Implementation of Client Oriented Cadastral Services, the Federation of BH experience and lessons learned

Željko OBRADOVIĆ, Nedžad PAŠALIĆ and Denis TABUČIĆ, Bosnia and Herzegovina

Key words: Bosnia and Herzegovina, Federation of Bosnia and Herzegovina, Customer service, Cadastral service, Implementation, Federal Administration for Geodetic and Real Property Affairs of the Federation of Bosnia and Herzegovina,

SUMMARY

In 2010 in the Federation of Bosnia and Herzegovina service standards were defined to be oriented towards the service of users and permanent communication with clients, enabling competent institutions to identify the needed tasks and activities, with respect to making improvements to Land Administration sector. The long-term objective of Federal Administration for Geodetic and Real Property Affairs is to support and facilitate economic development and good governance by having clear records of real estate that is easily accessible to users through electronic media in an automated system, as well as having sound policies addressing related Land Administration issues. Nowadays information regarding real estate is expected to be available to potential users via the Internet or other public networks in a transparent and user-friendly manner. Making improvements to the service provision process in the Federation of Bosnia and Herzegovina has implied to improving access to data, defining service standards and establishing monitoring and evaluating system.

This article describes the implementation of client oriented cadastral services in the Federation of Bosnia and Herzegovina that have been mainly facilitated by the new IT system for cadastre data maintenance. In fact, during 2011-2012, new Katastar.ba software was developed to replace the multiple software solutions in support of maintaining the cadastre data and service delivery to clients in municipal cadastre offices (World Bank, 2012c). Successful implementation of this System has been regionally and internationally recognized, and is seen as best practices example in Land Administration. Parallel to the real estate data arrangements, and setting-up central databases, Federal Administration for Geodetic and Real Property Affairs is progressively using information technology to improve other services and transparency. The provision of more improved, accurate, and reliable data with a high quality, timely, and easy-to-use customer service is evidence of development of Land Administration in the decentralized constitutional and administrative surroundings. The article draws conclusions from the process of design and implementation of the new IT system for cadastre data maintenance and other client oriented services in the Federation of Bosnia and Herzegovina, that are accompanied by reforms to the organisation and procedures.

The abstract was submitted in consultation with the World Bank for possible featuring in the World Bank coordinated ECA Land Administration Success Story sessions/stream.

Implementation of Client Oriented Cadastral Services, the Federation of BH experience and lessons learned

Željko OBRADOVIĆ, Nedžad PAŠALIĆ and Denis TABUČIĆ, Bosnia and Herzegovina

1. INTRODUCTION

It has become a known and recognised fact, that the land administration and guarantee of ownership provide the basis for economic and social development, and any policy and decision-making process within a nation, backed up by the government's commitment and financial support. As defined in the FAO Voluntary guidelines on the responsible governance of tenure (FAO, 2012), states have the responsibility to ensure that implementing agencies and judicial authorities serve the entire population, delivering services to all, including those in remote locations. Services should be provided promptly and efficiently using locally suitable technology to increase efficiency and accessibility. Additional measures should be considered to support vulnerable or marginalized groups that could not otherwise access administrative and judicial services. Land administration system provides a basic foundation for the spatial enablement of a society and is considered to include land registration, cadastral surveying and mapping, fiscal, legal and multi-purpose cadastres and land information systems. Land administration system should be affordable and open to everyone, meeting the needs of all its users, and must be sustainable.

2. LAND ADMINISTRATION REFORM

Bosnia and Herzegovina has made significant progress in several areas since the Dayton Peace Accords in 1995, and has been recognized by the European Union (EU) as a potential candidate country since 2003 (World Bank, 2006). BH is largely decentralized country and comprises from two autonomous entities: the Federation of Bosnia and Herzegovina (FBH) and Republic Srpska (RS), with a third region, the Brcko District, under the control of local government. The long-term objective for BH, is to facilitate economic development and good governance by having clear records of all real estate easily accessible to users through electronic media in an automated system as well as having sound policies addressing related land administration and revenue-generation issues. BH, and Federation of Bosnia and Herzegovina in particular, is successfully implementing internationally recognized best practices in land administration and starting to building up spatial data infrastructures.

The history of real estate registration in BH dates back to 1880 when the Austro-Hungarian Monarchy carried out graphical surveys, and in some parts the titling system was in use. The technical and legal description of real estate resulted in keeping the records of the cadastre and land registry in a dynamic way by introducing or making changes many times. Nowadays, there is a more clear vision and strategy about the future registration and land administration system. Regardless of the specifically distributed territorial division of the country, and the practical development and maintenance of two different land administration systems in two entities, a common, national Land administration sector policy and strategy in BH was adopted in 2011.

