

A Review of Reconstruction of Cadastre Based on Pilot Projects in Kosova

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Key words: Reconstruction of cadastre, database, accuracy, outdated.

SUMMARY

Based on the current situation, the cadastral needs are collecting, fitting and gathering data from different surveying sources, in order to show them to and fulfil stakeholders' needs. In a situation when the society in Kosovo was critical, the identification of land parcels and facilitating of land registration have been very important, especially after the recent war when there was a great need for reconsolidation or in other words the beginning of the economic development of the country. It is quite clear that multipurpose cadastre has an impact on securing property rights and offering data on the society. People or society in general intends to see cadastre and property registries as something very important for their needs. They also consider it more as a bureaucratic barrier to be overcome because they have to fulfill application, to stand in queue, to go from one cadastral office to another in order to achieve their goals.

One of the possibilities to have cadastral data improved, updated and property rights relations clarified is the reconstruction of cadastre. The Cadastre Reconstruction is regulated by the Law on Cadastre Section 29, the Administrative Instruction on the Implementation of the Law on Cadastre, Article 28 and the Law on the Establishment of an Immovable Property Rights Register (Law on IPRR). It would contribute to the improvement of the real property systems in Kosovo and, therefore, to the operation of the real property markets. The main outcome would be the increased number of users actually using digital cadastral systems, especially for helping secure mortgages, transactions and land market. From September 2005 to May 2006 in Kosova three pilot projects on cadastre reconstruction in three cadastral zones have been developed: Livoq, Brekoc and Sofali. They have been developed in different regions of Kosova and under different cadastral circumstances.

The article should review procedure, challenges, quality and achievements of reconstruction of the cadastre basis on the three undertaken pilot projects in Kosova.

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1. INTRODUCTION

Improvement of the cadastral data is not just the technical part because it is only one side of the medal. The second side of the medal is the legal part – as a very important issue of cadastre. The technical and legal issues of the digital cadastre are a basis on the establishment of rights and restrictions of owners on property. Having in mind that the recent war (1998/99) in Kosova (Meha 2004) have caused more problems in all aspects, there was also a high negative impact made on cadastral data and records. As referred to in the Law on Cadastre, the cadastre reconstruction is the main tool to present real field situation on cadastral data.

Cadastre Reconstruction is regulated by the Law on Cadastre Section 29, the Administrative Instruction on the Implementation of the Law on Cadastre, Article 28 and the Law on the Establishment of an Immovable Property Rights Register (Law on IPRR). The Cadastre Reconstruction commences with the decision of the Government of Kosova who take care bridging gaps between cadastral and field situation. Procedure will be that Kosovo Cadastre Agency (KCA) as a main body of cadastre will see to establish the Commission on Reconstruction and appoint the main members of the commission and then determine priority cadastral areas to be set under reconstruction. The Cadastre Reconstruction will start with an Awareness Campaign within cadastral area, to be followed by a Public Announcement and meetings. Three pilot projects on the cadastre reconstruction in the following three cadastral areas Livoq-Gjilani, Brekoc - Gjakova and Sofali-Prishtina have been developed in Kosova from September 2005 to May 2006.

The main issue of the pilot project is to take outcomes and provide recommendations for the next large scale Cadastre Reconstruction project financed by the World Bank.

These three cadastral areas are financed by the Norwegian government donations. A part of this is the *Kosovo Cadastre Support Program II* (KCSP II) financed by Norway, Sweden, Switzerland and the World Bank which is ongoing in the period 2006-2008. In these three cadastral areas where the cadastre reconstruction has been developed, the field work is performed by a team of legal and cadastre surveying experts supervised by the Kosovo Cadastre Agency (KCA).

3. ACTIVITIES AND CHALLENGES ON RECONSTRUCTION OF CADASTRE

The process of cadastre reconstruction started based on the Government Decision in 2005 on request of the highest authority of Cadastre and Survey (KCA) in Kosova. Cadastral areas were chosen in three different regions of Kosova. The reason for this activity has been taken by the author of this article (Meha, 2005b) showing the same statement of cadastral data and records as field situation. Due to the regular cadastre maintenance, it is not possible to have the goal achieved. After the recent war (1999) aerial images of Kosovo have been taken twice, in 2001 and in 2004. Next orthophotos show field statement from 2001 and 2004. There is a big difference, compared to the actual field statement. This has been shown on orthophotos of 2001 and 2004 for the same territory, see fig. 1.

