

Capacity Building as a Part of the Cadastre Development in Kosovo

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ABSTRACT

Capacity building is one of the most essential parts of the development of the cadastre in Kosovo. Training has been coordinated in specific Unit inside the Kosovo Cadastral Agency (KCA) to enable efficient use of experienced and competent international and local personnel to train surveyors and lawyers both in the KCA and in the Municipal Cadastral Offices (MCO). The training programme is still under development but a lot of activities have been carried out regarding training. Basic courses for Windows software as MS Word and MS Excel, use of modern Total Station, GPS and GIS software have been implemented based on current needs.

Number of personnel working in the Kosovo Cadastral Agency and Municipal Cadastral Offices today is about 350. Most of them are lacking experience from last ten years during which technical development has happen in field of surveying and cadastre. Very few young professionals are graduated in last years and they are lacking working experience from surveying and cadastral works almost completely. The knowledge of using computer, modern surveying equipment, understanding GPS or GIS technologies and software is in a low level.

General improvements are needed for the basic education for surveyors and a strategy for the university level co-operation shall be established. Intensive training for already working surveyors will continue both with on-job training and specific courses, workshops and seminars.

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1. ORGANIZATION AND WORKS PRIOR TO CONFLICT

1.1 Organization and Works Related to Cadastre

The history of surveys has started in Kosovo in 1924 by measuring the geodetic base for trigonometric network. Cadastral measurements in Kosovo started 1932 and continued until 1939. These measurements were carried out by Russian, Slovenian, Croatian, Bosnian and Serb surveyors. After The Second World War activities with cadastral surveys increased with the international standards preferred to cadastral measurements. Kosovars carrying out of the works were mainly educated in a secondary schools and the universities in Belgrade, Zagreb and Ljubljana.

In Kosovo surveyors has participated first time in training in 1950. During the period of 1955 up to late 1960's intensive field works and compiling of the cadastral plans were carried out by small number of local professionals educated out of Kosovo. Need for more surveyors made it necessary to open the technical secondary survey school in 1969 in Gjakova and another one was opened in 1978 in Prishtina. This secondary school was giving lessons both in Albanian and Serbian language. It has been estimated that in these two secondary schools about 1300 surveyors have graduated up today.

Organization for the cadastral services in Kosovo has been based on the geodetic-cadastral bodies in municipal level and to the administrative service in central level until 1989. The central level was responsible for planning and supervising surveying works and the municipal offices for the maintenance of the cadastre. For the labour related works as geodetic-cadastral surveys, compilation of cadastral plans and cadastral elaborates, the Institute of Geodesy and Photogrammetry was established to carry out planned activities.

Cadastral organization was centralized in 1989 under the control of the Governmental Geodetical Authority of Serbia as a part of the revokation of the autonomy of Kosovo. Centralization reform moved the municipal cadastral offices directly under the control of regional cadastral office in Prishtina which works under the control of the Governmental Geodetical Authority. As a consequence of the centralization process and revokation of autonomy of Kosovo during the period 1989 to 1999 most of the Albanians were expelled from their workplaces in a public sector or they refused to work under the control of the Serbian authority. Activities of the Institute of Geodesy and Photogrammetry were also closed at the beginning of the centralization period.

The University studies have been always carried out of Kosovo, mainly in Belgrade and Zagreb. In Kosovo there are about 100 surveyors with the university studies either in first level or completed faculty. Prior to the 1999 conflict according to the former Director of the

Regional Centre of Prishtina there were about 150 Serbs and 100 Albanians working in cadastral organization in Kosovo.

1.2 Education

The educational background among the surveyors in Kosovo is similar to the whole area of the former Federal Republic of Yugoslavia from Slovenia to Macedonia. Main part of the surveyors have completed a secondary vocational school with 4 years the geodesy as a main subject. Part of the graduated surveyors have continued to the Universities in Zagreb or Belgrade. From these students about 50 % have completed the first level with 3 to 4 years as an Engineers and another 50 % completed the faculty with two more years as a Graduated Engineers. About 45 % of the employees have graduated in the law faculty or other areas than surveying. Taking into consideration the traditional technical background among the surveyors, legal and economical personnel will supplement labour resources in the cadastre.