Recognizing the significance of land administration for the economic prosperity and development of a state and society in general, along with the assistance of foreign donors and lenders, the entity governments and Council of Ministers support the development of the land administration field with one of the key outcomes of optimal service delivery to customers. Ministries of Justice of the RS and FBH, Geodetic Authority of the Republic Srpska (GA RS) and Federal Administration for Geodetic and Real Property Affairs of the Federation of Bosnia and Herzegovina (FGA FBH) adopted a policy statement which constitutes part of the above-mentioned land administration sector policy to guide their actions in the land administration sector of BH. The statement, among others, notes that: land administration services are an essential component of public infrastructure for the benefit of the general public; easy and full access to information related to real estate should be ensured for every potential user as long as the information is not prohibited from disclosure by law; in accordance with the general policy on e-government and public administration reforms, all information related to real estate should be in digital form and made available to potential users via the Internet or other public networks in a transparent and user-friendly manner, in keeping with the law; in the long-term, generated revenues should generally cover the operational costs of land administration in the public sector, and that the fees paid by users should be high enough to cover the basic costs.

The vision is to create a land administration system in which relevant authorities will ensure: the availability of digital data to all in order to enable unhindered access to data and data distribution; data accuracy and data quality in the sense of their sustained maintenance and timeliness; and compatibility and consistency of the data maintained and provided by different authorities.

In the FBH, a dual registration system has so far been retained. Real estate ownership and related rights are registered in the local courts, and cadastre data is kept in the municipalities. FGA FBH is responsible for coordination and supervision. A new draft Law on Geodetic Survey and Real Estate Register in the procedure has a basic objective of establishing a unified registration system with an integrated real estate database.

To demonstrate the good trend in improving the services provided to citizens and the business sphere in the last eleven years, one can consider the indicators published in the acknowledged benchmarking Doing Business reports. The Doing Business 2016 report (World Bank Group, 2015) presents results for 2015, and ranks BH in 97th position out of 189 economies compared in the area of property registration. Property registration required seven procedures, which was the same as eleven years ago. The time needed to register a property has fallen from 331 days to 24 days, and the cost of registration has fallen to 5.2% of a property's value. The so-called Quality of land administration index calculated for BH is 12.5 out of 30 available points.

2.1 External support to the Reform

The current period is marked by extremely satisfactory and synergetic cooperation on the Real Estate Registration Project (RERP) as a follow-up to the Land Registration Project, both managed by the World Bank; CILAP (Capacity Building for Improvement of Land Administration and Procedures in BH), managed by the Lantmateriet on behalf of Sida (the Swedish International Development Cooperation Agency); and the Public services for the real estate market and European

integration project, managed by the Norwegian Statens Kartverk financed by donations from Norway.

2.1.1 World Bank RERP project

Primary partners, the FGA FBH and the GA RS, the private sector, and public, academic and other institutions are working successfully in a demanding environment, and within reasonable resources in support to the sustainable development of the land administration sector in the country. GAs in both entities are intensively involved in implementation of the World Bank RERP with land register and cadastre data harmonization on land, buildings and rights based on the actual situation in the field. The project's development objective is to support the development of a sustainable real estate registration system with harmonized land register and cadastre records in urban areas of both FBH and RS. The objective in FBH is to establish up-to-date and interlinked land register and cadastre database. Therefore, the project activities focus on: real estate registration data development, real estate registration infrastructure development, and policy and institutional development. Information technology investments are planned to lead to further interlinking between real estate registers and other public datasets making the data accessible online to a wide audience and in support of multiple uses. This will in the future lead to the provision of electronic online services and eventually to electronic conveyancing. The equal treatment of all citizens regardless of their gender, ethnicity, or social status by accompanying technical field work with public awareness-raising, vulnerability mapping, and social monitoring functions is supported.

2.1.2 CILAP project

"Capacity Building for Improvement of Land Administration and Procedures in BH – the CILAP Project" is a long-term project that aims at capacity building and knowledge transfer, in order to increase efficiency and reliability of the land administration process in Bosnia and Herzegovina. The CILAP Project was originally planned, described and approved for a period of six years, in order to support geodetic administrations in BH throughout the period of implementation of the Real Estate Registration Project. The CILAP Project is oriented to institutional components, such as strengthening of the capacity of the organizations involved in the project, transfer of knowledge and experiences, issues pertaining to staff training, and how to ensure access to well-trained human resources in the long run. Furthermore, the proposed project also includes revisions in the domain of legislation, the issue of archiving of land registry documents and improved business process of the land administration. The project also intends to cooperate with the above project that is funded with credit facilities of the World Bank and with ongoing donor projects, in terms of providing support to solutions for strengthening of the land administration in BH. The continuation of the CILAP Project activities has been approved by the Government of the Kingdom of Sweden for the period of 2016-2019, starting on 1 April 2016. The objectives remain unchanged for the CILAP 2 Project. The expected long-term impact of the Project is "To contribute, through efficient land administration, to economic and societal development, sustainability of the market and use of real estate, as well as the accession of BH to the EU".
The main objective of the CILAP Project is "To make the land administration system more efficient, safer and more reliable".
The 2016-2019 CILAP includes six components:

-Support for the strengthening of land administration organizations, development of human resources and of relevant statutory framework, and project management,
-Support for the establishment of Address Register,
-Support for the establishment of Sales Price Register,
-Support for the development of geodetic infrastructure,
-Support for the development of ICT and Geoinformation Systems,
-Support for the establishment of digital archives, their integration into business processes and their use in day-to-day operations.