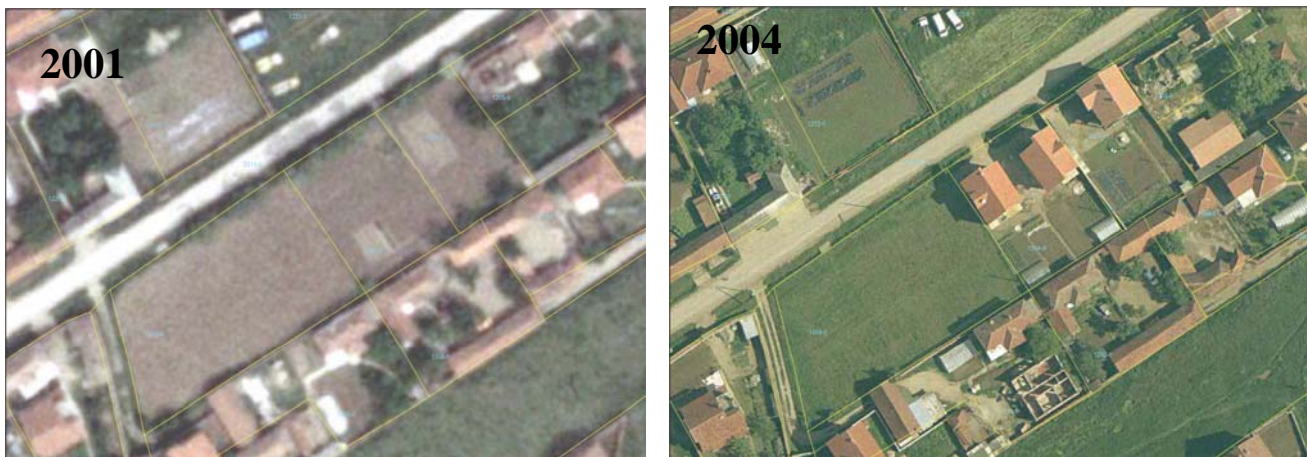


Fig. 1. Indicating changes occurred in three years period

The development of three pilot projects of the reconstruction of cadastre identifies well the discrepancy between the Law on cadastre and needs. It is considered important that laws and administrative instructions need improvements to facilitate efficiency and effectiveness. It is also considered important that laws and administrative instructions are technologically neutral towards production methods.

Few challenges as obstacles in regards to commission and registration (Report of KCSP II 2006) on IPRR are shown below:

- Clear laws and regulations for the Commissions on Reconstruction need to be adopted, so they can make final decisions on the data to be entered into the IPRR and maps, which means the *Commission has the same authority as the court* with respect to the approval of ownership.
- In order to ensure *transparency* and the protection of property rights in particular for internally displaced people, a legal change is required to allow lists of owners to be announced in the media and on the internet as a part of the public display

- Section 29.1 in the Law on Cadastre needs to be amended to allow neighbors to agree on unlimited area and on boundaries during the field survey. This should be recorded by the surveyor and become legally valid after the Public Display and the decision of the Commission.

The registration of parcels and ownership is sensitive, especially for internally displaced persons who have difficulties to protect their rights.

Determined cadastral areas for the cadastre reconstruction, public awareness, quality control of cadastral model and data are shown in fig.2, fig.3 and fig 4. below.

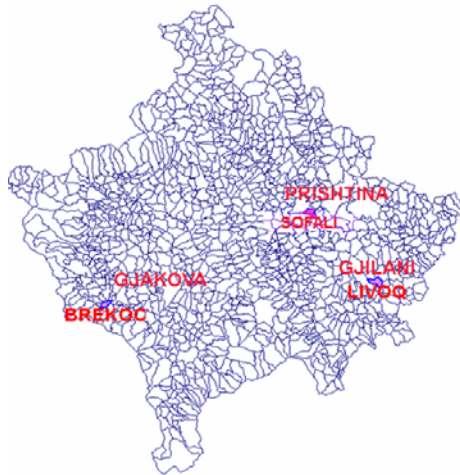


Fig.2. Map of cadastral zones of Kosova **Fig.3.** The quality control and surveying and three pilot projects



Fig.4. Public awareness in cadastral zones

4. QUALITY CONTROL OF THE RECONSTRUCTED PILOT AREAS

Quality control of surveying cadastral data has to be done in two stages. The first quality control has to be done by the company who carries out surveying. The second control or better saying review has to be carried out by the highest authority of survey in Kosova that is Kosovo Cadastral Agency (KCA). The surveying team reports directly, or through a management unit or consultant to the Commission. The result of the field work is presented in a Public Display where maps and lists describe the parcels with boundaries and owners before and after reconstruction. Quality control is carried out by several tests according to the quality control check list. Through these technical tests the data have been checked about the demands of the data model and the cadastral guidelines (Meha, 2005a).

Three pilot projects on cadastre reconstruction in three cadastral areas were developed in the cadastral areas of Livoq/Gjilan, Brekoc/Gjakova and Sofali/Prishtina. The quality control were made separately for each cadastral area testing accuracy of third order network of points, boundary of parcels, geometry, tolerance level etc as it is shown on the check list...