	Secondary school (surveying)	High school (surveying)	University (Surveying faculty)	University (Law faculty)	Other
KCA	6	3	7	7	7
Local offices	133	25	11	64	82

Table 1: Educational structure of cadastral employees:

Years	0-5	5-10	10-15	15-20	20-25	25-30	30+
Persons	80	24	54	53	98	25	11

Table 2: Working experience:

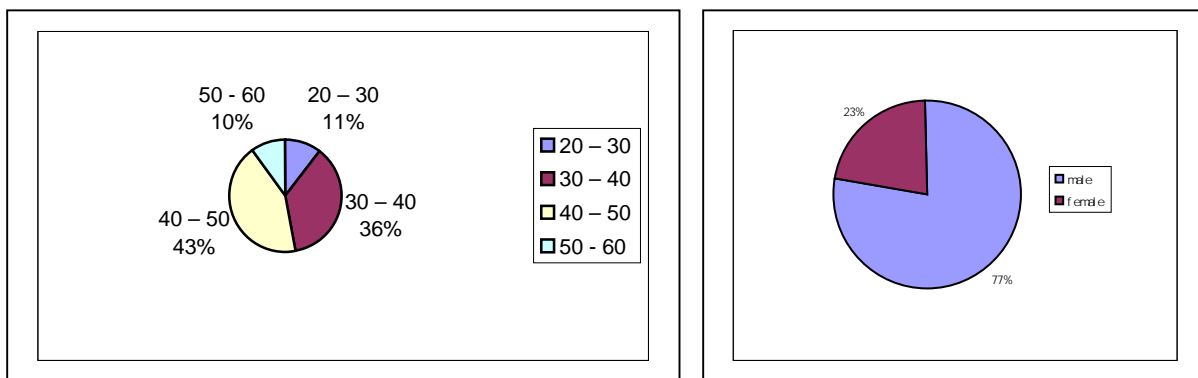


Diagram 1: Age and gender structure:

As a Master of Science level only few Kosovars have reached, mainly because of the lacking financial means during the long studies. During the last years few Kosovars living abroad have continued their studies in the Universities in Germany and Austria and they have shown

interest to come back and are welcome to Kosovo to rebuild and develop cadastre with they colleagues.

2. ORGANIZATION AND WORKS IN POST-CONFLICT SITUATION

2.1 Kosovo Cadastral Agency

For cadastre the organizational structure is build up based on the applicable laws in Kosovo (pre -89 laws) amended with a new regulation issued by the SRSG. In central level the Kosovo Cadastral Agency is established to be responsible for the development of the legal regime and the coordination of its implementation related to cadastre and other matters concerning the Land Information System in Kosovo. The competence areas includes but are not limited to geodesy, surveying, geographical information systems, real property registration and mapping. The Municipal Cadastral Offices are responsible for maintaining the cadastre and are functioning under the responsibility of the municipality. These offices are supervised and monitored by the KCA.

The cadastral institution in Kosovo level is built up from scratch and is in beginning managed by an international expert. The United Nations Interim Mission in Kosovo (UNMIK) started to build its administration in July 1999. In early stages the reconstruction of the cadastre was delegated to the United Nations Centre for Human Settlements, UNCHS (Habitat) which has build a programme "Kosovo Cadastre Support Programme" to establish and develop cadastral institutions and operations in Kosovo.

The KCA has been established with different operational units and staffed with local professionals and international consultants. The capacity building related to competence areas for the KCA is ongoing. A Co-Head system is established to build up management skills for future managers to facilitate the handing over of the KCA fully to the Kosovars. The Units inside the KCA are operative and projects are led by both local and international experts. The management training is mainly on-job training but will be combined with seminars, workshops and individual courses.

There is a lot of work to develop strong and independent institution which is able to carry out all aspects of cadastral work from finance, administration, planning and implementation of different functions. The handover of the responsibilities to the Kosovars will take place gradually, mainly during 2002 and the role of international experts will change from management positions to advisory and monitoring posts.

2.2 Municipal Cadastral Offices

The capacity building of the Municipal Cadastral Offices is of the utmost importance for the future of cadastre. The capacity building has many elements with the key aims to improve the working conditions and the effectiveness of the work. Some of the problems related to the capacity building in a municipal level are related to the low salary levels and the lack of the adequate office space available. This kind of problems can not be solved only through the

KCA and the Kosovo Cadastral Support Programme but some recommendations should be given to the responsible bodies.

