Transparency and effectiveness in Municipal Land-use

E-TOOLS FOR LAND REFORMS – BASED ON EXPERIENCES FROM BALKAN COUNTRIES /CASE STUDY FROM KOSOVO

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Abstract

The paper introduces the current status and challenges West-Balkan countries face related to land-use planning, loss of agricultural land and the growing number of illegal constructions. The situation in the last two decades has been characterized by inappropriate rural spatial planning, unsatisfactory transparency and unaccountability in land use.

Lately, significant region-wide efforts were made by national and local governments for change by initiating the introduction of central spatial planning systems in order to control land management in urban and agricultural territories, and to ensure that land use is in compliance with the local laws and subject to public scrutiny.

The success of such an approach is presented through Kosovo’s case, where experiences show that nationwide, modular, central e-planning, based on sound legal grounds can bring about dramatic changes in sound land use policies and in the everlasting struggle to combat informal settlements. The implementation of such a system can ensure effective planning and control of national and local land management practices; it can secure zones for agriculture - all of these in transparent and cost-effective fashion; thereby ultimately stimulating economic growth.

Key Words

Transparent e-planning, Rural land use, Protect Agricultural Land,

Combat illegal constructions, Monitoring spatial plans
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1 Land Management status in West Balkan

Over the past several years, a growing number of Balkan countries have engaged in land reforms. This is in part due to policies designed to attract investment. These reforms have resulted in improved rankings in the World Bank Doing Business Report. Countries in the region proceed at different paces and priorities in the reforms. This ultimately reflects their vision on how to use their land within new market economies’ best practices and with an eye towards EU ascension.

The agriculture sector is the backbone of the region's economy. The protection of good quality land is needed in order to provide food security for future generations. Damage to and loss of this valuable land remains a real danger. The situation in the countryside is largely characterized by subsistence farming and uncontrolled or illegal construction.

The structure of the agriculture sector is based on small-scale family farms with large fragmentation. This practice prevents the sector from becoming competitive with similar sectors of other, more effective markets. Land fragmentation refers to non-contiguous parcels that are owned and tilled as single enterprises, which do not allow efficient use of labor and machinery. Therefore, the small subsistence farms will still need to undergo a process of structural change in order to become competitive and survive. Land consolidation has taken place in different forms in the region for over a decade. Yet, one could not easily find a harmonized practice on national level and as a result positive results aren’t easy to identify.

On the other hand, following the Balkan conflicts of the ‘90s, rapid reconstruction resulted in increased urbanization, where much of the new constructions in these areas were not completed in accordance with local laws.

For the most part, the present situation is caused by nonexistent or inappropriate rural spatial planning on the part of local municipalities. In cases where local municipalities did prepare development plans, those mainly focused on urban details and much less on rural areas, which also resulted in much less transparency and accountability with respect to rural land use.
Consequently, nations continued to suffer from loss of valuable agricultural land, a compromised property market and growing insecurity in property tenure (lack of proper recording and maintaining of property rights on rural lands).

To contribute to sustainable development of the agricultural sector, the Balkan countries have targeted - on various levels – to introduce modern spatial planning, to harmonize national level decisions, to develop toolsets and methodologies for improving agro-environmental quality. Furthermore, most of the countries have started providing subsidies to farmers, which require modern facilitation and administration of transparent subsidy management.

The core goal is to meet the above objectives by strengthening the capabilities of local and central institutions in designing and enforcing Rural Land Management Plans as part of the Municipal Development Plans. These plans ideally include the broadest possible spectrum of national and local level spatial information and data – to enable municipal planners and decision makers to economize and conserve their viable lands in the most effective manner.

The maps and information for Land Management plans should include as a minimum the following: environmental risks and protection areas, biodiversity conservation, protection of cultural/archaeological heritage and recreational areas, land use categories, soil information, hydrographic and irrigation maps, planning zones for agriculture with particular focus on delineation of building/non-building zones around cities, villages and settlements in order to protect valuable agricultural land from uncontrolled and illegal construction and to develop mechanisms for effective enforcement of approved development and spatial plans.

**The implementation of a suitable transparent, central spatial planning database and system can provide a reliable way to stop and control irreversible changes in land use.** Such a system can deliver a mechanism to control planning of urban and agricultural land and ensure that land use is in compliance with the local laws and subject to public scrutiny.

