

Data Integration & Interoperability of Public Land Administration Services in Bosnia and Herzegovina

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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

Strengthening of the Land Administration Sector in Bosnia and Herzegovina (BH) is recognized by the World Bank (WB) and donors' countries as a very important goal which can significantly contribute to secured tenure rights, an efficient and transparent property market, the European Union (EU) accession and consequently to the overall economic and social development and growth.

Joint efforts of geodetic authorities in BH with the support of various carefully coordinated projects are leading to the fulfillment of ultimate goals, improvement of entire land administration system and facilitation of public service provision. The dedicated and successful work on the establishment of accurate and up to date property registers (real estate cadastre, land cadastre and land registry), address registers and sales price registers has attracted many stakeholders enabling continuous activities on data integration and interoperability.

Exchange of data via web services with other governmental authorities and local governments raising efficiency of work in entire land administration system for user benefits. This prevents duplication of data, issuance of incorrect data from unauthorized sources, help in clear definition of roles and jurisdictions among public institutions. The achievements in integration and interoperability of data among different institutions enables simplification of already existing services and development of new modern customer oriented services.

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1. INTRODUCTION

Federation of Bosnia and Herzegovina recognizes the activities of the Land administration sector as an important goal that can significantly contribute to the digital transformation goals, the European Union accession and consequently to overall economic and social development and growth. Joint efforts of geodetic authority and other spatial data holders, with the support of various carefully coordinated projects is leading to the fulfilment of ultimate goals and facilitation of public service provision. The dedicated work on the establishment of accurate and up to date spatial data registers has attracted many stakeholders enabling continuous activities on data integration and interoperability. Data and metadata standards, procedures, and policies are used to promote coordination among data in the Federation of Bosnia and Herzegovina. By the end of 2020, more than 2 million land registry folios had been incorporated in the electronic land registry thanks to the systematic harmonization of real estate data between the land registry and the cadastre. As a result of the project, funded by the World Bank, more than 55% of these folios are now based on the new cadastral survey as opposed to 30% at the start.

Following the establishment of IT system used by local tax authorities and municipal staff, the Sales Price Register (SPR) data was published for public and other users and close to 30.000 individual transactions have been displayed publicly on the FGA geoportal.

Establishment of an up to date official database of Address data is also well under way, since FGA now distributes data via services for 23 municipalities of 79 in total, and full coverage is expected by the end of 2021.

Continued evidence of the digital transformation in the Federation of Bosnia and Herzegovina is the increased exchange of data via web services with different authorities and local governments that raises the efficiency of work in land administration and laying the foundations for e-government for user benefits. This consequentially prevents data duplication, issuance of incorrect data from unauthorized sources, helps in clear definition of roles and jurisdictions among public institutions.

2. THE REFORM PROCESS

The vision that is guiding the reform process 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 is functioning. 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.

In order to create an effective land administration system, the competent institutions in the land administration sector of the Federation of BiH have achieved really significant results in a synergy of activities during the land administration reform, with the support of the Government of the Federation of BiH and the World Bank and in cooperation with municipal courts, municipalities and donors, also recognized by World Bank teams.

The contribution of the activities carried out on the reform of the FBiH land administration sector is reflected in the improvement of the business environment through the construction of an efficient, secure and sustainable real estate registration system that provides legal security in the real estate market and provides security to investors and foreign investors through reliable registration of property rights, by providing complete information on property rights restrictions and by providing up-to-date technical data on real estate.

Aware that this can and should be better, that business regulation is an area where there is still room for improvement, it is important to note that some progress has been made as evidenced by the results in World Bank publications "Doing Business" where world economies are ranked by, among other things, the simplicity of business and real estate registration - in the last 10 years, BiH has made a shift of 26 places on the scale of simplicity of business but also a shift of 43 places in the field of real estate registration.

