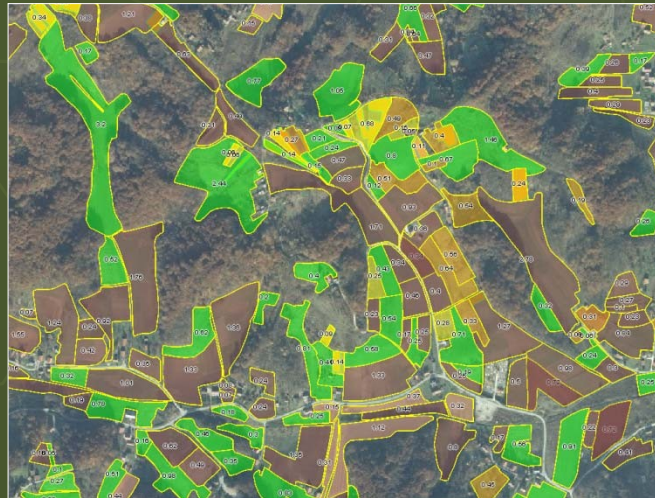


MINISTRY OF AGRICULTURE, FISHERIES AND RURAL DEVELOPMENT

LPIS PILOT PROJECT IN CROATIA



LPIS workshop Sofia, 18 September 2008

CONTENTS

1. Introduction
2. Preparatory activities on IACS/LPIS
3. Organization
4. Objectives and methodology of the pilot project
5. Implemented tasks and achieved results
6. Conclusions and recommendations
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INTRODUCTION

Croatia

≈ 4,4 mil. - population

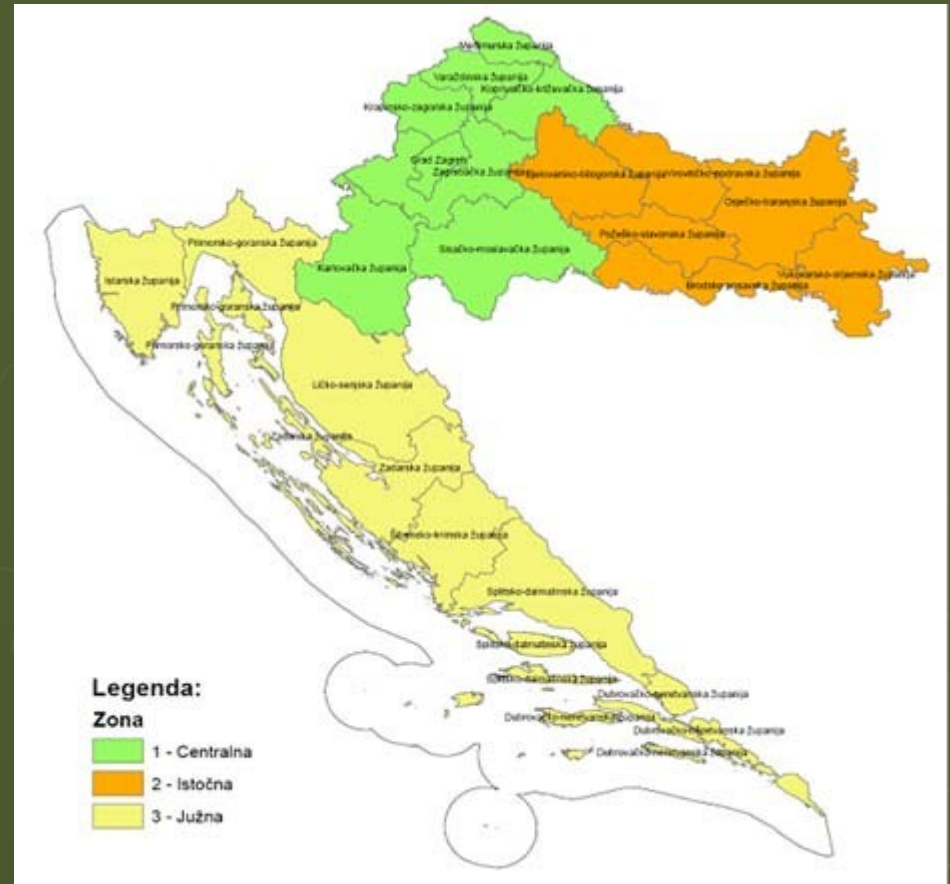
≈ 5,6 mil. ha - total area

≈ 1,2 mil ha - utilized agricultural land

≈ 440.000 farmers (Agricultural Census); 1,9 ha - average size

≈ 181.000 registered farmers (Farm Register); 6,1 ha - average size

≈ different types of climate, landscape and farm structures



INTRODUCTION



INTRODUCTION



PREPARATORY ACTIVITIES ON IACS/LPIS

¾ In 2006 / 2007

- ∞ IACS and LPIS analyses; Action plan for IACS
- ∞ Project “Establishment of LPIS in the Republic of Croatia”
- ∞ National Program for the LPIS