The other, most important angle for improving the agricultural sector is to ensure that the relevant government authorities (ministries, responsible agencies) can provide sufficient support for farmers through national agricultural subsidies, and that the management and administration of these subsidies are simultaneously transparent and efficient. In the region most countries receive support and technical assistance through EUROAID to enhance the management of grants and direct payment, including the
completion and utilization of a Land Parcel Identification System (LPIS), a system which also works based on the above mentioned central database and system approach.

While the Balkans are clearly on the path of decentralization, the practical advantages of centralized e-government systems are obvious and unquestionable.

The main advantages of creating a central GIS based land management system, and a central database (by connecting and using various national and local data sources) are including, but not limited to the following:

- Simple to use for all municipality planners, inspectors and decision makers;
- Harmonized standards, consistent system and clear methods are used in all municipalities, which will allow comparisons between municipalities;
- Standard conceptual models can be used through a central GIS approach, which can cope even with poor quality and limited input data (which is often the case currently on a local level);
- Can be used on a national scale and on the scale required for decentralized planning at a municipality level;
- Easy to operate and maintain on a local level, without the need for heavy hardware and software requirements at the end clients, simple to update/upgrade with new and more accurate national level data or new SW versions when these become available;
- Simple operation for developing harmonized policies country-wide;
- A centralized database can support long-term national rural development strategies and can help in producing sustainable land-use structure at a municipality level.

The GIS data, if professionally combined with other (e.g. socio-economic) data, can assist the central government authorities in the development of agricultural regulations, plans and strategies, for example:

- Indicating, prioritizing and locating ARDP agro-environmental measures and areas for biodiversity protection;
- Developing land consolidation programs and projects;
- Planning new irrigated areas and rehabilitating existing ones;
- Planning bio-energy plantations or agro-forestry;
- Defining less favored areas and high nature value Farmland Areas;
- Defining field research, environmental protection measures and their financing;
• Creating River Basins Plans;
• Developing a National Sustainable Development Strategy, Climate Change Strategy and Adaptation Plans.

The system’s further advantages are that local plans can be monitored through the central system, it can promote local governments’ independent planning in compliance with national level overall rules for zoning and land use, and at the same time can help specifically address the needs and obligations at the municipality level.

A centralized system integrates all relevant national datasets and plans, which enable municipalities to easily share, review and learn from each other’s practices. At the same time, it allows all spatial plans to be scrutinized by any member of the public and can increase awareness about the generally inadequate attention given to rural spatial planning.

A central system therefore increases transparency, effectiveness, and accessibility for all, enhances cooperation among relevant departments such as Urban Planning, Cadastre and Environmental Protection, while significantly reducing maintenance and transaction costs pertaining to land use.

2 The success of implementing a centralized system, presented through Kosovo’s case

Kosovo has implemented a central system with various modules in all its municipalities based on EU INSPIRE standards to ensure consistency. The system can be used on a national scale as well as on a scale required for decentralized planning at a local level.

It is expected to assist the central government in the development of agricultural and environmental strategies and in developing risk management plans, rural and urban protection measures including heritage areas, in increasing harmonization of national infrastructure development plans among ministries, while at the same time addressing the needs of all local governments.

The system was created with 3 main objectives: the creation of rural and urban zoning maps, to ensure transparent land management and to fight against illegal construction.
The system has several folded functions: to ensure public access to land use and permits for transparency; to provide well managed accessibility, differing by user; to target the EU level spatial data infrastructure directive on “CONNECT, SHARE, RE-USE” spatial data in order to gain the best use out of the resources: ensures interoperability and data harmonization of existing systems and information.

2.1 The first successful module of the system was the Unpermitted Construction Registry (UCR)

The UCR is a modern e-government tool, which can be used successfully in countries struggling with informal settlements, or in illegal buildings’ legalization procedures. The UCR core is a web-application for recording illegal buildings by municipal officers and by citizens. The system utilizes Orthophoto-recognition technology, a QGIS component for Orthophoto and Cadaster based automated data population, record management and QA tools, and end user (citizens) searching and map-viewing functions.

