on geo-referenced data possibly available at regional level)

Challenges

Starting from 2017 (at study)

- New parameters linked to RDPs interventions
- Integration of AGRIT survey data with territorial (LPIS) and agronomic data from National Agriculture Information System (SIAN).
  - Linkage of land cover data with farm data/RDPs farms
  - Use of information available from IACS

  ➢ Progress towards HNVF Impact indicator
  ➢ Possibility to assess impacts

Lesson learnt

- Complex indicator
  - many actors (i.e. data providers) ⟹ many possible constraints
- Important to build on and/or enhance existing experiences/dataset (i.e. LIPU-Birdlife Italy)
- Role of financial support in the updating of data/indicators
- Need of Mas awareness (data needs, studies)
- Instability of indicator values in case of changes of methodologies/new data (trends vs more accurate estimates)

Thank you for your attention

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