2.1.3 Public services for the real estate market and European integration Project

The Project generally aims at enhancing the capacities of the FGA for preparing, storing and sharing of geographic information, supporting in that way the capacity building for the real estate registration and for increased access to geographic information, so as to meet relevant requirements for the European integration, as listed in the EU Inspire Directive. The Project is financed with donor funds of the Kingdom of Norway and it includes the following key activities, complement to the RERP and CILAP projects, that are to be implemented in the Federal Administration for Geodetic and Real Property Affairs:
-Procuring and installing equipment and software for conversion of analogue plans and maps into digital form,
-Developing and installing a workflow system to support the conversion and storage of data and documents, including a solution for registration of similar metadata that are prepared in accordance with the international standards and the EU Inspire Directive,
-Procuring and installing hardware and software for safe storing of converted plans and maps, as well as for storing of ortophoto data that are prepared using the funds from the EU,
-Procuring and installing additional hardware necessary for the preparation and safe storage of geographic data and real estate data.

2.2 Service standards

One of the results of the WB Land Registration Project was that both GAs prepared and adopted service standards in registration and the cadastre. BH is one of the rare countries in the Western Balkans region with such framework guidance available. The need to improve capacities with respect to IT and business planning has been identified in order to meet service users' needs in the sense of providing integral property data to clients and enabling access to property information online, according the law. Main provision standards were defined, followed by their quality, and service provision speed and effectiveness.

In FBH, service standards were defined to be oriented towards service users and permanent communication with clients enabling competent institutions to identify the needs, tasks and activities with respect to making improvements to the land administration sector.

Main service provision standards for land registry and cadastre offices referring to the service delivery by electronic means (publishing on relevant web pages) includes:
-Providing a list of all types of documents that a client can obtain, and guidance about the procedure;

-Displaying procedures concerning how to register a property and how to obtain extracts;
-Ensuring that information about fees is available to all clients;
-Preparing brochures and flyers on the land administration reform objectives and the progress achieved;
-Maintaining the costs of services at a reasonable level;
-Constantly striving to achieve a speed of service provision that is satisfactory to service users.

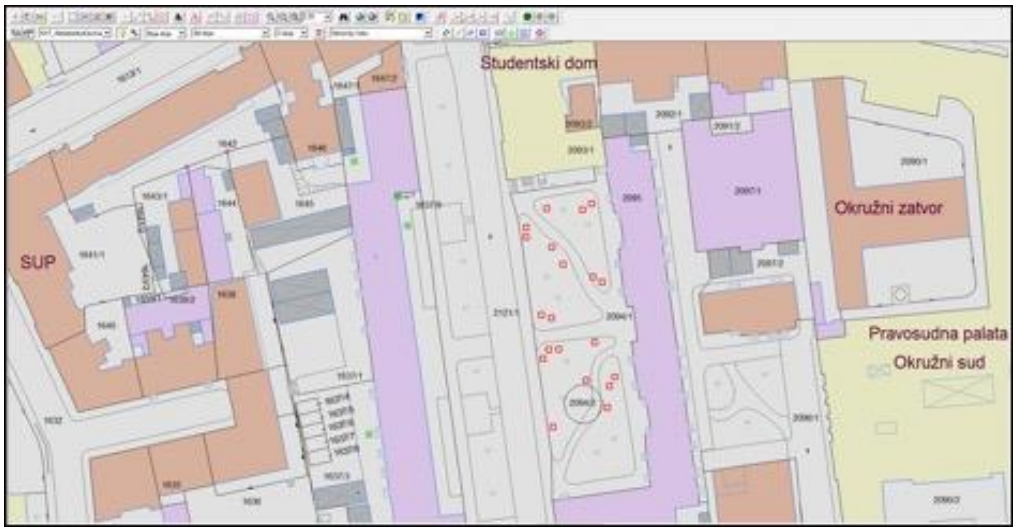
In the long term, by using Internet services it is expected that the number of clients visiting land registry and cadastre offices will decrease. This will require clerks to speed up their work and ensure a shorter response time to clients. In terms of quality standards, competent institutions are required to:
-provide services in a way that will make clients have full trust,
-align services, objectives, and tasks with the need of service users', and
-process clients' requests promptly and without errors made by staff.

Competent institutions are further required to comply with the specific service provision speed and effectiveness standards (1 day for mortgage registration, 1 day for cadastre extracts, etc.). In order to monitor implementation of the service standards, the main yearly indicators have been defined, and a monitoring and evaluation system has been established in both the land registry and cadastre offices.