¾ In 2008

- ∞ LPIS technical assistance (June 2007 – July 2008, WB Project)
Preparation of LPIS methodology, Assessment of available spatial data, Preparation of internal QC procedures, implementation of LPIS pilot project, Analysis of pilot project results
- ∞ Establishment of new departments within the DMSSA
- ∞ Upgrade of Farm Register IT system for IACS support

ORGANIZATION

- ✧ MAFRD / DMSSA
Coordination and management
- ✧ State Administration Offices in counties
Consultations with farmers
- ✧ State Geodetic Administration
Coordination of input spatial data production
- ✧ Croatian Geodetic Institute
Input spatial data quality control
- ✧ Croatian Agricultural Extension Institute
Promotional campaign and education of farmers

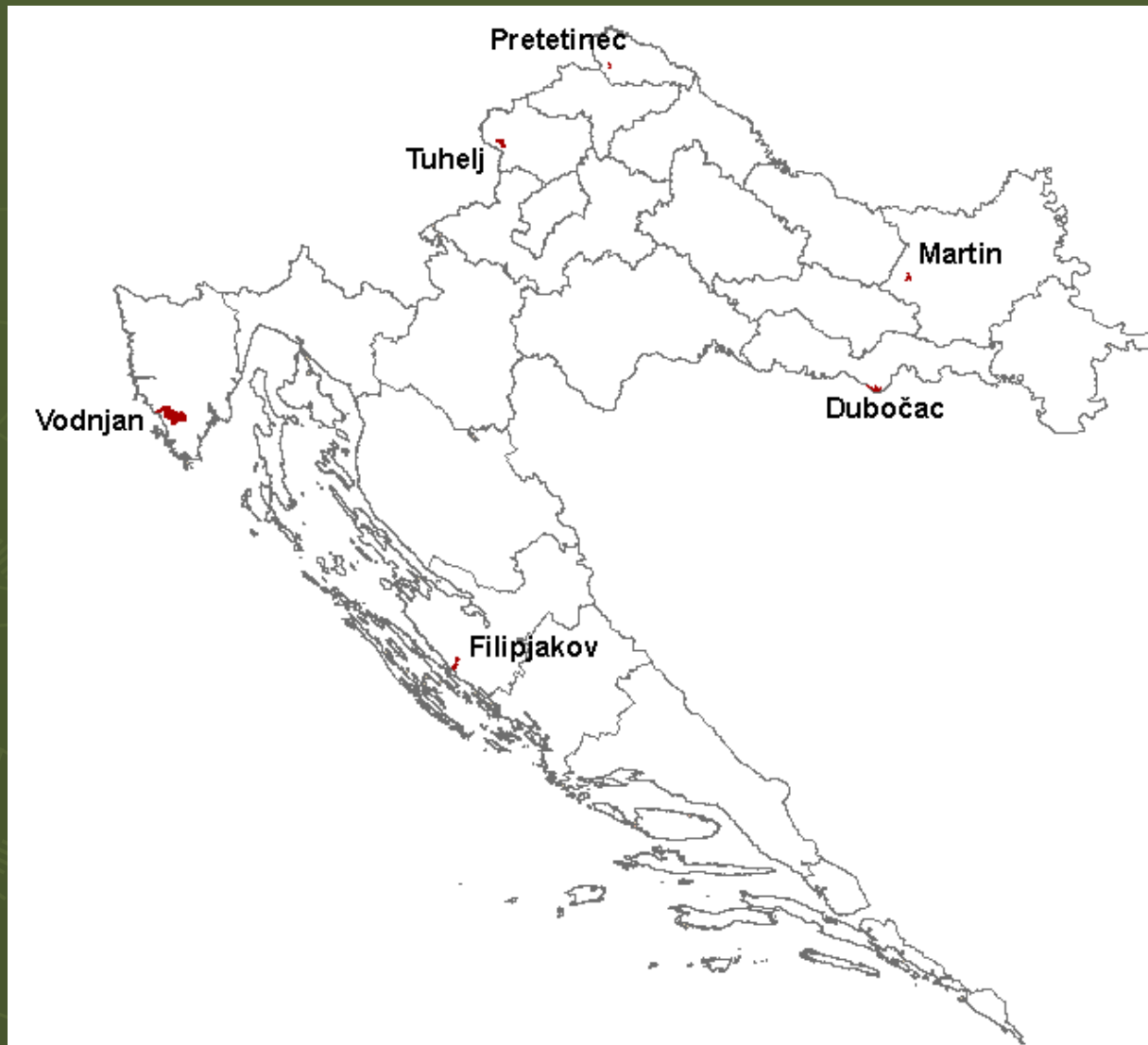
LPIS STRATEGY

- ∞ LPIS - multifunctional reference system used for administration and control of area-related subsidies, including the area of cross-compliance, permanent crops and organic farming
- ∞ Reference parcel - Farmer block
- ∞ The link with farmers is established during direct consultations and is based on existing Farm Register data
- ∞ Unique farm identifier (MIBPG) linking each reference parcel with a specific farm
- ∞ The whole system was tested and verified in selected areas before the start of nation-wide LPIS implementation

OBJECTIVES OF THE PILOT PROJECT