*Figure 1 UCR System Architecture*
In Kosovo, over a 10-month period, officials from 32 municipalities, the central government and citizens identified and registered nearly 353,000 structures that were built without permits. The UCR was a major tool in making the process fast and effective. Effective training and public outreach were also part of this successful activity. Municipalities held events to provide educational material on legalization to citizens. These events provided citizens with a unique chance to get informed and submit registration forms as a first step toward legalization of their unpermitted buildings. As a result of these activities, registration of unpermitted buildings skyrocketed after the events, with municipalities reporting up to 1,000 citizens per day requesting registration.

The UCR’s features designed specifically for municipal officers include: GIS viewer and GIS data acquisition, record population and management, history and users’ management, various filtering, reporting, auditing tools.

Public interest and cooperation was high, due to the belief that legalization would increase the value of their property, which could mean a better price when selling, or more security in financial deals (like mortgages).

2.2 The process of legalization with UCR

The registration of the illegal building started by field recognition (either by officials, or by citizens). The physically identified building then needed to be identified on the Orthophoto.

The Orthophoto viewer is an integral GIS part of the registry, with automated coordinates’ and parcel number recognition and population functions.
The officials – mostly together with the citizens – after identification of the building simple clicked on the building, anywhere inside the contour, and by this one click the system gives a unique UCR registration number, enters the parcel number (importing from cadaster layer) and the X&Y coordinates.

After this step the officials manually entered as many as possible detailed data about owner, and the property.

All registry record became searchable by all different data, once the record was saved.
After a set deadline the registration process was finished (beyond the cut-off date the non-registered properties were not allowed to apply for legalization). Following the closing date, a two month internal QA process started, when the officials through the GIS functions, and by comparing the UCR entries to other municipal databases made sure that the records are accurate.

When the QA process was finished the UCR was published for citizens’ comments and review. On the public site information was published about the legalization requirements: deadlines, to be submitted documents, fees.

One month from the publishing date the legalization application started. For this purpose, a new module of UCR was developed: to receive, overview, upload and manage the application documents.
The application module includes: details about the construction, fee calculation toolset, and checking uploading and managing the required documents.

After all documents received and fees are paid the evaluation process starts, which includes the examination of the zoning conditions through SPAK, communicating with the relevant authorities, and filed evaluation as well. In case all results are satisfactory the applicant receives the approval, along with the legalization certificate. At the same time the system automatically registers the construction in SPAK as legalized building, on the zoning map.
2.3 Land use plans and Zoning vs. Urban Regulatory Plans (URP)

A number of countries in the Balkan region still use URP - detailed plans for small areas - but do not have development plans for their entire territories. This practice is a leftover from times when centralized governments exercised rigorous planning control. These urban regulatory plans were not directly and specifically related to a community-wide development strategy. As a result, ad hoc and disjointed planning aggravates problems related to land use in many jurisdictions of the Balkan region. Consequently, green space disappears, infrastructure grows disjointed, and big parts of municipal territory are left without any proper planning and without overall zoning.

Modern zoning practices make land use predictable and transparent instead of scattered and overly detailed plans. It is a cost-effective planning method, setting conditions and restrictions broadly within zones, rather than drawing in detail how each construction should be placed and where (as URBs do).
The Government of Kosovo recognized the advantages of this modern approach, and obtained funding from the EU for the introduction of zoning and land use planning for the entire territory of each municipality. Kosovo is the first country in the region which adopted a municipal-wide planning approach, assisted by the central planning system (SPAK).

Spatial Planning Application for Kosovo (SPAK) – has four main modules:

A – The **Central database**: All spatial (and related) data is unified, standardized and made available through one system for all possible users to use as background / base data;

SPAK is a data-treasury: includes all available spatial planning related available data from Kosovo. The data collected from different central authorities and also from international databases. The unique value of this database for the planners: they have in one place all needed background available for planning (e.g.: geological data, flood and environmental risks, agricultural land suitability, administrative layers, road and infrastructure information) what before SPAK was a difficult, mostly impossible challenge for local planners to collect.

The lessons learned from SPAK data collection: it can be the most important part for any developing countries to create and make available such collected and harmonized database for local planners. Various software might be easier to get for local offices: but a harmonized database is invaluable.
B – Specialized QGIS: broad toolset for planners to create national and municipal level development, zoning and regulatory plans.