3. DEVELOPMENT OF THE CADASTRE INFORMATION SYSTEM

Federal Administration for Geodetic and Real Property Affairs has achieved significant results over the last few years in terms of developing a single software. Within the software implementation and development for cadastre Federation of BH, the following actions were done:

-Donation of server, communication and computer equipment for 79 municipalities,
-Software development in accordance with existing legislation in the field of cadastre and applicable international standards,
-Software installation in all 79 municipalities in the Federation BH,
-User training in all 79 municipalities in the Federation,
-Migration (conversion) of data from existing software to the new system (RECDB data model)
-Public presentation of cadastral data - www.katastar.ba,
-Software maintenance and support.
In 2012, supported by the World Bank Land Registration Katastar.ba software was completed to replace the multiple software solutions in support of maintaining the cadastre and service delivery to clients in municipal cadastre offices (World Bank, 2012c).



Picture 1. Katastar.ba software, cadastre map

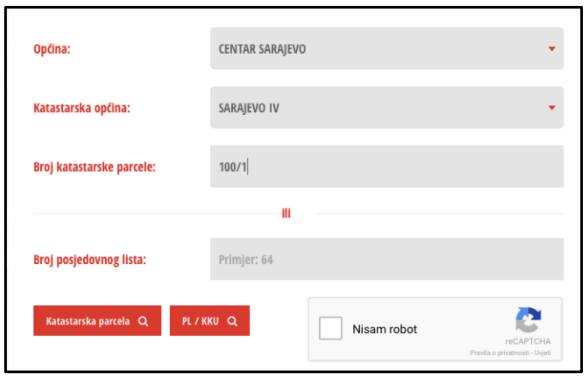
The client application is consisted from two parts:
- a web application to manage cases (applications), produce extracts, generate reports and perform system administration; and
- a graphical application to manage spatial data in various ways and produce a cadastre plan.

The web application is used as the main entry point from which all other processes are started, and the graphical application can be operated. The graphical application has a developed user interface and a wide range of GIS (geographical information system) functionalities replacing all graphical packages used before. All actions on the cadastral map are bound to the case management workflow, tracked and controlled by the system so as to eliminate mistakes and discrepancies. System access based on user rights can be customized in a flexible way.

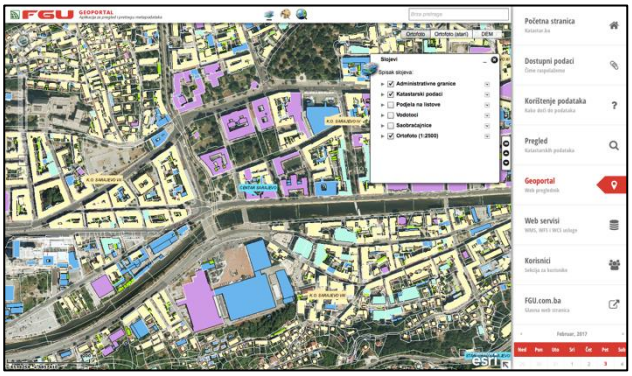
For the data replication between the central and local databases, a virtual private network (VPN) was installed that connects the central and 79 municipal cadastral offices. Data replication occurs regularly, once per day. The new cadastre data model enables the generation of gender- and age-related reports based on personal ID numbers. Cadastre database in the competence of FGA is based on the LRDB data model and ISO19100 standard series and functions as a decentralized system with distribution and replication elements. Distribution elements, when needed, include also elements of distribution of data, applications and management. The complete functionality of the system is designed to be service-oriented from the perspective of end users. Cadastre data replication takes place regularly, once a day. New model of cadastre data enables generation of reports with gender-disaggregated data on owners based on personal ID numbers.

The creation of a central cadastral database has enabled data exchange with other registries, providing e-services to the public, government agencies and private entities.

In order to provide relevant e-services, a special portal Katastar.ba was developed which has been providing free access to information on parcels and titles since 2014.



Picture 2. Katastar.ba software, cadastre map



Picture 3. Katastar.ba software, cadastre map

Two types search options are now available - by parcel number and possessor sheet number. The service provides textual information about the parcel with a graphical representation. In the future, other are planned to be introduced. Future services will include advanced search capabilities and the provision of detailed real estate information, available to government agencies and private entities for a prescribed fee. There has been a steady increase in users visiting the public www.katastar.ba website:

- 323085 visitors
- 12576233 data views
- 7857770 executed searches
- 7302300 searches by the parcel number
- 555470 searches by the possession sheet
- 532597 insights in the parcel geometry
- 1178086 hits on the Geoportal browser
- 457532 hits on the mobile Geoportal browser.

The Geoportal (www.katastar.ba/geoportal) is developed as integral part of the public website, and is built with respect to the requirements of the INSPIRE directive. Registered users can access Geoportal services via the WMS, WFS and WCS protocols (so-called OGC services). The system is capable of providing payable services, but most registered users are government agencies and can access the data without cost.

3.1 Other client oriented services

There is special significance in the operation of the FGA for continued implementation of the land administration sector reform, and creation of new client oriented products, that have been mainly facilitated by the new IT system for cadastre data maintenance. By formulating, establishing/creating and putting into circulation, and setting-up central databases, Federal Administration for Geodetic and Real Property Affairs is progressively using information technology to improve number of services and transparency. The provision of more improved, accurate, and reliable data with a high quality, timely, and easy-to-use customer service is evidence of development of Land Administration in the decentralized constitutional and administrative surroundings.