The capacity elements that are handled within the Support Programme are:

- Delivery of IT and survey equipment
- Training of use of delivered equipment
- Instructions, recommendations and manuals for the cadastral activities
- Developing cadastral data in digital form (textual database and geographical information)
- Use of orthophotos in cadastral works and other activities
- Planning, management and quality assurance both cadastral works and administrative systems
- Co-operation and support regarding reconstruction of cadastre and data users.

In post-conflict situation the Albanians started gradually to return their previous workplaces in the public administration and most of the Serbs fled Kosovo. In 30 municipalities there are now 28 Municipal Cadastral Offices operating with a number of over 300 employees and out of them about 40 are Serb or other minorities. Based on the Law on Municipalities in Kosovo and as well as strongly supported policy to decentralize most of the public services, the municipalities decides themselves about their organizational structure. The consequence has been that MCOs in some of the municipalities are placed differently under the municipal administration. This has created a lot of discussion among the professionals and the leading aim has been to develop an unique structure for the cadastre even this is not reflecting to currently adopted policy. However, it is foreseen at this moment that there is a need for more centralized organizational structure for the cadastral services as well as there are too many MCOs operating for the long perspective. For the reconstruction and development of the cadastre a lot of personnel is required in the local level but in small municipalities it is difficult to find both financial and personnel resources. It is important to guarantee that all the inhabitants will have equal opportunity to get cadastral services but in the future a different kind of co-operation between MCOs shall be established regarding at least more specialized works.

In the three Serb dominated municipalities cadastral offices has not recognized the authority of the KCA neither has been co-operated fully with the UNMIK administrators. The employees in these offices have received both their instructions and salaries from the Governmental Geodetical Authority of Serbia. Lack of co-operation has led that the capacity building and training has not yet been implemented in these cadastral offices. Meetings are held regularly to inform these offices and employees about the activities and results in other areas of Kosovo and the discussion are ongoing to include them to the same organizational structure.

2.3 Private Sector

Surveyors in other public institutions and companies are mainly related to works and maintenance of the infrastructure like a water supply, electricity, roads etc. There is need to develop a functioning private sector to deal with surveying tasks and include them in the

cadastral works as well. A policy paper regarding the privatization part of the cadastral works shall be developed together with local and international experts and taking into consideration the experiences in the neighboring countries as Slovenia.

3. TRAINING AS A PART OF THE CAPACITY BUILDING

3.1 Capacity Building

After the revocation of the autonomy of Kosovo in 1989 the professional and educational development of the surveyors in the Albanian part of the population has fallen down, like it happened to other professions as well. Most of the Albanian surveyors were expelled from their workplaces in the central or municipal level and the Institute of Geodesy and Photogrammetry was closed down in Prishtina. There were little resources available to young surveyors to continue their studies in other parts of the Yugoslavia and also the wars during the 90's in the Balkans created even more difficulties to have an University education.

It was not only the development of the professional career that was prevented, at the same time the new technological development in the field of surveying and geoinformatics has taken place all over the world. The field of traditional surveying has changed and knowledge is in some fields exploding. In the period of 90's the secondary education was functioning in poor conditions, unable to introduce new instruments and their applications in modern cadastral surveying.

The capacity building is regarded as a key issue as well as a sensitive issue for the local government. Modern technology and methods are to be implemented with consideration of the special cultural and working conditions in Kosovo. There is a need to review the role of traditional technical surveyor to reflect what range of skills will be required from the surveying environment for the future.

3.2 Training Activities

Training has been regarded as one of the main priorities in the Kosovo Cadastre Support Programme. The Kosovo Cadastral Agency has established a small training facility where basic training can be provided for the surveyors. Training activities have started intensively with practical training, started usually with an introduction course followed with more detailed courses and on-job training in the MCOs and on the field. There have been three main subjects to concentrate in the beginning:

- Improve the general knowledge of using computers and Microsoft Windows software as Word and Excel;
- Train field staff to use modern Total Station with data transfers to PC;
- Use of cadastral software KCID which has been developed for the updating cadastral database from different sources.