- ¾ Assess the quality and suitability of available input data
- ¾ Verify proposed methodology for LPIS digitalization
- ¾ Verify the establishment of the link with farmers during consultations
- ¾ Use main findings obtained during the project as an input for update of proposed methodology
- ¾ Compare the content of LPIS in testing areas with cadastral data and data from the Farm register
- ¾ Use obtained results for estimation of expected parameters of LPIS in Croatia

SELECTED CADASTRAL MUNICIPALITIES



METHODOLOGY

Step 1: Photointerpretation of digital orthophotomaps → initial LPIS layer containing physical blocks

Step 2: Consultations with selected sample of farmers → final LPIS layer containing verified and attributed farmer blocks as well as remaining physical blocks + indicated landscape features

Step 3: Processing and finalization of obtained data



Initial LPIS data



Final LPIS data

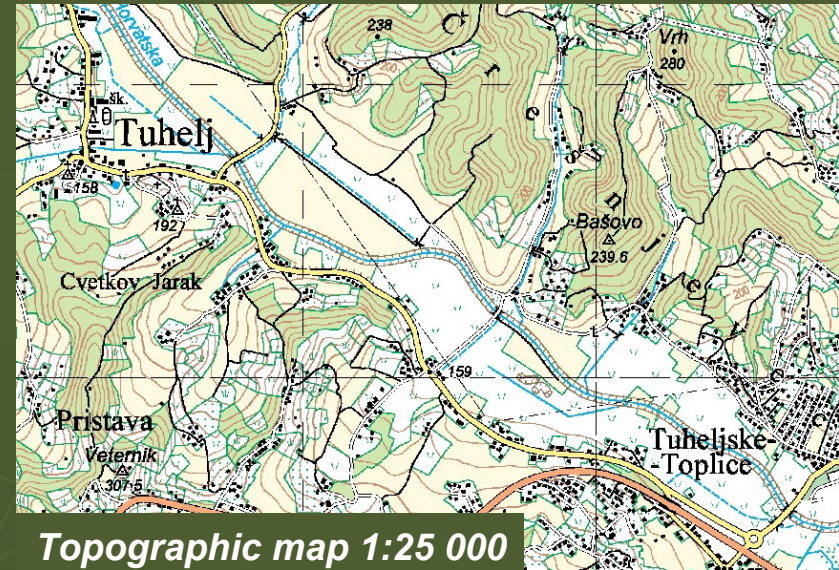
IMPLEMENTED TASKS (JANUARY – JULY 2008)

1. Development of detailed methodology
2. Collection of input data
3. Initial digitalization
4. Training and supervision of MAFRD staff and local consultants
5. Consultations with farmers
6. Finalization of data
7. Processing and analysis of obtained results
8. Assessment of quality and suitability of input data
9. Estimation of expected parameters of LPIS in Croatia
10. Formulation of conclusions and recommendations