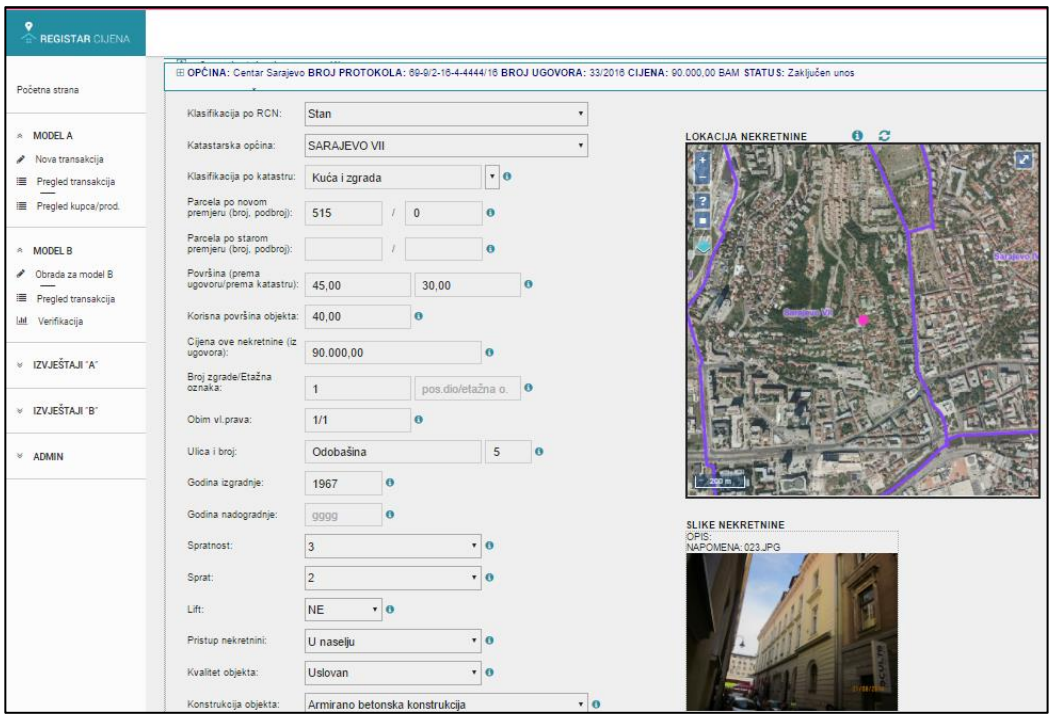
3.1.1 Provision of complete information on real estate

The existence of unique software for the land registry and for the cadastre, as well as development of common information system components and technology, will in the future enable access to information on real estate across the Federation of BH. The intention is to enable public access to certain property data, as well as the use of such data by professional service users. This type of service needs to be regulated by law, in view of the Law on Data Protection. The advantages to introduction of electronic communication between the authorities and the citizens and companies, which has been in operation in the EU for a long time now, are well known – from saving time by reducing paperwork to speeding up the procedures. The Law on Electronic Signatures and the Law on Electronic Business Transactions have been adopted at the level of BH, while the Law on Electronic Documents has been adopted at the level of the Federation of BH. Even thought the Law on Electronic Documents of FBH has been adopted, it awaits adoption of by-laws for its application to enable its practical application. The Law on Electronic Documents of FBH enables organizations and public administration bodies to use electronic documents as legally valid documents in their business operations, not only internally, but also with their service users. Nonetheless, the Law provides that an electronic document may be used as legally valid, but only with certain conditions attached, i.e. the document must be signed with a qualified electronic signature. Qualified signature is a signature that has been authenticated by a relevant state authority. However, it has not yet been decided which authority in BH this will be, although it has been provided for under the Law on Electronic Signatures, which was adopted back in 2006. This Law regulates the basis for the formulation and use of electronic signatures and provision of services with regard to electronic signatures and authentication. The Law on Electronic Signatures provides for a category of authenticators of qualified certificates, but no by-laws have been adopted at the level of BH that would stipulate who issues such qualified signatures. Given that there are no regulations for application pertaining to accreditation of national authenticators of qualified certificates, for the moment it is possible to use qualified certificates issued by authenticators with a seat in member states of the European Union or states that are members of the European Economic Space, whose validity can be verified by BH, as these should be treated as national certificates, according to the Law on Electronic Signatures of BH. As for the Law on Electronic Documents of FBH, an important thing concerning the validity of information is that organizations, companies and all other entities using electronic documents and information systems in their business operations are now required to have implemented systems that can at any time check the authenticity of document identity, that is, whether the document has underwent any changes from the time it was sent to the moment it was received.

3.1.2 Information System for Sales Price Register

Development and existence of the Sales Price Register with developed web-services that enable access to accurate and reliable data on property transactions to the general public and professional service users is one of the new services and products in the land administration sector. With the technical support of the CILAP Project, the testing of procedures, as well as the collection and processing of market data to construct data models for various types of real estate is being carried out. The testing of data was done in the territory of the Municipality Centar Sarajevo, which has 10 cadastre municipalities, of which six are of urban type.

