



REPUBLIC OF SLOVENIA
MINISTRY OF AGRICULTURE,
FORESTRY AND FOOD

Seminar V4+4:

Implementation of legislation and experiences regarding landscape planning

Prague, 24. - 26. February 2016

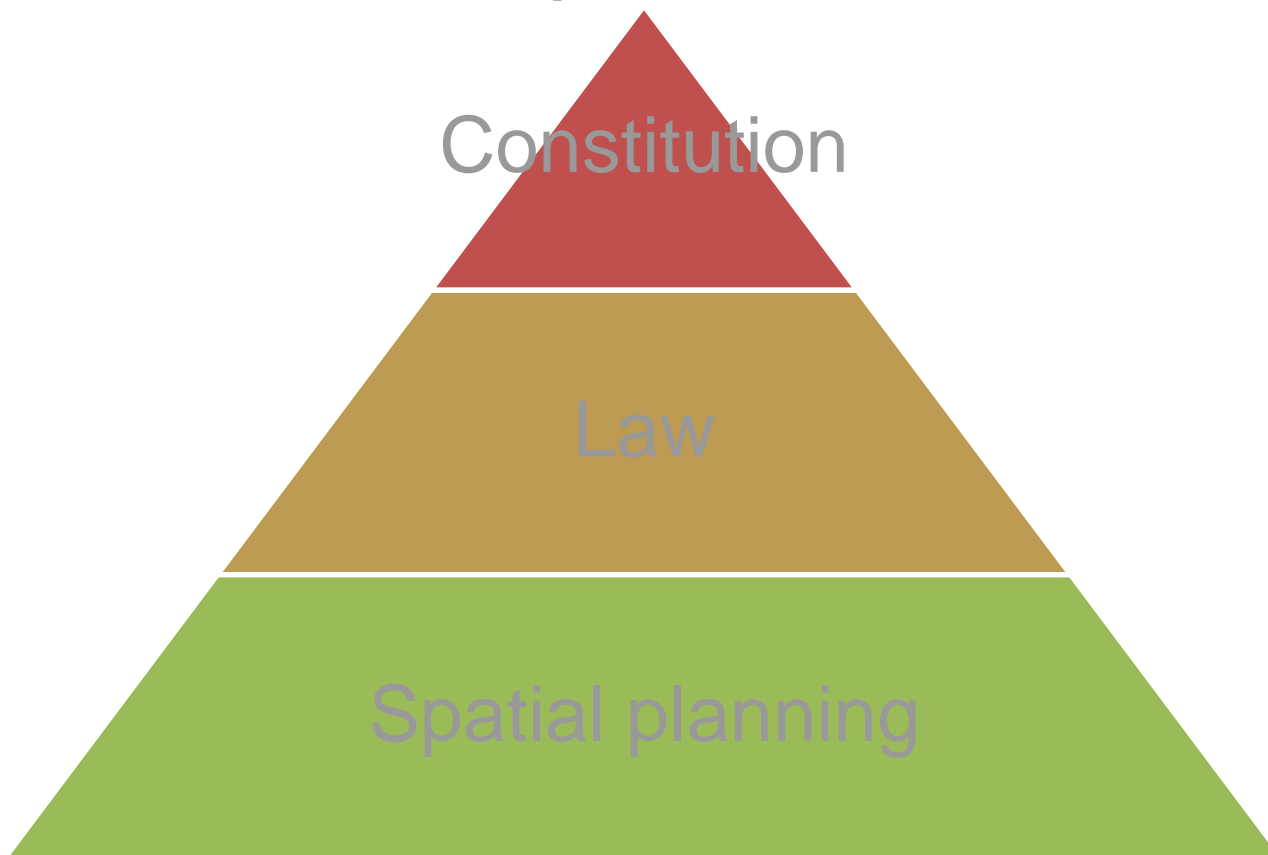


REPUBLIC OF SLOVENIA
MINISTRY OF AGRICULTURE,
FORESTRY AND FOOD

Regulations regarding agricultural land protection in the Republic of Slovenia

**Jernej ŠKOF, Ministry of Agriculture, Forestry
and Food**

Regulations regarding agricultural land protection in the Republic of Slovenia





Spatial planning regulations in the Republic of Slovenia

- Spatial planning act
- **Agricultural land act**
- The act regarding sitting of spatial arrangements of national significance in physical space
- Environment protection act



Protection of agricultural land in the Republic of Slovenia

Spatial planning on agricultural land is limited under Slovenian legislation.

The Ministry of Agriculture, Forestry and Food is actively involved in decision-making processes regarding land use changes, both on local and state level.

There is also a financial compensation for interfering with agricultural land.



Protection of agricultural land in the Republic of Slovenia

In the year 2015 the Ministry participated in passing of 101 procedures of local spatial plans and 44 state spatial plans.

In those procedures the Ministry strives for a balanced agricultural land use changes in order to ensure long term food production and sustainable resource use.