2.1 Support to the reform

The reform process has been significantly supported by several key influences: Additional financing has been ensured for the Real Estate Registration Project (RERP) managed by the World Bank; CILAP (Capacity Building for Improvement of Land Administration and Procedures in BH), managed by the Lantermatieriet 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 RERP AF World Bank project

The project development objective of the Additional Financing for the Real Estate Registration Project is to support development of a sustainable real estate registration system with harmonized land register and cadastre records in urban areas of both the Federation of Bosnia and Herzegovina and the Republika of Srpska. Real estate registers (land registers and cadastres) provide base information layers for land administration and for the establishment of a National Spatial Data Infrastructure. They are considered harmonized when their contents are interlinked and verified. The RERP AF capitalizes on the successful implementation arrangements established under the parent project RERP and maintains the momentum of the results achieved to-date. It is designed to scale up strategic investments for the sector that need to be expedited but cannot be financed through regular budget and are not covered by other

development partners. The RERP AF responds to a need for scaling up the activities that were successfully implemented under the parent project RERP. It will allow the implementing agencies to scale up investments in the development of a sustainable real estate registration system with harmonized land register and cadastre records. This will be done through additional investments in data harmonization, civil works, IT, policy support, and institutional development. The RERP AF will also contribute to the sector' readiness for future investments through additional investment in policy support and institutional development.

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 2016-2022.

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. 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,
- 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.

3. RESULTS ACHIEVED

It is important to note results in creating a favorable business and investment climate have been achieved despite the fact that the Federation of BiH has a complex dual land administration system established in the late nineteenth century and where cadastre and land registry are basic components of real estate registration real estate rights. This chapter will address some of the achieved results that ultimately contributed to the creation of a favorable business climate in the Federation of BiH:

-Land registers for the entire Federation of Bosnia and Herzegovina have been digitized - Land Registration Project; 1,030,000 land registry records at the end of 2011

-All land registers and auxiliary registers (registers of parcels and owners) were scanned and integrated into the land registry software - Real Estate Registration Project - which significantly improved the efficiency of the courts and enabled the archiving of old books.

-Long-term backlogs in land registry cases in the three largest courts in the Federation of BiH (Sarajevo, Tuzla and Mostar) have been resolved, thus achieving enviable promptness of courts, reduced possibility for corruption and strengthened real estate market (LRP)

-More than one million and one hundred thousand owners and co-owners have so far registered their real estate within the RERP project and protected their rights to it, which has improved the preconditions for secure legal real estate transactions and the development of the overall economy.

-Land registry and cadastre software has been developed and refined to the highest standards, which has enabled transparency, reduced the possibility of corruption, enabled statistical analysis and monitoring the efficiency of all cadastre services and all land registry offices in FBiH. Deliveries of IT equipment for the land registry and cadastral system have improved the efficiency of work and established a secure system of land registry administration of the Federation of BiH.

-Internet availability of cadastral data from the Real Estate Cadastre Database provided for all 79 municipalities and cities, 2,049 cadastral municipalities (LRP + RERP), including graphic data on plots and ortho-photo images / substrates for the entire Federation of BiH

-Internet insight into the land registry data of the Federation of BiH provided for all land registry offices, a total of 2,418 cadastral municipalities, including all data from the Book of deposited contracts under the jurisdiction of the Municipal Court in Sarajevo and the Municipal Court in Mostar.

-Access to data is provided through two groups of web services, public and user - in addition to searches by parcel number, by Possession List number, insight into geometry / cadastral plans, search by land registry file number, by parcel number and by land registry status, and user services for cadastral data, e-services for the needs of security agencies, access and exchange of data on personal identifiers and residence records is provided and residences of BiH citizens with the Agency for Identification Documents, Records and Data Exchange of BiH (IDDEEA).