The pilot area has the land cadastre (register of parcels and land under buildings) and the land registry, with the Book of Deposited Contracts with unregistered condominium ownership. The staff training was also carried out, in order to build institutional capacity. Besides the FGA, as the authority under whose responsibility the Price Register will fall, and the Municipality Centar Sarajevo, as the municipality selected for the Pilot Project, the Tax Administration of the Federation of BH also participated in the pilot project. Cooperation among the Federal Administration for Geodetic and Real Property Affairs, Municipality Centar Sarajevo and the Tax Administration of the Federation of BH was excellent and provides good foundation for the establishment of the system of price register and mass appraisal. Thanks to the Tax Administration of FBH, it was possible to collect data from the sales contracts for 2012 and 2013, which were processed under the pilot project. During the pilot project, significant efforts were put in the course of 2014 to define the number and classification of types of real estate, data models and information needed for each type of real estate, as well as to define proposals for the sources and methodology for collection of alternative prices, codes for verification of transactions, and data models for sales prices in the Federation of BH. The work was also done to prepare draft laws, define business process models, and propose organizational models within the administrations and data models for the Real Estate Price Register. After giving support to these activities, the Federal Administration for Geodetic and Real Property Affairs is working to develop software for the Real Estate Price Register in cooperation with FBH Tax Authority.



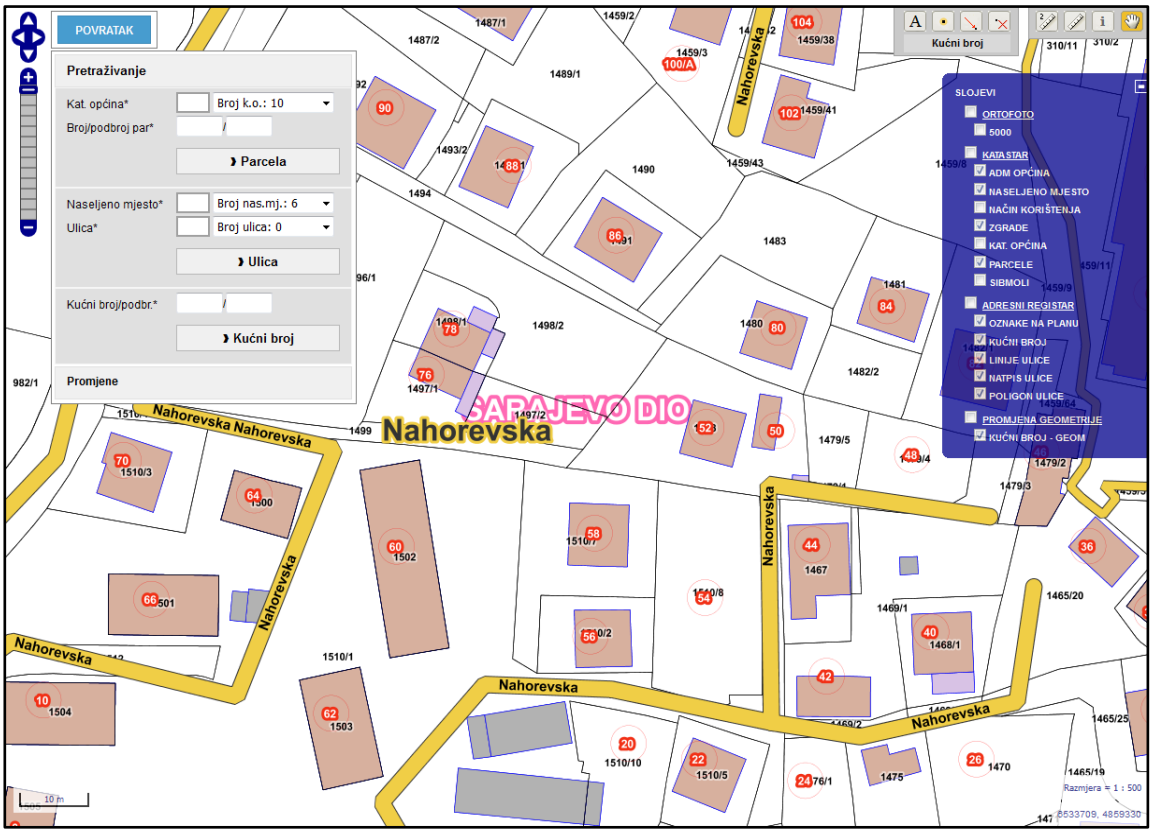
Picture 4. SPR software interface

The Sales Price Register, as a separate database with information on land and real estate value, would be the first and basic step towards appraisal of property value and future mass appraisal. Currently in the Federation of BH there is no institution or organization that deals with real estate market monitoring, leaving out the possibility to analyse the market and make some specific

conclusions. Establishment of the Real Estate Price Register Division as the main body in charge of the market monitoring would constitute one way of solving this problem.