Protection of agricultural land in the Republic of Slovenia

Statistics for the year 2014 shows that despite the protection by law the significant area of agricultural land was affected:

- Local (municipality) spatial plans **2.299 ha**
(returning back to agricultural land use 1150 ha)
- State spatial plans **12.722 ha**
(returning 0 ha)

This represents **2,9 %** of all agricultural land in the Republic of Slovenia



Protection of agricultural land in the Republic of Slovenia

In the year 2016 the Ministry launched amendments in Agricultural land act. The new regulation will represent a legal basis for determining strategically important areas for agriculture and food producing lands in the Republic of Slovenia.

Those areas will be implemented in local spatial plans after executive acts will be prepared later this year.



Novelties and suggestions

- Methodology for impact assessment of transport routes sitting on agricultural land
- New establishment of protected agricultural land
- Protection of agricultural land on the EU level



REPUBLIC OF SLOVENIA
MINISTRY OF AGRICULTURE,
FORESTRY AND FOOD

Soil resources and land use in the Republic of Slovenia: present situation and novelties in the field of land use planning and agriculture

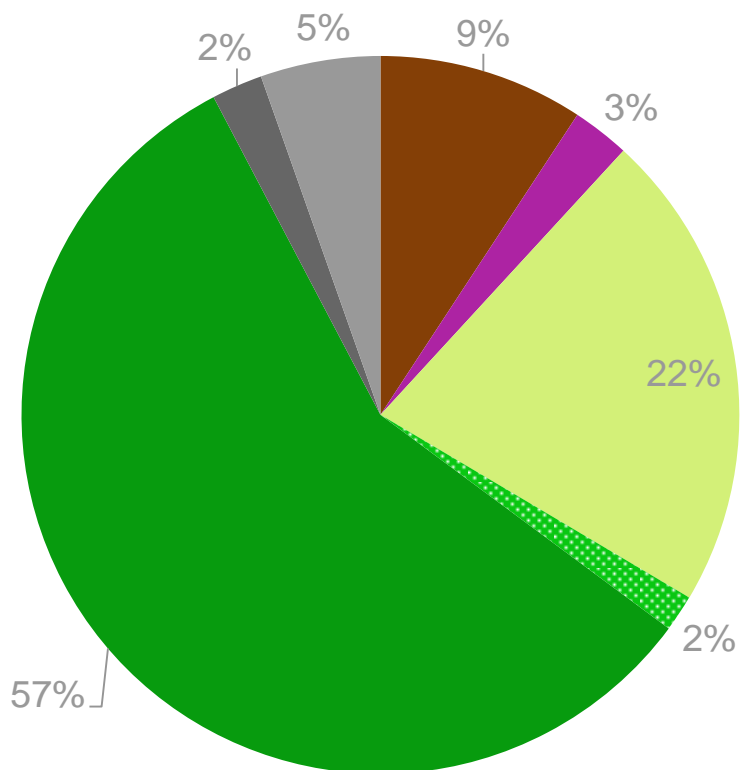
**Prof. dr. Helena GRČMAN, Biotechnical Faculty
University of Ljubljana**



Slovenia: 20.273 km²



Land use



- arable land 185 000 ha
- vineyards and orchards 52 000 ha
- meadows and pastures 435 000 ha
- land in the process of natural afforestation 33 000 ha
- forest 1.144 000 ha
- non fertile soil
- sealed land