-E-services provided annually record multi-million figures, which significantly speaks of the interest and need of citizens, legal entities, institutions to strengthen this type of service and the need for a digital signature,

-The interoperability of the cadastral and land registry information system is ensured, then the interoperability of the cadastral information system with the systems of the Digital Archive,

Address Register and IDDEEA, and the interoperability of the land registry information system with the systems of the Address Register and IDDEEA.

- 50 land registry and cadastral offices are renovated and equipped with appropriate furniture in accordance with the highest standards, which significantly improved the quality of services provided to users, improved working environment and work organization, greatly reduced the possibility of corruption and significantly improved citizens' perception and confidence in land registry and cadastre .

- The data on real estate for the area of 264 urban cadastral municipalities with 0.84 million parcels of 270,000 ha on which ownership was recorded as a result of project activities and for which records in both registers - in the land register and in the cadastre - were harmonized. Data reconciliation is currently underway for 68, and another 100 floors are planned. municipality, whereby real estate data will be harmonized for all urban and smaller urban parts of the Federation of BiH.

- More than 55% of land registry entries are based on the new cadastral survey (the total number of all land registry entries in the electronically kept land registry of the FBiH is 2.03 million). For the sake of comparison, it is illustrative enough to say that at the end of 2007, that percentage was only 13%! The number of land registry entries based on the new cadastral survey is constantly increasing thanks to the implementation of activities on the systematic harmonization of real estate data between the land registry and the cadastre.

- More than 72% of the territory of FBiH was vectorized through budget funds, through regular work of employees and Project funds; The total number of plots in the Federation of BiH in vector form is 4.2 million, which is more than 75% of the total number of plots in BPKN.

- Gender-disaggregated data on land and real estate ownership in the Federation of BiH are monitored and analyzed on a quarterly basis. Of the total number of natural persons registered in the land register with a unique personal identification number, 38.5% are women and 61.4% are men. During the implementation of the Project, these percentages were changed in favor of women - there was an increase from 37.0% to 38.5%.

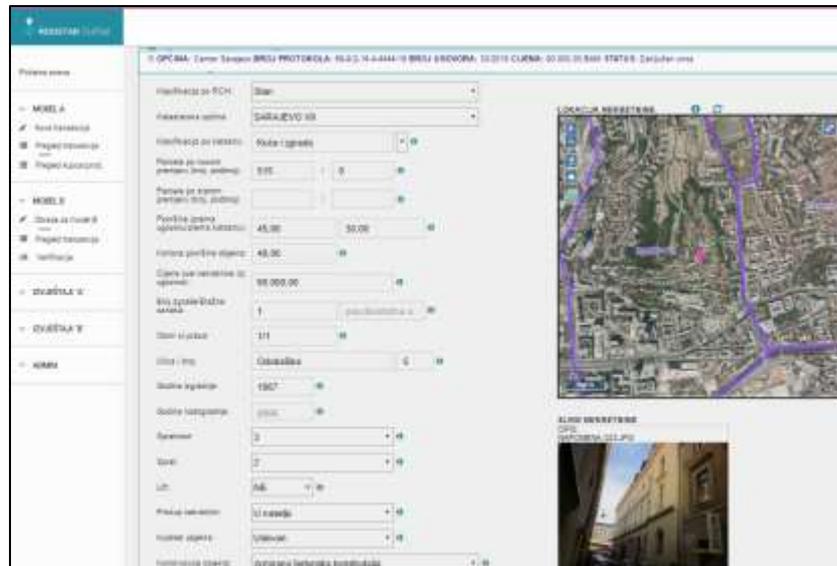
- Activities of projects and institutions were also recognized by users of land administration services - the results of both surveys, which were anonymous and voluntary, showed that respondents at both measurement points were satisfied with different aspects of land registry and cadastral offices. The average assessment of the satisfaction of individuals with different aspects of services provided by land registry and cadastral offices is even slightly higher in the second (follow-up) measurement compared to the first (baseline) measurement. The real estate registration project and the contribution to the improvement of the work of cadastres and land registry offices were rated highly in both measurement points by the general population in the Federation of BiH.