3.1.3 Information System for Address Register

Having in mind the broad public demands, the FGA has recognized the need for building of an address register and, to this effect, it has supported development of an application for the address register. Creation of local databases and of central database will enable development of a service for data publishing, cooperation and exchange of data with other institutions. With technical support from the CILAP Project, in the course of 2014, a pilot project of creating an address register in the Čitluk Municipality was successfully implemented.



Picture 5. Address Register software, map viewer

The application for establishment, management and maintenance of address register was tested in a pilot project; it has become fully operational and ready for installation in other municipalities in FBH. In this regard, in the course of 2015, installation of the application and implementation of address register system was initiated in seven municipalities of the Herzegovina-Neretva Canton , the Tešanj Municipality and the Municipality Centar Sarajevo. During 2016 a number of municipalities, an additional 25 have signed cooperation contracts and will be supported by FGA in the process of establishment of address register.

The application for establishment and maintenance of address register is an independent application relying on the system of katastar.ba; it is based on the standards prescribed under the INSPIRE Directive and is intended for self-government units for the purpose of establishment and maintenance of address register. Cooperation has also been achieved with the Agency for Identification Documents, Registers and Data Exchange of Bosnia and Herzegovina – IDDEEA. Long-term strategy has been agreed in principle; the testing has been arranged for the Address Register data to be used by the relevant Ministries of Internal Affairs and organization of joint seminars for public information purposes.

3.1.4 Information System for Topographic/Cartographic Data

Given prior trends of data digitalization, and having accepted international standards in that area, there is a clear tendency towards the establishment and maintenance of an efficient information system for topographic/cartographic data of the FGA, which implies short-term, medium-term and long-term objectives. Short-term objectives concern the implementation of projects within the period of one to five years, such as preparation and adoption of regulations pertaining to official cartography; establishment of information systems for official topographic/cartographic data under the authority of the FGA, using topographic data model (which has been created in accordance with the international standards and the standards of the INSPIRE Directive); establishment of cooperation with strategic institutions for development of cartography (institute, department or research and development centre for cartography); drafting of the protocol and agreement of cooperation with partner institutions for development of cartography. Medium-term objectives regard the implementation of projects within the timeframe of 5-10 years, such as maintenance of the information system for topographic/cartographic data that includes data entry and updating, sorting of topographic/cartographic data, as well as distribution of topographic/cartographic data to a broad range of users; support for e-Government and e-Administration. Long-term objectives regarding the establishment of an efficient information system for topographic/cartographic data of the FGA imply the implementation of projects over a period of more than 10 years, such as establishment of topographic/cartographic database of the Federation of BH and construction of infrastructure for topographic/cartographic data linking various administrative levels and other entities/users.

3.1.5 Information System for Digital archive

Federal Administration for Geodetic and Real Property Affairs has a major challenge to safeguard the vast numbers of documents and maps which are paper-based records containing the information that is required to build the land information system. These land records date from late 19th century up to current date are required in the day-to-day business to provide service to the citizens. The creation of a digital archive will not only preserve the analogue land records, it will also enable ease of access and facilitate a wider use of the information. The benefits in creating a digital archive are many and varied. The preservation of priceless historical paper based cadastral documentation is a considerable benefit.

GA has the challenge to ensure that all permanent land records are archived long-term, safeguarded and preserved as well as made accessible whenever needed by the users, internal as well as external

including the general public. In close cooperation with the Norwegian mapping agency, the DA IT System architecture and technical requirements were developed for the DA, and the system is currently in development and testing stage.

There are various activities that will take place during the 2016-2020:
- Implementation of the DA and DMS systems at the chosen pilot offices that includes performing of various tests, defining and redesigning of business processes, preparations at pilot offices, operations of the DA system for the pilot project, user training, user administration and ICT security as well as setting up records conversion production line for pilot project
- data capture, validation and quality controls, paper preservation and conservation, designing methods of importing existing digital information to the DA, planning the records conversion centre for the full-scale production.
- designing web services for dissemination of DA to stakeholders and public users implementation of the records conversion centre, study how electronic signatures can be implemented
- Finalising the full-scale production that will continue over the coming 10 years.

4. CONCLUSIONS

Services that are provided by the Land Administration institutions in BH are recognized as an essential component of the infrastructure for the benefit of the general public. The demand for better quality services lies in the core of public sector reforms and e-government strategies accompanied by greater accountability and transparency. Customer awareness and a need for value for money are ever more recognized as important drivers of change. Today, customers of the land administration do not differ from customers in other areas, and they expect a customer service that is easily accessible anytime and at anyplace through different channels to best respond to their needs. On top of that, they require up-to-date, reliable, and quality real estate and spatial data which in every country calls for a lot of effort and financial support. In this demanding and developing environment of FBH, the GA with future-oriented management and dedicated staff is very well aware of its role, challenges, and international trends in the land administration field. With the support of international partners (World Bank, Sida, Norway-based), they are improving ways of availability, accessibility, efficiency of the service delivery to the public, professional users and government organizations. The improving trend of provision of more improved, accurate, and reliable real estate data with a high quality, timely, and easy-to-use customer service is evidence of the sound development of land administration in the decentralized country to support the reform of public institutions and EU aspirations.