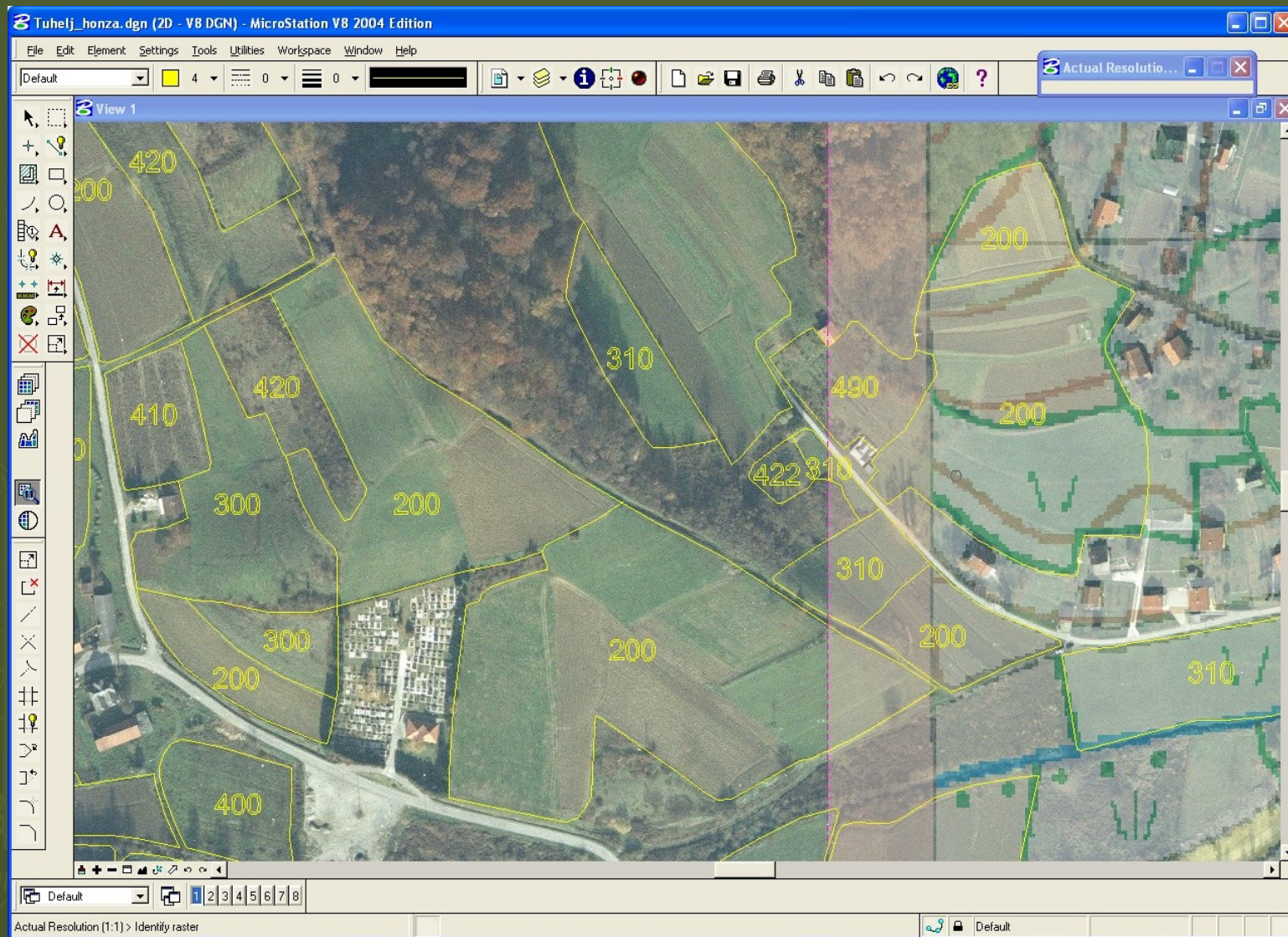
COLLECTION OF INPUT DATA

1. Digital orthophotomaps (DOF 5) - colour, spatial resolution 50 cm, images acquired between 2003 – 2007
2. Digital cadastral maps (DKP) – cadastral parcels with attributes
3. Topographic maps 1:25 000 (TK 25)
4. Digital terrain model (DMR 25 or DMR 5)
5. Data from the Farm register – registered farmers and linked cadastral parcel units