Quality control / Check list					
Municipality:	Prishtina	Cadastral zone:	Sofali		
General					
Format	<input checked="" type="checkbox"/> ITF	<input type="checkbox"/> DXF	<input type="checkbox"/> other		
Topics	<input type="checkbox"/> Control points	<input type="checkbox"/> Localname	<input type="checkbox"/> Admin bound.		
	<input checked="" type="checkbox"/> Surface ceiling	<input checked="" type="checkbox"/> Parcel	<input type="checkbox"/> Tolerance lev.		
	<input type="checkbox"/> Single objects	<input type="checkbox"/> Cadastral zone	<input type="checkbox"/> Projects		
Import ITF	<input checked="" type="checkbox"/> „A00_G5ERR“	<input checked="" type="checkbox"/> Error log file	<input checked="" type="checkbox"/> List log file		
Mutation manager	<input checked="" type="checkbox"/> topics valid (legal)	<input checked="" type="checkbox"/> set mutation current			
ProCalc	<input checked="" type="checkbox"/> default value classes				
Topic Control points	<input checked="" type="checkbox"/> no data delivered	Ok	Not ok		
Correct number, position, height		<input type="checkbox"/>	<input type="checkbox"/>		
Reliability: yes/no (value exists)		<input type="checkbox"/>	<input type="checkbox"/>		
Accuracy: value > tolerance		<input type="checkbox"/>	<input type="checkbox"/>		
CP which have still class 0 after assigning the default value classes		<input type="checkbox"/>	<input type="checkbox"/>		
Topic Surface ceiling	<input type="checkbox"/> no data delivered	Ok	Not ok	No data	
Closed areas (import check)		<input checked="" type="checkbox"/>	<input type="checkbox"/>		
Each building has a centerpoint (coordinates) -> link to IPRR		<input checked="" type="checkbox"/>	<input type="checkbox"/>		
Centerpoints without building		<input checked="" type="checkbox"/>	<input type="checkbox"/>		
Check the type -> visual with orthophotos		<input type="checkbox"/>	<input type="checkbox"/>		
Name of the roads with position		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Address number of building with the position		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Symbols -> correct symbol to the corresponding type		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Single points -> each point has to be assigned to the types		<input checked="" type="checkbox"/>	<input type="checkbox"/>		
Topic Single objects	<input checked="" type="checkbox"/> no data delivered	Ok	Not ok	No data	
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Topic Local name	<input checked="" type="checkbox"/> no data delivered	Ok	Not ok	No data	
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Topic Parcel	<input type="checkbox"/> no data delivered	Ok	Not ok		
BP which are not positioned on a vertex (parcel geometry)		<input checked="" type="checkbox"/>	<input type="checkbox"/>		
BP: Reliability: yes/no (value exists)		<input checked="" type="checkbox"/>	<input type="checkbox"/>		
BP: Accuracy: value > tolerance		<input checked="" type="checkbox"/>	<input type="checkbox"/>		
BP: Origin		<input checked="" type="checkbox"/>	<input type="checkbox"/>		
BP which have still class 0 after assigning the default value classes		<input checked="" type="checkbox"/>	<input type="checkbox"/>		
P: Vertex without boundary point		<input checked="" type="checkbox"/>	<input type="checkbox"/>		

5. CONCLUSIONS

A functional cadastral system as Land Information System (LIS) is pre-requisite for implementing reconstruction activities, upholding the rule of law, promoting economic development and resolving longstanding conflicts and uncertainties. Successful development cadastre and land administration has to forgo few changes on Law of Cadastre mentioned above. In case of problems or requirements, it might be supported from Kosovo Property Agency (KPA) or KPA shall assist during the executions of the cadastre reconstruction process.

Reconstruction of cadastre in this stage is very important, but the Law on Cadastre should be amended to facilitate this and the commission should have the authority to decide on the ownership of the entire parcel.

Behind these pragmatic arguments the real property systems in Kosovo would contribute to the improvement, therefore, to the operation of the real property markets. The main outcome would be the increased number of users actually using the systems, especially for helping secure mortgages and sales. Another important outcome would be the establishment of registration system with predictable turn and affordable transaction costs.

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BIOGRAPHICAL NOTES

Prof. Dr. sc. Murat Meha has been teaching at the University of Prishtina - Kosovo since 1988. He has also taught for ten years at Tetova University (FRYER of Macedonia). He worked for five years as Manager of SEO Ferronikeli, for three years as a CEO of Kosova Cadastre Agency. Now he is in different funded EAR projects, USAID project, KTA project etc.

His teaching and research concern survey, cadastre, Land Administration and Land management. and related educational and capacity building activities. He is currently the member of Kosova Surveyor Association.

Main publications of Mr Meha are on survey, cadastre, Land Administration and Land management. He published two University books, two books for Kosovo Cadastre Agency, one book translated, and some school geographic atlases. More than 75 science and professional papers in different professional magazines, symposiums, conferences etc. Most of those articles are available on Internet at: FIG, ICC, Euro Geographic, WPLA, CELKCenter, FAO etc.

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