3.1 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. The excellent cooperation of the Federal Administration for Geodetic and Real Property Affairs and Tax Administration of the Federation of Bosnia and Herzegovina during the

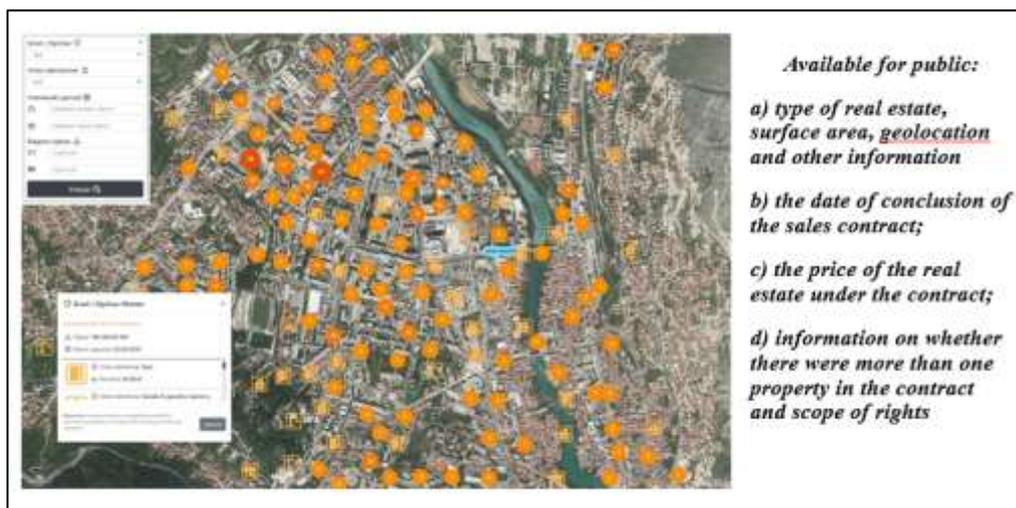
realization of the CILAP project resulted in a functional and up-to-date Sales Price Register of the Federation of Bosnia and Herzegovina and by development of a public presentation of SPR data (Public Access).

The purpose of establishing and maintaining the SPR is the records of legal transactions related to real estates (such as buying, selling, replacing real estate, inheritance, divisions etc.), as well as planned price monitoring and real estate market analysis based on data obtained from the sales.



Picture 1. SPR software interface

The main objective of public presentation of Sales Price Register data of the Federation of BiH is to provide realistic insight of real estate market and its developments/ trends and at the same time data on real estate prices (purchases) at different locations in order to achieve transparency and security of the real estate market. Public access to SPR FBH data is available from Year 2018 on the portal katastar.ba.



Picture 2. SPR data public access

In Year 2020, a new update for AR Application (AR 4.0) has been developed and installation in municipalities is ongoing. This new version has been completely improved and now represents very good Web GIS application, with many new functionalities and improvement of previous ones. Daily replications of data in municipalities are available in central Oracle database within the FGA. Also, in the new version of the katastar.ba application, an Address register has been linked where the cadastre user will be able to use the Address register data. AR is also linked with new version of land register application.

Data on addresses in the FBH is available to all citizens through the FGA geoportal and FBH Geoportal of Spatial Data Infrastructure. Currently, the FGA has signed agreements on distribution of AR data with forty three municipalities, data have been prepared for 24 municipalities.

The FBH Government, on December 28, 2020, issued a Conclusion on Consent for publication of the Spatial Data Infrastructure (SDI) web browser which includes publishing of AR data. Following this decision, the AR data in the FBH became, for the first time, publicly available on FBH Geoportal at the same date.



Picture 4. FBH SDI portal

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.

4. CONCLUSION

Services that are provided by the Land Administration institutions in BH are now 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 is looking for ways of improving 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.

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