REFERENCES

CILAP (2016). Capacity Building for Improvement of Land Administration and Procedures in BH. Official website: http://www.cilap-project.org/Default.aspx.

FAO (2012). Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries, and Forests in the Context of National Food Security. Rome: Food and Agriculture Organization of the United Nations (FAO). Retrieved January 4, 2016, from http://www.fao.org/nr/tenure/voluntary-guidelines/en/.

FBH (2010). Registration and Cadastre Service Standards in the FBH. FBH, Federal Ministry of Justice, Land Registration Project. Sarajevo.

FBH (2013). Draft Law on Geodetic Survey and Real Estate Register. FBH, the Government of the FBH, Federal Ministry of Justice. Sarajevo.

FBH, S (2011). Land Administration Sector Policy and Strategy in Bosnia and Herzegovina. Ministry of Justice of the FBH, FGA FBH, Ministry of Justice of the RS, GA RS. Land Registration Project. Sarajevo, Banja Luka.

FGA BH (2016a). Federal Administration for Geodetic and Real Property Affairs of the Federation of Bosnia and Herzegovina. Official web page: http://www.fgu.com.ba/en/home.html.

Obradovic, Z; Komljenovic, M; Lipej, B; (2016) Towards sustainable Land Administration in Bosnia and Herzegovina with improved customer service delivery, "2016 WORLD BANK CONFERENCE ON LAND AND POVERTY", The World Bank - Washington DC, March 14-18, 201

World Bank (2012a). Bosnia and Herzegovina. Implementation Completion and Results Report for a Land Registration Project. Washington DC: World Bank.

World Bank (2012b). Bosnia and Herzegovina. Project Appraisal Document of the Real Estate Registration Project. Washington DC: World Bank.

World Bank Group (2005). Doing Business in 2005. Removing Obstacles to Growth. Washington DC: International Bank for Reconstruction and Development. Retrieved January 10, 2016, from http://www.doingbusiness.org/reports/global-reports/doing-business-2005.

World Bank Group (2015). Doing Business 2016. Measuring Regulatory Quality and Efficiency. 13th Edition. Washington DC: International Bank for Reconstruction and Development. Retrieved January 10, 2016, from http://www.doingbusiness.org/reports/global-reports/doing-business-2016.

BIOGRAPHICAL NOTES

Željko Obradović is the Director General of the Federal Administration for Geodetic and Real Property Affairs of the Federation of Bosnia and Herzegovina. Željko Obradović has studied Geodesy in Sarajevo and earned his Master's degree from the University of Sarajevo in Sarajevo, Bosnia and Herzegovina. His specialization are Cadastre, Land Administration, Legal Framework, SDI, Project and Institutional management, Land Governance and has the experience of working in several domestic and international projects, Steering Committees, Scientific Organizations and Professional institutions, and has a long list of published articles in various expert publications.

Nedžad Pašalić is the Assistant Director in the Sector for Geoinformatics of the Federal Administration for Geodetic and Real Property Affairs of the Federation of Bosnia and Herzegovina. Nedžad Pašalić has studied Geodesy in Sarajevo and earned his Master's degree from

the University of Sarajevo in Sarajevo, Bosnia and Herzegovina. His specialization are GIS, IT systems, Cadastre, Land Administration, Project management, and has the experience of leading several domestic and international projects, and has a number of published articles in various expert publications.

Denis Tabučić is an expert associate in the sector for Geoinformatics in the Administration for Geodetic and Real Property Affairs of the Federation of Bosnia and Herzegovina. Denis Tabučić has studied Geodesy in Sarajevo and earned his Master's degree in 2011 from the University of Sarajevo in Sarajevo, Bosnia and Herzegovina. His specialization are GNSS CORS networks, Cadastre Information Systems, Spatial Data and has the experience of working in several domestic and international projects that are implemented by the Federal Administration for Geodetic and Real Property Affairs.

CONTACTS

Mr. Željko Obradović
Federal Administration for Geodetic and Real Property Affairs
Marka Marulića no.2
Sarajevo
BOSNIA AND HERZEGOVINA
+387 33 201 784
+387 33 586 056
zeljko.obradovic@fgu.com.ba
www.fgu.com.ba

Mr. Nedžad Pašalić
Federal Administration for Geodetic and Real Property Affairs
Marka Marulića no.2
Sarajevo
BOSNIA AND HERZEGOVINA
+387 33 586 060
+387 33 586 056
nedzad.pasalic@fgu.com.ba
www.fgu.com.ba

Mr. Denis Tabučić
Federal Administration for Geodetic and Real Property Affairs
Marka Marulića no.2
Sarajevo
BOSNIA AND HERZEGOVINA
+387 33 586 065
+387 33 586 056
denis.tabucic@fgu.com.ba
www.fgu.com.ba