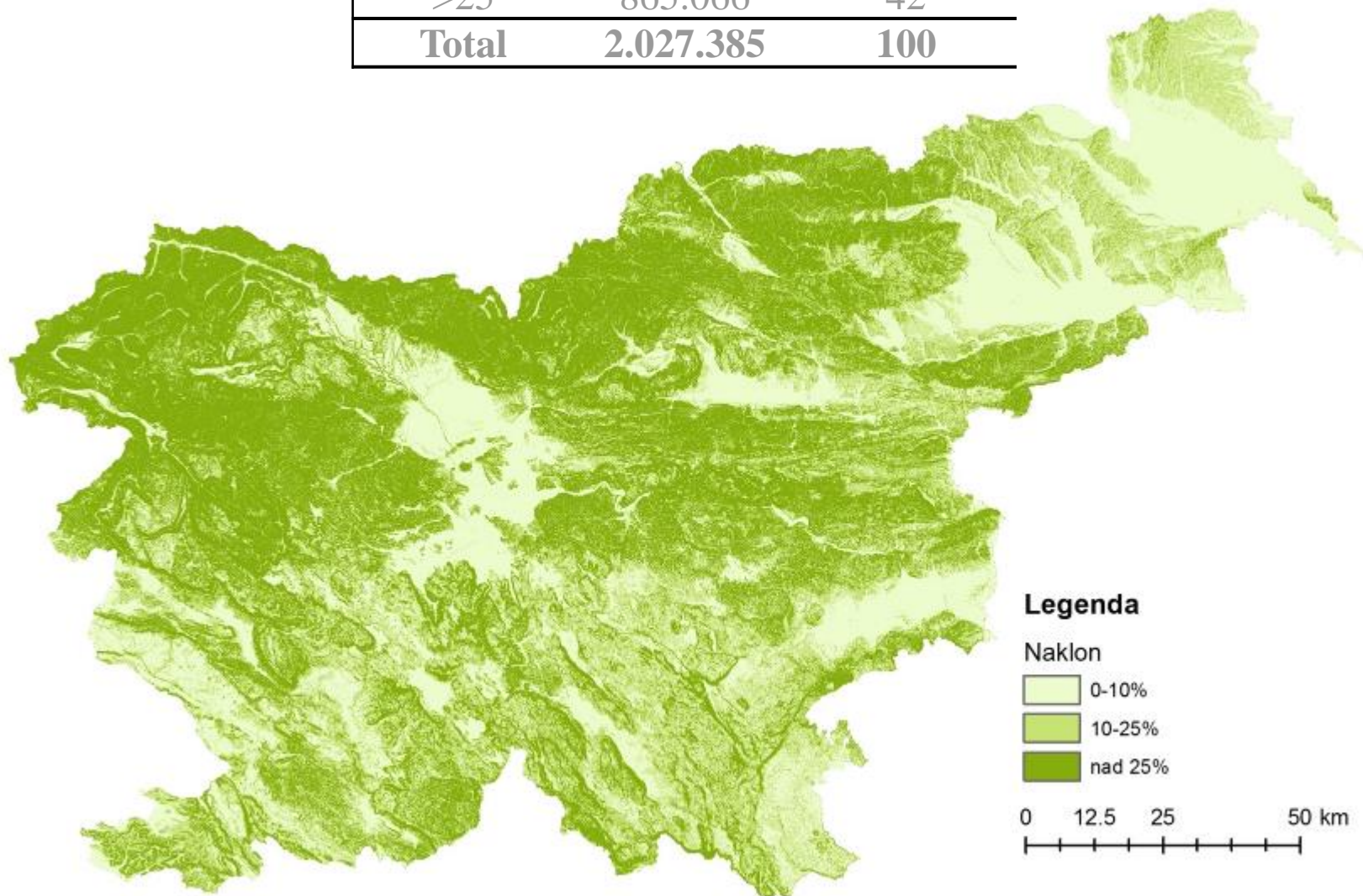


Photo: T. Králj



Slope (%)	Area (ha)	Share (%)
<10	582.920	29
(10 – 25]	579.400	29
>25	865.066	42
Total	2.027.385	100