In the KCA courses and on-job training has been organized for a GPS theory, planning, computations and use of instruments and with a GIS to introduce the GeoMedia Professional and ArcView GIS 3.2.

The statistics from organized training shows that about 150 persons have gone through the Total Station training during 2001, both the introductory courses and on-job training. 100 persons have participated to the computer courses and 50 persons have been trained with The Kosovo Cadastre Interim Database (KCID) to reconstruct cadastral database. Gradually when the MCOs have been able to start functioning in a proper way introduction of the GIS software (GeoMedia Professional) in relation to the vectorization of the cadastral plans and updating the cadastre has been taken place. The GIS software training has passed the first phase with a 10 persons from KCA and 8 persons from pilot municipalities.

Item	Level	First half 2001	Second half 2001
Windows 2000, MS Word, MS Excel	Basic	57	37
KCID software	Basic	50	
	On-job	26	26
GeoMedia Professional	Basic		8
	On-job		8
TotalStation	Basic	75	140
	On-job	181	162
LISCAD, other	Basic		40
	On-job		
TOTAL		389	421

Table 3: Employees for MCOs participated in training during 2001:

Item	Level	First half 2001	Second half 2001
Windows 2000, MS Word, MS Excel	Basic	10	
	On-job	25	30
KCID software	Basic	5	2
	On-job	5	7
GeoMedia Professional	Basic		10
	On-job		8
ArcView GIS	Basic		10
	On-job		4
TotalStation	Basic	20	
	On-job	10	10
GPS	Basic	16	
	On-job	8	8
LISCAD, other	Basic		10
	On-job		
TOTAL		99	99

Table 4: Employees in KCA participated in training during 2001

The Training Unit in the KCA will all the time monitor the training activities and results. The goal is that all the employees should go through a specific training schedule which will fit to his/her duties and responsibilities in the KCA or municipal level. It is necessary that the management level will have a clear understanding how they will use available human resources for the different activities as it is as important that the professionals will see that the future is a broader approach to surveying profession and continuing professional development.

4. CONCLUSIONS

Focus for the 2002 will be in three main subjects: A management and planning of cadastral and surveying works in central and municipal level, on-job training with cadastral and surveying works and an introduction of GIS with relation to the digital cadastre.

The Cadastre in Kosovo will face a lot of challenges in coming years. There are many different activities ongoing and priorities have to be made. To be able to provide services to the inhabitants the cadastral information need to be updated, it is an unique possibility to Kosovo at the same time transfer the analog data into the modern digital system and build a Cadastral and Land Information System during the reconstruction process. Technical solutions exists and are easy to implement but human resources in Kosovo are always limited. Surveyors with a secondary school education should be able to provide cadastral services in the municipal level but lack of the availability of the university education in Kosovo will be the main threat in the long term to develop and manage the Land Administration in Kosovo.

The discussion concerning reform of the education in the secondary school level as well as reforms in curriculums in the University of Prishtina is ongoing and will hopefully improve general educational level if the field of surveying. In the future a small region like Kosovo, it is unlikely to have a full university curriculum from surveying taking in consideration the new environment related to the surveying works. It is strongly supported to develop the educational sector in the secondary school level to fulfill future requirements and to develop co-operation between the University of Prishtina and other Universities in the Eastern Europe as well as worldwide to give Kosovars possibility to complete their studies in the field of surveying in the university level.

It is very important to have a good relationship and contacts to the neighboring countries as well as international organizations to establish co-operation both in the development of cadastre and education. During the Kosovo Cadastral Support Programme local surveyors have participated to international meetings as well they have an unique possibility to work together with the professionals all over the world in the central and municipal level in Kosovo.

As one of the resolutions adopted by the Commission 2, Continuing Professional Development has become important and has been promoted in many countries as a respond to the quickly changing conditions. The CPD as "the systematic maintenance, improvement and

broadening of knowledge and skills and the development of personal qualities necessary for the execution of professional and technical duties throughout the practitioners working life” shall be introduced also in Kosovo. The idea of CPD is not easy to implement in countries in transition and specially with circumstances in Kosovo. But like in many of the activities implemented by the Kosovo Cadastral Support Programme ”step by step” approach will be considered to change the professional practices for the better future for both the surveyors and all Kosovars.

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