The GIS toolset is the engine of the system. It has not only specially designed tools for planners, such as importing entire planning layers, with attributes, or electing and copying just specified territories with special features, but most importantly has a pre-created layers structure, according to the INSPIRE EU directives planning regulations, which ensures the zoning harmonization in the country and with the European Union standards.
Figure 7  SPAK QGIS workspace and INSPIRE structured layers
Figure 8  SPAK QGIS planners’ toolset

Figure 9  SPAK QGIS engine’s attribute editing toolset
With the SPAK toolset planners also easily can assign pre-defined attribute for each objects individually if needed, or by cluster, by category assigns the attributes.

C – **Web-application**: for decision makers reviewing, commenting, reporting and approving (monitor and control tools); and

The application third component is the most important for the decision makers. This module enables from the department head through the major and municipal assembly to the ministry reviewers to comment, approve, freeze the planning status – according to their roles and assigned authorities.

Before SPAK there was a general practice on municipal level that the office outsourced the obligatory planning tasks, and received only the final results, which went many cases on an unopened CD to the supervising Ministry’s shelves.

Since SPAK usage started, there is still possible to outsource the planning task itself, but external planners also must use SPAK, and they are allowed to proceed with each steps of the planning only after the involvement of the government officials.

The system designed to plan the legal requirements, and do not let the planning process going further without the right steps are taken.

*Figure 10  Internal administration module*
D – **Public viewer**: for transparency and public access to information.

With the help of the system the public involvement and in general the transparency much more ensured.

The plans for public review are published on the webpage, which enable citizens to send their comments electronically, and enable citizens to get involved without going in person to the government office to look at the public displays.

The public page also help the citizens understand the planning with explanatory descriptions.

*Figure 11 SPAK public viewer*

**From Regulatory Plans to Zoning**

As mentioned above: the ex-Yugoslavian countries general practice was to create the regulatory plans for the selected small parts of the territories, and other parts left completely without plans.
Regardless of this not ideal situation the regulatory plans are in force, till new plans are not approved. This also means that the existing regulatory plans cannot be neglected, and those plans has to be the bases of the new zoning maps, at least as a base for modifications.

Hence all the local general development plans and detailed regulatory plans has to be migrated to the system.

**Figure 12 Integrated Regulatory Plans**

By SPAK introduction Kosovo leads the way in reformed planning and modern good practice. Neighboring countries expressed interest in following suit.

Furthermore, with the new municipal zoning, spatial planning database and SPAK, an improved agricultural land valuation could be carried out easily. This could ultimately bring about the long awaited land consolidation in Kosovo.

Finally, with developed zoning maps through SPAK one can expect a decrease in human error and misuse, while at the same time an increase in transparency related to land use and constructions, with the ultimate result of increased local and foreign investments.
3. E-Permitting in the Balkans – the next steps for spatial planning reform

In the World Bank ‘Doing Business’ report the second indicator is the planning/construction permitting process. Some of the Balkan countries ranked low in the report. There are some improvements which could be accomplished:

The first functional e-permitting system in the region was developed in Macedonia, followed by Serbia. In both countries the introduction of e-permitting resulted in major improved ranking in the report. The construction e-permits system orchestrates and automates the process for issuing construction permits by managing all required steps, documents and inter-institutional communication, thus ensuring compliance with the active regulations and timely service delivery.
Doing Business divides the process of building into distinct procedures for calculating the time and cost to complete each procedure.

Process steps include, but are not limited to:
- Obtaining and submitting all relevant project-specific documents (building plans, site maps and certificates) to the authorities.
- Obtaining all necessary clearances, licenses, permits.
- Submitting all required notifications.
- Requesting and receiving all necessary inspections.
- Obtaining connections for water and sewerage.
- Procedures necessary to register the building, including any interaction with government agencies, notaries, the land registry, the Cadastre, utility companies and public inspectors.
- Interactions with external parties that are required for the architect to prepare the plans and drawings (e.g. topographic or geological surveys).
- Obtaining technical conditions for electricity or clearance of the electrical plans.

The indicator set for dealing with construction permits tracks changes related to the efficiency and quality of construction permitting systems every year.