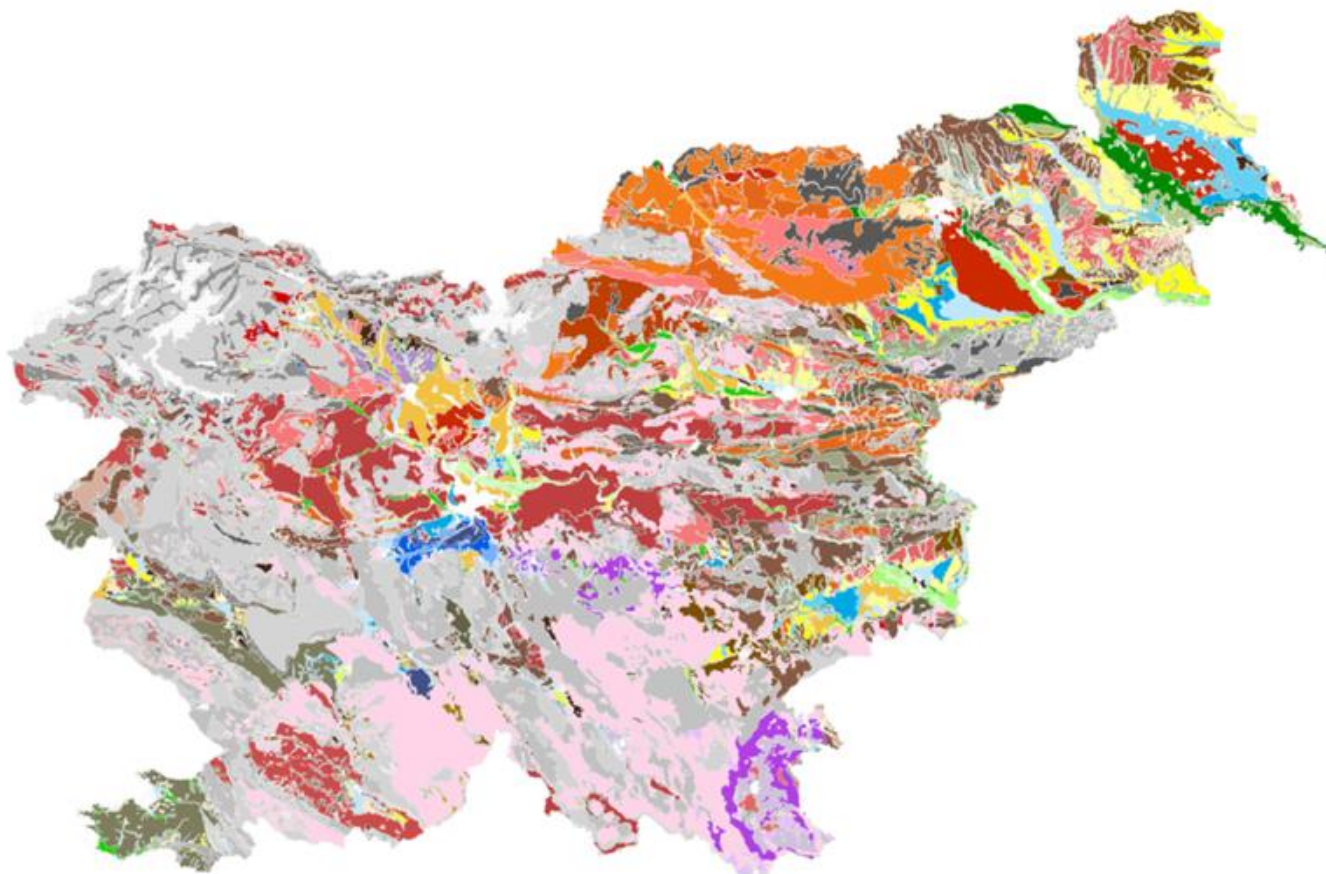
Slope





REPUBLIC OF SLOVENIA
MINISTRY OF AGRICULTURE,
FORESTRY AND FOOD

Soils



SOIL GROUP	%
Leptosol Eutric	28,9
Cambisol Dystric	20,7
Cambisol Eutric	17,4
Cambisol Chromic	11,9
Fluvisol	5,0
Gleysol	4,4
Stagnosol	3,7
no soil	2,8
Luvisol	2,4
Leptosol Dystric	2,1
Histosol	0,2
Cambisol rhodic	0,2
Leptosol Nudilitic	0,2
Leptosol ¹⁴	0,01