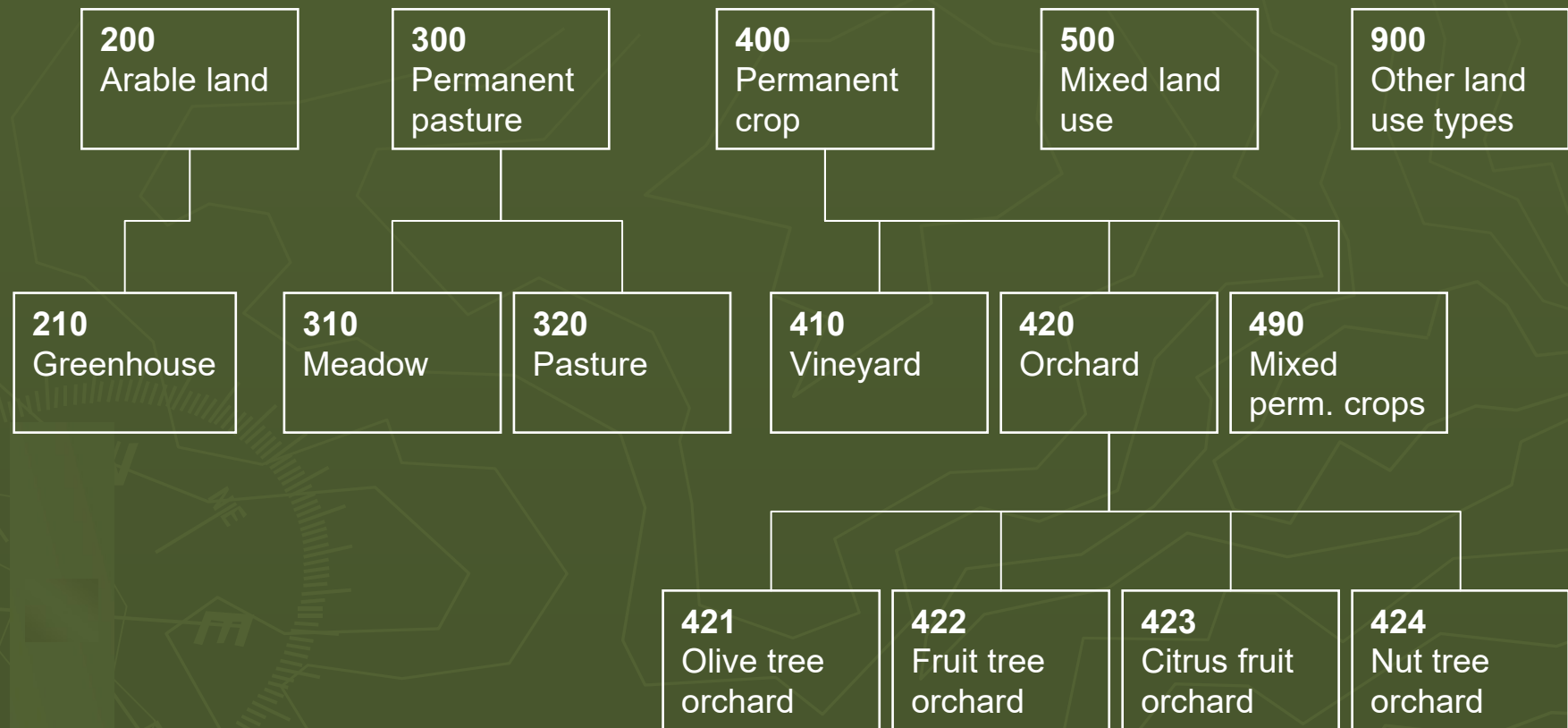
COLLECTION OF INPUT DATA



INITIAL DIGITALIZATION



LAND USE CLASSIFICATION



INITIAL LPIS DATA



TRAINING OF CONSULTANTS



INFORMATION MEETINGS WITH FARMERS



CONSULTATIONS WITH FARMERS

Aplikacija Pomoć

Lista parcela

U tabeli su prikazane parcele za izabrano PG. Kad završite, postavite kvačice u kolonu P i kliknite "Završi".

Provjeri parcele MIBPG: 42094

ID	Domaće ime	Upotr...	Površina		P

Pomoć **Završi**

Katastarske čestice u posjedu UPG-a

Dosad pročitano 15 zapisa. 15 odabranih.