Depending on the impact of the data, certain changes are classified as reforms and listed in the summaries of Doing Business reforms in order to acknowledge the implementation of significant changes.
3.1 The Macedonian/ Serbian system

**Functionalities:**

- Accepting requests through web-based system directly in digital form;
- Overview and archiving received requests;
- Distribution of requests to related municipalities and institutions, based on construction category;
- Distribution of requests per employees within the municipality;
- Central system for tracking legal time-frames for each process phase;
- Connection with relevant external institutions, distributing and forwarding requests for collecting their opinion and evidence of all opinions and institutional documents back in the central system according to legal time-frames;
- Digital signing of all steps and actions by all involved users in the system;
- Generating template documents for the most common needs with appropriate municipality logo and data, archiving, and a possibility for printing and forwarding through the system;
- Issuing construction permits and informing the applicants;
- Document versioning;
- Restricted access of each municipality to their documents only;
- Defining users’ roles and access rights;
- Possibility for each applicant to follow the status of his requests / SMS and e-mail notification for status change of requests;
- Follows the legally set time-frame for each process phase;
- Integration and forwarding requests to the court for applications that are under court investigation;
- Restricted portal segment for each applicant, so they can prepare for new requests and overview and follow any existing request.

*The main objectives of the IT solution were:*

- Reducing the time necessary for submission; ensuring a fast and effective way of submitting applications without long queues, misunderstandings and restricted working hours;
- Defining roles of all involved government officials;
- Ensuring independent view of subjects relevant for each Municipality/Employee/Institution/Role/Citizen;
- Providing smooth and fast connection between each municipality and external institutions relevant for the process of issuing permits, as well as between the citizen and the municipality;
- Optimization of the processes for decisions and approvals;
- Greater working efficiency;
- Process tracking and measuring the performances of the civil servants participating in the process;
- Transparency in the complete process of issuing the permit through the overview of process statuses.

*Figure 15 – The Macedonian / Serbian e-Permit system process scheme*
As stated above, the system’s introduction was a success from both the citizens’ and officials’ point of view, as well as for WB evaluation. Some obstacles still remained to be resolved. These are mostly IT related issues, such as enabling a possibility for correction during the process more than once, and for going one step back in the e-system; receiving warnings for the deadlines; automatic calculation of the communal fee.

3.2 Kosovo: lessons learned, improved SPAK-e-Permitting

Kosovo, using the excellent examples of its neighboring countries, integrated these lessons into its already working systems for planning and developing an “upgraded” e-permitting system. The e-permitting system in Kosovo will soon be functional and fully integrated with the regionally unique SPAK, which will put the government in an excellent position to successfully implement the next step of land reform needed.

*Figure 16  The SPAK-e-Permit steps are illustrated below*
The process for the e-permit process point is similar to the “to-be-built” and the ‘to-be-legalized’ buildings. For now, the system is used for the legalization process through the following stages:

1 – Illegal constructions are identified by inspectors in the field and on Orthophoto (or the owner applies for a construction permit for an empty spot);

2 – Check the permit status (e.g.: the building was constructed more than 20 years ago, land owner never applied for the slot for permission, no documentation can be found at the municipality related to construction);

3 – Check the “Terms of Construction” in SPAK – all possible conditions related to land use. E.g. what kinds of zoning and regulatory rules apply for the territory; what utility connections are available; topographical, geological, risk conditions;

4 – In case there are no reasons that rule it out, the permit for construction can be applied for through the e-permit, directly from SPAK. (The e-Permit steps are shown in the below figure);

5 – After the e-Permit module provides the construction permit, it is recorded in the SPAK system on the map and on the permitted building records registry as well.
Figure 17 – The SPAK-e-Permit system flow-chart
One can conclude that as a result of e-permit experiences in the three Balkan states:

- Political will at the central level and intense cooperation between central and local authorities increased;
- Supporting legal framework was found to be essential as a first step in implementing the IT solution; and
- E-permit reform is effective when it feeds from other government agencies that possess land related information (e.g. cadaster agency, utilities agencies etc.).
4. Spatial Planning in Balkan - Conclusion

The experience in the Balkan states, with Kosovo as a case study and other nations now following suit, proves that modern approaches to spatial planning and land use are essential for the future prosperity of nations with transitional economies.

The introduction of a nationwide e-planning system based on sound legal grounds can bring about dramatic changes in dealing with sound land use policies and the everlasting struggle to combat illegal constructions. Such a reform can trigger effective planning and control of national and local land management practices, and it can secure zones for agriculture. These are managed in a transparent and cost effective fashion, thereby securing valuable property rights and ultimately stimulating economic growth.

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