Photo:T.Kralj



Photo: H. Grčman

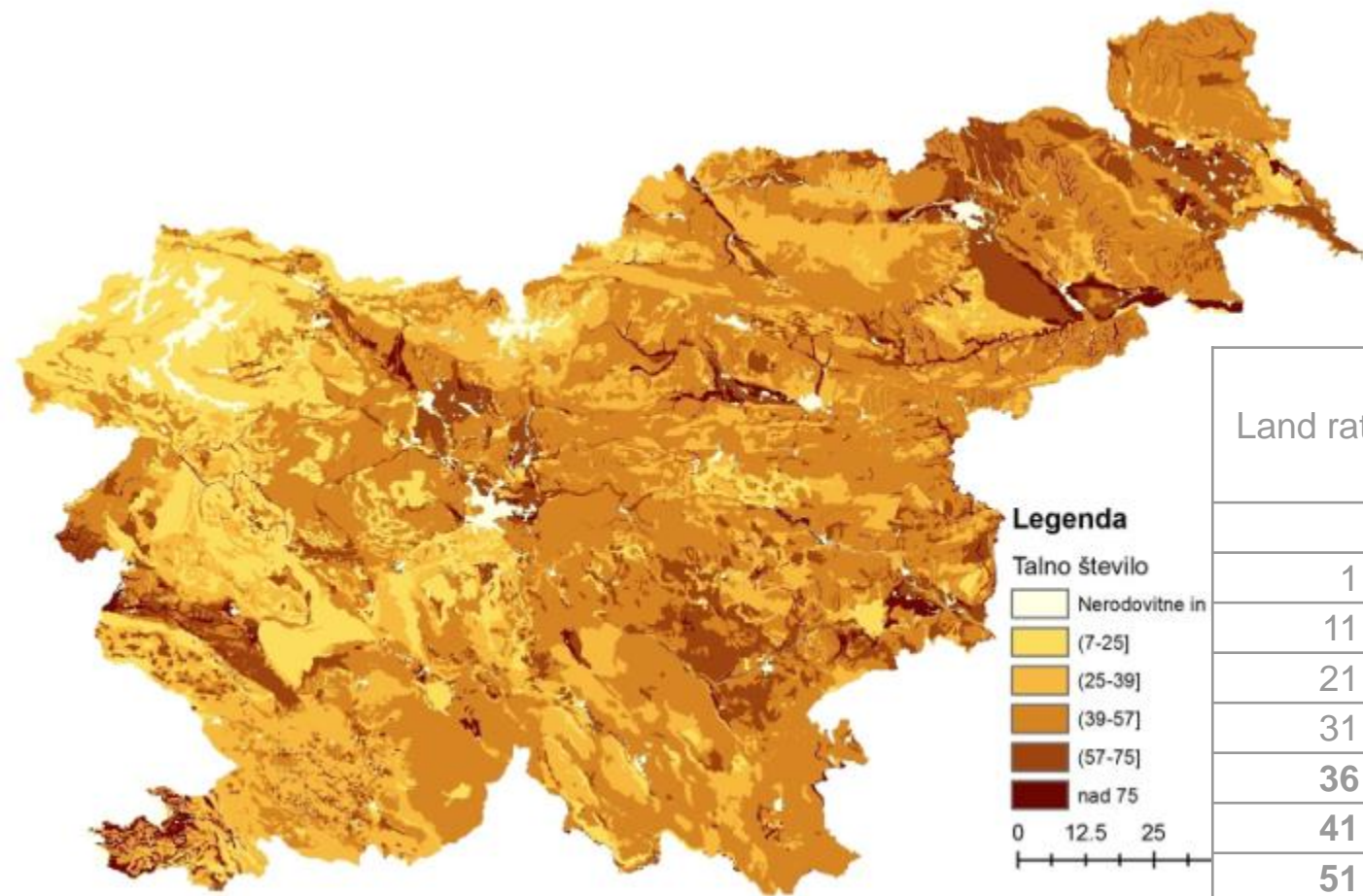


Photo: H. Grčman









Photo: T. Kralj

Soil quality - land rating



Legenda

Talno število

-  Nerodovitne in
-  (7-25]
-  (25-39]
-  (39-57]
-  (57-75]
-  nad 75

0 12.5 25



Land rating	Area	
	ha	%
0	280	0,01
1 - 10	110.441	5,45
11 - 20	493.691	24,35
21 - 30	680.360	33,56
31 - 35	193.264	9,53
36 - 40	117.643	5,80
41 - 50	193.897	9,56
51 - 60	119.816	5,91
61 - 70	80.877	3,99
71 - 80	26.367	1,30
81 - 96	10.663	0,53
Skupaj	2.027.300	100

> 35 = 549.263 ha



Photo: T. Kralj



SOIL DEGRADATION

Thematic Strategy for Soil Protection COM(2006) 231

erosion

landslides

organic matter

decline

decline of biodiversity

salinisation

contamination

compaction

sealing





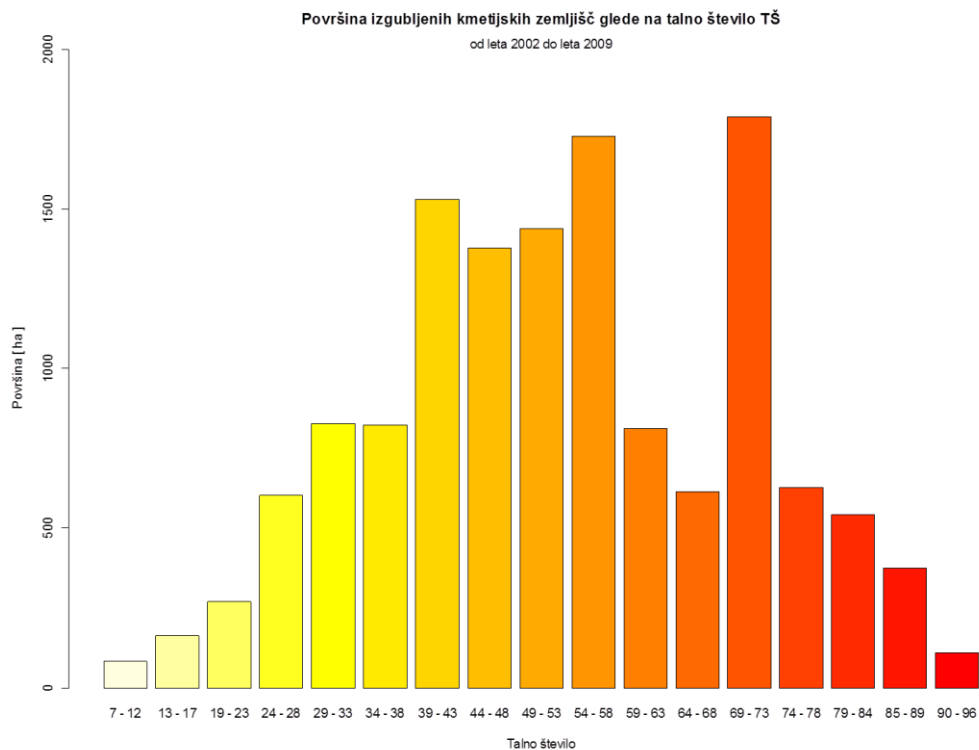
Soil sealing in Slovenia

Spatial analyses of land use changes of cadastral parcels:

- 1990-2015 over 70.000 ha
- 2002-2009 14.700 ha = ca 5 ha/day

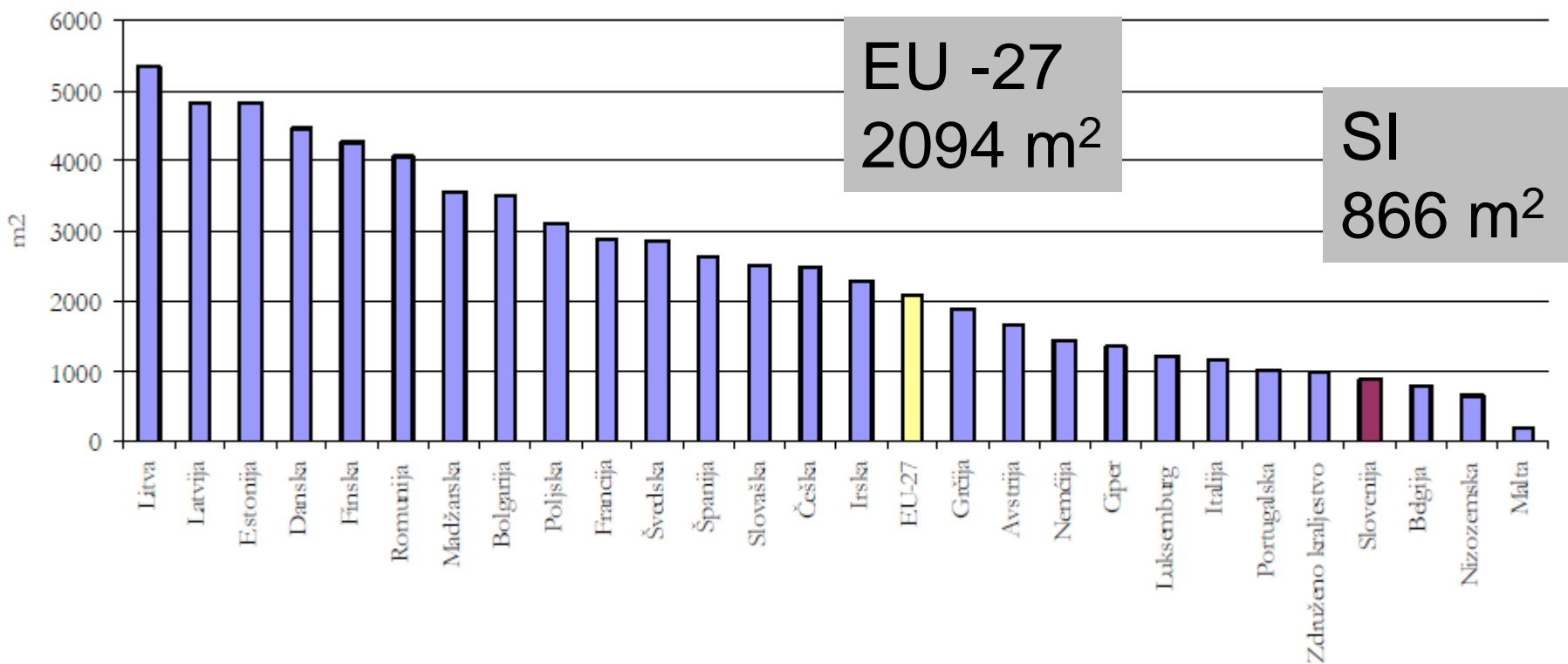
Soil sealing

What kind of soil have we lost?



Soil rating

Arable land (crop and vegetable production) per inhabitant



Source: Eurostat



Legislation

- Strategic documents and laws in principle contain strategic objectives and policies.
- Problems occur in the transfer of these strategic objectives to specific implementation documents.
- Criteria and indicators for goals are not clearly defined in the regulatory documents.



Agricultural Land Act

- Establishment of areas with protected agricultural land



Protected agricultural land

The goal:

- To protect good quality agricultural land in the extent of 350 000 ha to ensure food self-supply.
- To protect local agricultural production;
- To preserve cultural landscape.

Protected agricultural land

How to define areas of protected agricultural land?

- With the municipal spatial plan;
- Based on the proposal prepared by specialists:
 - pedologists,
 - agronomists,
 - spatial planners;
- Taking into account different, objective criteria.



Protected agricultural land

Criteria:

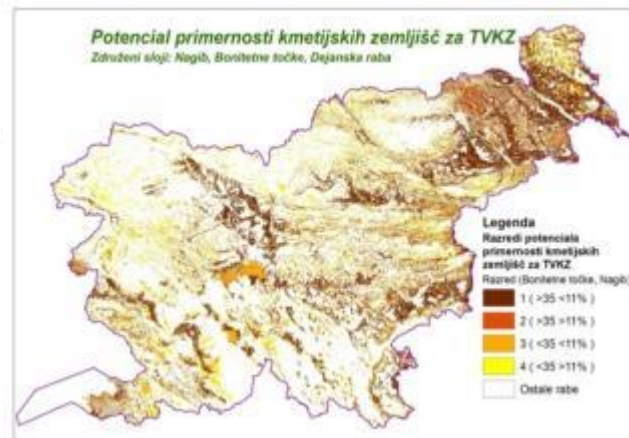
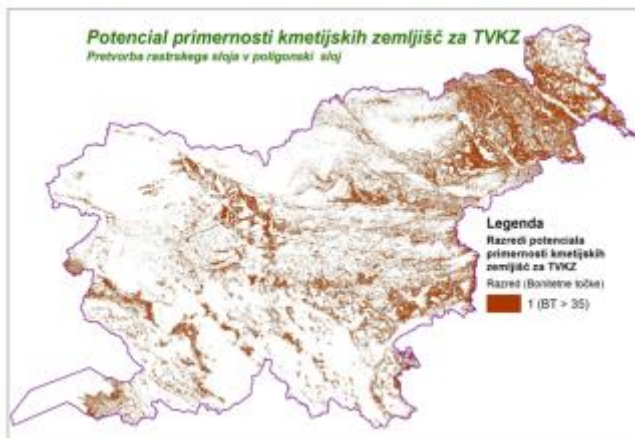
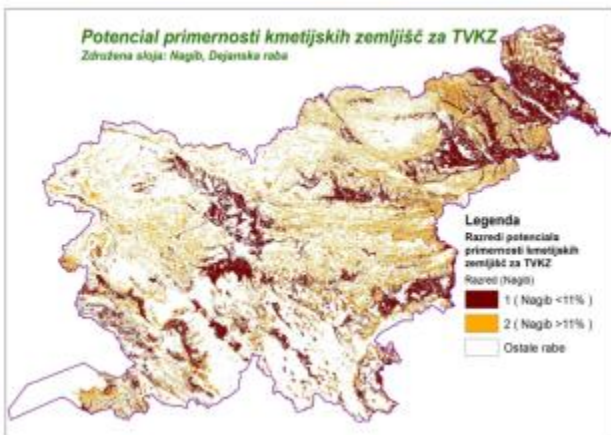
Production potential based on
pedogeographic characteristics