KO	BROJ_KC	POVRŠINA	NAZIV_KAT...	POVRŠINA...	RACL
1	3137341540	2740	ŠUMA	0	
2	3137341542/2	7331	OSTALO Z...	0	
3	3137341542/2	7331	PAŠNJACI	0	
4	3137341542/2	7331	VOČNJAK	0	
5	3137341545/2	1691	OSTALO Z...	0	
6	3137341546	2234	OSTALO Z...	0	
7	3137341546	2234	PAŠNJACI	0	
8	3137341579	1651	PAŠNJACI	0	

Rezultati pretraživanja

Column	Value
LAND_USE_ID	200
TITLE	
SHORT_DESCRIPTION	Oranica
LAND_USE_ID_2	
HOME_NAME	
NOTE_INSERT	

Grafični pogled

Slojevi

- ☒ Rastr
- ☒ DOF
- ☐ TK25
- ☐ SLO DOF
- ☐ HOK5
- ☒ DGU
- ☐ Županije
- ☐ Naselja
- ☐ Općine
- ☐ Kat.op
- ☒ Katastar
- ☐ DKP
- ☒ LPIS grupa
- ☒ LPIS

Parcela

Šifra KO:

Parcela:

Lociraj

V mirovanju 5555790.87, 5104736.425 0.0 m 1:4974 LPIS

CONSULTATIONS WITH FARMERS

Aplikacija Pomoć

U tabeli su prikazane parcele za izabrano PG. Kad završite, postavite kvačice u kolonu P i kliknite "Završi".

Provjeri parcele MIBPG: 33785

ID	Domaće ime	Upotr.	Površina		P
103896	PRISTAVA2	310	00.38.73		<input checked="" type="checkbox"/>
104397	VALENTIĆ	200	00.80.26		<input checked="" type="checkbox"/>
104420	TRNJARI	310	00.57.25		<input checked="" type="checkbox"/>
104696	VODOPLJA	200	00.89.91		<input checked="" type="checkbox"/>
104698	MUJIDI	200	01.38.74		<input checked="" type="checkbox"/>
104699	TRNJE	200	00.21.10		<input checked="" type="checkbox"/>

Katastarske čestice u posjedu UPG-a

14 zapisa. 1 odabranih.

KO	BROJ_KC	POVRŠINA	NAZIV_KAT...	POVRŠINA...	RACUN
1	313734/1795/1	3589	LIVADE	0	35
2	313734/1795/2	6801	LIVADE	0	4
3	313734/1828/14	4136	LIVADE	0	40
4	313734/1866	5287	ORANICA	0	54
5	313734/1868/9	6276	ORANICA	0	65
6	313734/1915	7391	ORANICA	0	72
7	313734/1990/2	3834	ORANICA	0	36
8	313734/1997/2	1392	ORANICA	0	14
9	313734/219	2874	ORANICA	0	28
10	313734/220	2773	ORANICA	0	28
11	313734/221	2564	ORANICA	0	24
12	313734/223/2	504	PAŠNJACI	0	8
13	313734/223/31	3046	LIVADE	0	29
14	313734/223/32	2385	LIVADE	0	21

Grafični pogled

Slojevi

- ☒ Rastr
- ☒ DOF
- ☐ TK25
- ☐ SLO DOF
- ☐ HOK5
- ☒ DGU
- ☐ Županije
- ☐ Naselja
- ☐ Općine
- ☐ Kat.op
- ☒ Katastar
- ☐ DKP
- ☒ Alatke
- ☐ Hektar
- ☐ Ar
- ☐ Mreža 100...
- ☐ Mjerilo
- ☒ LPIS grupa
- ☒ LPIS

Parcele

Šifra KO:

Parcela:

Lociraj

Rezultati pretraživanja

V mirovanju 5557177.781, 5102679.259 0.0 m 1:3334 LPIS

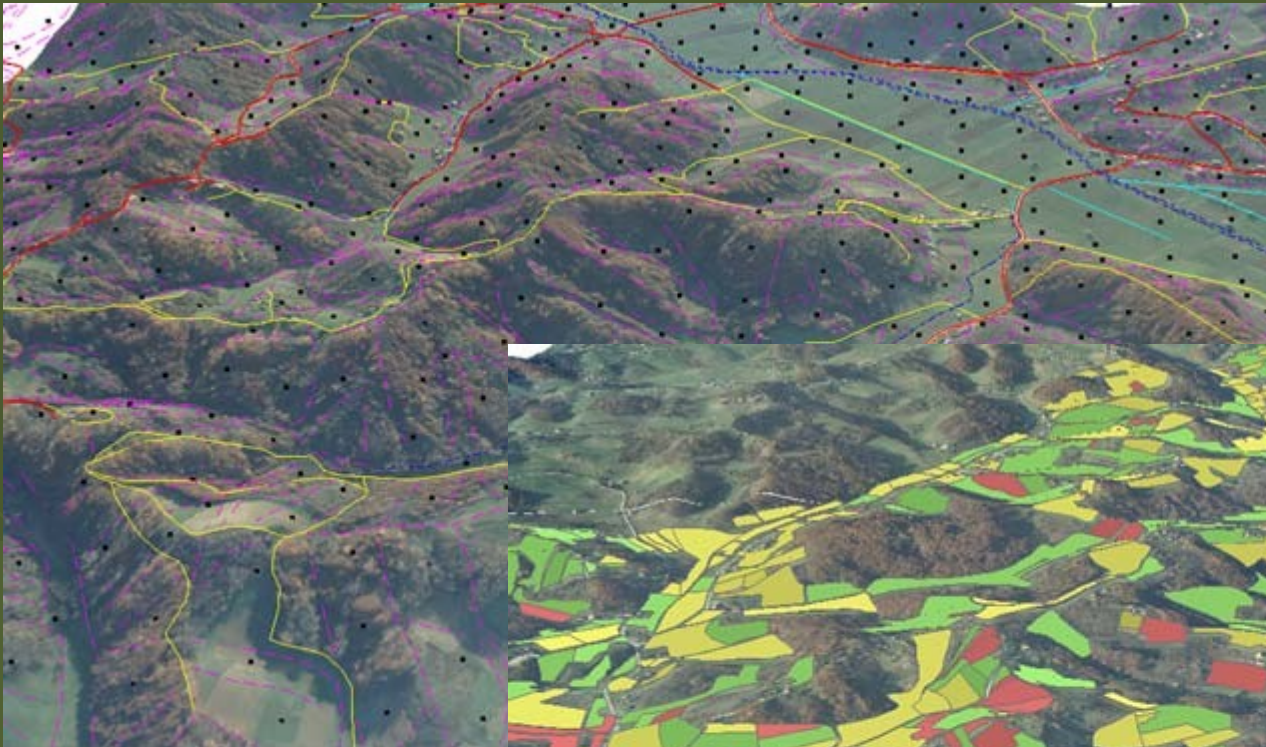
CONSULTATIONS WITH FARMERS



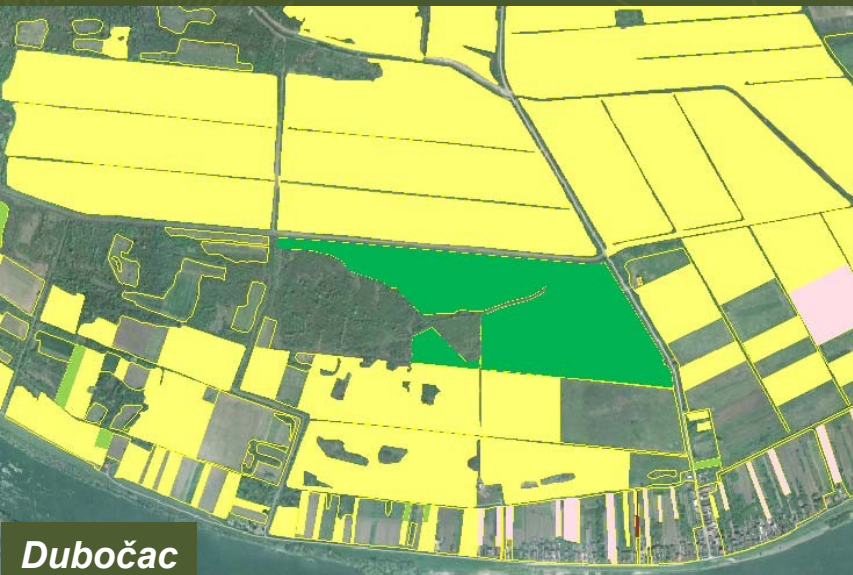
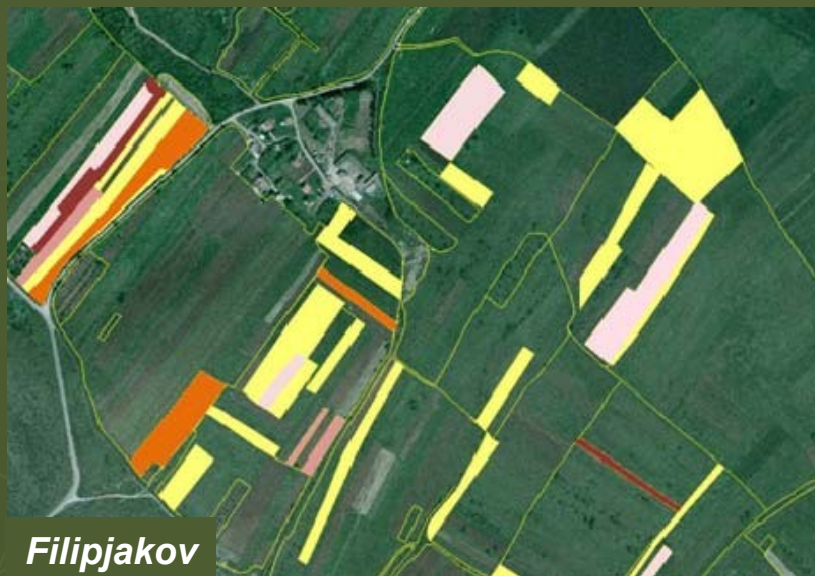
FINALIZATION OF DATA