- Slope < 11 %
- Soil rating > 35





Criteria for protected agricultural land



Importance for agriculture	Pedo-geographic characteristics		Area
	Slope	Land rating	ha
1 – very important	≤ 11%	> 35	250.805
2 – important	> 11%	> 35	157.634
3 – less important	≤ 11%	≤ 35	99.216
4 – marginal	> 11%	≤ 35	165.045

Rules for selecting areas of protected agricultural regarding landform and land use



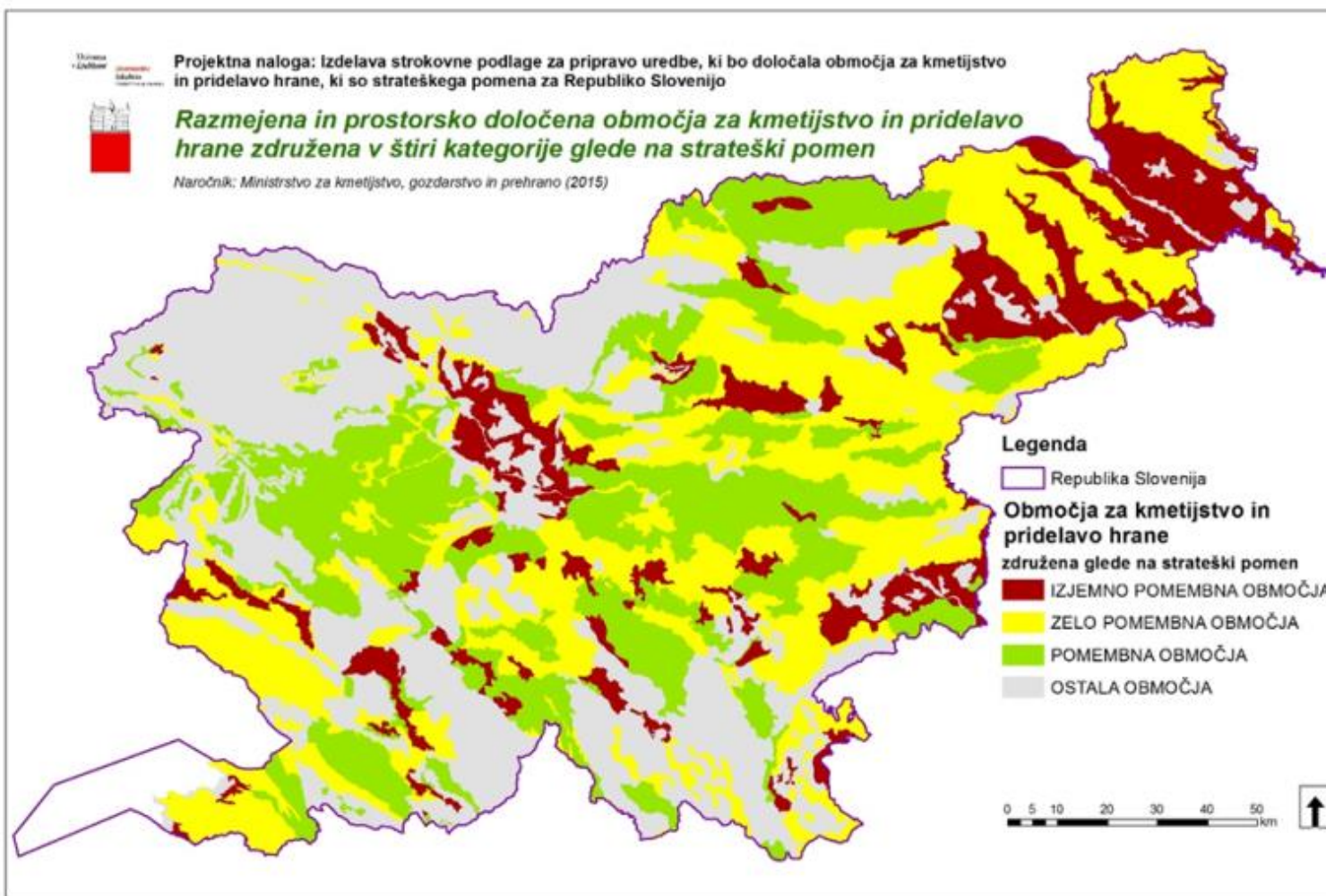
Plains: large flat areas, wide valleys, narrow valleys



Fragmented agriculture land: mosaic of narrow valleys and patches



Areas with potential for protected agricultural land





- Act regarding the siting of spatial arrangements of national significance in physical space (Official Gazette of RS 80/10),
- The assessment of the effects on certain plans on the environment



The assessment of the effects on certain plans on the environment

- Experts are payed directly by the investors;
- Absence of objective criteria for assessment influences on agricultural land;

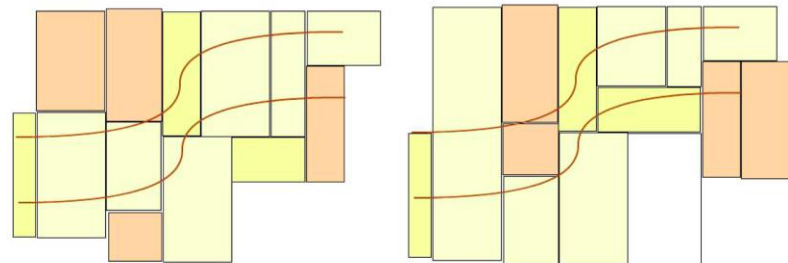
	Categories of expert assessment
A	no impact or a positive one
B	insignificant impact
C	impact is insignificant due to mitigating measures
D	significant impact
E	devastating /detrimental impact

The new methodology for Impact assessment of transport routes siting on agricultural land

- objectivity;
- calculation of an integral rating for the land in question, based on evaluation of different influences;
- comparison of different routes;
- setting the acceptability limits, which are crucial within the process of decision-making;
- cost effective → use of public data base information.

The new methodology for Impact assessment of transport routes siting on agricultural land

- **Protect good agricultural land!**
- **Every district, county or municipality, who is a carrier of spatial planning, should protect the land that has above average quality!**
- **Minimize land fragmentation, which decreases the earnings of the agricultural production!**



1. Criteria
 Impact on agricultural land regarding soil quality

Factor 1: calculated as the sum of sealed part of parcels multiplied by land rating for all parcels influenced by transport routes



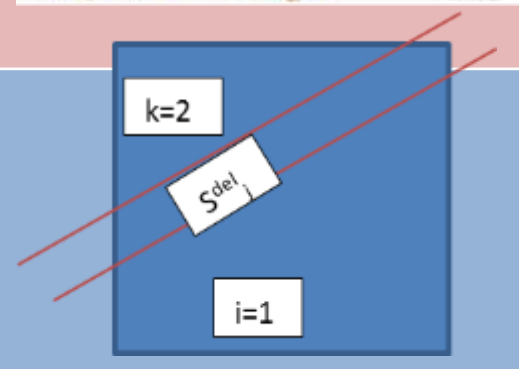
2. Criteria
 Impact on soil resources of individual municipality

Factor 2: calculated as a ratio between quality of sealed land and the average quality of all agricultural land in a specific municipality



3. Criteria
 Impact on land fragmentation

Factor 3: calculated on the basis of number and size of the residual parts of parcels for all parcels influenced by transport





Integral value - setting the acceptability limits

$$Integral\ value = \frac{1}{S_{max}} \times \sum_{i=1}^N B'_i \times \left[\frac{B'_i}{B_{obc,i}} \right] \times S_i$$

The integral rating is calculated from tree cumulative factors and normalized by dividing with the length of the longest route. Normalization enables comparison of different routes.

		Factor 1	Factor 2	Factor 3	Integral Value
A	no impact or a positive one	0-20	< 0,8	≤1,2	≤ 25
B	insignificant impact	21-30	0,81-1	1,21-1,29	25,1-50
C	impact is insignificant due to mitigating measures	31-40	1,1-1,2	1,3-1,39	50,1-86
D	significant impact	41-60	1,21-1,4	1,4-1,49	86,1-162
E	devastating /detrimental impact	61-100	>1,41	≥ 1,5	≥ 162



Conclusions

- Slovenia has very limited soil resources;
- Soil sealing is a severe problem in Slovenia;
- Two important Acts need improvement;
- Protection of good agricultural land;
- The new methodology for Impact assessment of transport routes siting on agricultural land.



REPUBLIC OF SLOVENIA
MINISTRY OF AGRICULTURE,
FORESTRY AND FOOD



Photo:A.Mlakar

Thank you for your attention