- $\frac{3}{4}$ Generation of unique block ID
- $\frac{3}{4}$ Analyses with DTM – calculation of average altitude and slope
- $\frac{3}{4}$ Digitalization of selected landscape features
- $\frac{3}{4}$ Database and topology checks

FINALIZATION OF DATA – ANALYSES WITH DTM



FINAL LPIS DATA



OBTAINED RESULTS

Cadastre	Initial digitalization - physical blocks		Number of consulted farmers	Consultations with farmers - identified farmer blocks		Average area of farmer blocks [ha]
	Number	Area [ha]		Number	Area [ha]	
Dubočac	100	686,30	25	160	399,05	2,49
Filipjakov	329	719,12	24	140	71,35	0,51
Martin	112	560,39	29	136	124,89	0,90
Pretetinec	51	178,29	33	148	36,97	0,25
Tuhelj	659	412,90	37	293	102,67	0,35
Vodnjan	4 211	1 857,01	22	322	205,41	0,64
Total	5 462	4 414,01	170	1199	940,34	0,78

DATA ANALYSES

1. Analysis of input data
2. Comparison of LPIS with available cadastral data
3. Use of initial LPIS data during consultations with farmers
4. Comparison of agricultural land identified during consultations with the land registered in the Farm register
5. Verification of identified farmer blocks by the GPS measurement

DATA ANALYSES



ASSESSMENT OF USED METHODOLOGY

$\frac{3}{4}$ Initial digitalization

$\frac{3}{4}$ Consultations with farmers

- ☞ Evaluation made by the members of the LPIS project team

- ☞ Evaluation made by the farmers participating in consultations

$\frac{3}{4}$ Identification and digitalization of landscape features

CONCLUSIONS 1/2

- ^{3/4} The methodology for both the initial digitalization and consultations with farmers has been developed and verified during the pilot project. It can be directly used during the nation-wide LPIS implementation in Croatia.
- ^{3/4} The training programme has been developed and successfully implemented. It can be used for the training of the staff involved in consultations with farmers.
- ^{3/4} Input data have been tested and analyzed. The analysis resulted in a set of specific recommendations. The availability of data (DOF, TK-25 and DKP), their homogeneous quality and metadata are essential for successful LPIS implementation in Croatia.

CONCLUSIONS 2/2

- ^{3/4} The LPIS data model including landscape features and containing geographic layers, entity-relationship diagram and attribute tables has been developed in the frame of the project as well.
- ^{3/4} Cadastral data linked with data from the Farm register were useful for navigation during consultations.
- ^{3/4} Expected benefits of the initial LPIS layer were experienced during the consultations with farmers.
- ^{3/4} Digitalization of landscape features should be finally decided in co-ordination with the process of definition of GAECs and area-related measures of the RDP.
- ^{3/4} Selected parcels have been also measured in the field using GPS equipment. The methodology and standards should be further developed and implemented.

NEXT STEPS...

^{3/4} On-going activities - priority tasks

- ❧ Implementation of LPIS software (consortium: King-ICT and Cosylab)
- ❧ Establishment of communication network (90 locations; 240 consultants connected to central office via Internet)
- ❧ Tenders for spatial data, initial digitalization, QC
- ❧ Training of consultants
- ❧ Preparation of promotional campaign

^{3/4} Future activities

- ❧ LPIS implementation (November 2008 – June 2010)
- ❧ Continuation with other IACS preparation activities (administrative capacity building, methodology development, integration of registers...)

An aerial photograph of a landscape, possibly a wetland or agricultural area, with numerous numerical data points overlaid. The numbers are in various shades of gray and are scattered across the map, often within irregular white-outlined polygons. The text "Thank you!" is centered in a large, bold, yellow font with a black outline.

Thank you!