

**IPA National Programme 2008 Part II – Bosnia and Herzegovina**

**Fiche 14: Spatial information services – Phase II**

**1. Basic information**

- 1.1. CRIS Number:** 2008/20-339
- 1.2. Title:** Spatial information services for BiH - phase two Digital Orthophoto Maps
- 1.3. ELARG Statistical code:** 03.18 European standards/Statistics
- 1.4. Location:** Bosnia and Herzegovina

**Implementing arrangements:**

- 1.5. Contracting Authority:** European Commission
- 1.6. Implementing Agency:** European Commission
- 1.7. Beneficiary:**

Ministry of Civil Affairs of BiH;  
FBiH Administration for Geodetic and Real Property Affairs;  
RS Administration for Geodetic and Real Property Affairs  
Project coordination: Ministry of Civil Affairs  
Project manager: Haris Čengić; Deputy minister of Civil Affairs of BiH  
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Secondary beneficiaries: Agency for Statistics of BiH, Ministry of Justice BiH, Ministry of Foreign Trade and Economic Relations of BiH - Department For Agriculture, Food and Rural Development, Ministry of Transport and Communications BiH, Spatial planning institutions, Municipalities, Public utilities.

**Financing:**

- 1.8. Overall cost (VAT excluded):** EUR 3,300,000
- 1.9. EU contribution:** EUR 3,000,000
- 1.10. Final date for contracting:** Two years following the date of the conclusion of the Financing Agreement
- 1.11. Final date for execution of contracts:** Two years following the end date of contracting
- 1.12. Final date for disbursements:** One year following the end date for the execution of contracts

## **2. Overall Objective and Project Purpose**

### **2.1. Overall Objective**

Updated and reliable land use and land administration information is available to enable effective and efficient land use management.

### **2.2. Project purpose**

A standardized and harmonized basis of BiH geo-information system is available for:

- Agency for statistics for the purpose of the population census
- Agricultural administration
- Institutions dealing with land registration
- Spatial planning institutions
- Transport and communications
- Ministry of Justice
- Municipal administrations

### **2.3. Link with AP/NPAA / EP/ SAA**

**European Partnership, Short-term priorities**

#### *Statistics*

- Implement the agreement between the Entities in the statistical system on improvement of the work of the Central Statistical Agency in Bosnia and Herzegovina and improve the range and quality of statistics, in particular at State level.
- Improve the collection and processing of agriculture statistics in line with EU standards and methodology.

### **2.4. Link with MIPD**

Chapter 2.3.2. Expected results by the end of the covered period and measurable indicators

Axe 3: Ability to assume the obligations of Membership

BiH will have the capacity to collect and produce reliable statistics, in particular economic statistics. Data collection will be improved and statistical methods will be harmonised between the state and the entity statistical institutes.

### **2.5. Link with National Development Plan**

N/A

## **2.6. Link with national/ sectoral investment plans**

1) “Programme for public investments of institutions of Bosnia and Herzegovina 2007-2009” - Establish digital topographic maps in BiH is ”New High Priority”

2) “Population and housing census of Bosnia and Herzegovina – draft project proposal”

Part cartographic

Chapter 5. Organization of Work

“ Production of digital orthophotos in a 1:2500 scale for larger urban areas and production of digital orthophotos in a 1:5000 scale and 10000 for other areas in BiH.”

3) “Bosnia and Herzegovina Justice Sector Reform Strategy 2008 – 2012” (Final Draft)

Chapter 4.2. Reform of the Land Registry System

“Ensuring reliable and secure property rights and the development of effective land registry services is a major challenge for Bosnia and Herzegovina. Work is already underway to create a modern, digitised system of managing land register and cadastre data, but further areas where urgent reform is needed include finalising and streamlining the relevant legislative framework for overall land registration reform, improving the standards of land registration services including building technical and managerial capacities and facilities, as well as standardising quality of services, in both land registry offices and the ministries of justice.”

This Project will contribute to the improvement of the Land Registry System in BiH.

## **3. Description of project**

### **3.1. Background and justification**

The land administration system in BiH has been adversely affected by the turmoil of the past 15 years. In the aftermath of the war, the land use pattern has changed considerably caused by destroyed infrastructure, unused land, mine relics, spontaneous construction and migration after the war, etc. In addition, the land information system (both land registries and cadastre) was partly destroyed during the war in most areas that were directly affected by the war. The rest of the system, which was saved, has not been updated on a timely basis, to reflect the technological changes. The process of restoring and updating the land information system has been slow due to budget constraints and restrictions in accuracy of old plans, as it has required to restore the geodetic reference network (which was also affected by the war).

As a result, inaccurate land information hinders the decision making process on land use in public administration institutions at all levels (state, entity, canton and municipality). Most of the functions of the land administration structures are performed at municipal level. The municipal administrations are responsible for running the land cadastre and municipal courts run land registers. However, it is very common that the data of the same land property is inconsistent between the institutions. Both parties of the land administration structures are aware of the issue and admit that the synchronisation of the data is crucial for an efficiently functioning system.

While seeking for complete and fast solutions of spatial data management, the Ministry of Civil Affairs of BiH, as the administrative institution responsible for coordination of all geodetic and geodesy-connected activities on state level, has initiated a Project **Spatial Information Services for BiH**. The project is primarily aiming to create conditions for a better functioning of the courts and of local land administration, but also to develop real-estate markets and enhance spatial planning capacities, etc.,

The Project has two phases. In the **first** phase (IPA 2007.) - *Establishing of a Network of permanent (referent) GPS stations – BiHPOS*, preconditions for accurate measuring and land parceling will be created.

This project fiche addresses *phase two - Creating ortophoto maps*, aerial images and ortophoto maps, will provide a complete and functional way to overview the whole of Bosnia and Herzegovina, with a clearly visible and proportionally marked land structure, agricultural potential, forests, roads, cities, factories and other elements.

Such “visibility” will be crucial in planning, and running activities on following population census in Bosnia and Herzegovina (and Europe) in 2011.

An overview of the whole of Bosnia and Herzegovina in this way would create a new possibilities for Statistical agencies and enable them to prepare statistics in a much more reliable and accurate way.

Also, it would be possible to create functional maps of agricultural areas and to make plans for future activities and develop functional development policies in agriculture, Land administration and the work of the courts (on each level).

### **3.2. Assessment of project impact, catalytic effect, sustainability and cross border impact**

#### **Project impact**

The implementation of this project across all municipalities in BiH will bring wide ranging benefits and have a long lasting impact. The main impacts will be:

Statistical agencies:

- Processing of spatial data as a part of its standard activities
- Better planning of its future statistical activities
- Creating broad spectra of new options for processing spatial data (e.g. Running of road usage list, presenting a No. of rebuild houses, creating maps of reinstated agricultural land, maintaining a list of changes of agricultural products, etc)

Land administration:

- Faster Spatial data collection
- Functional land parcelling activities
- Spatial data analysis and mapping if there is a need
- Faster process of getting land and owners' certificate

- Reinforcing cadastre

#### Agriculture:

- Create conditions for collection and processing of agricultural statistics in line with EU standards and methodology
- Encourage of activities of getting a financial supports for agriculture, as credits of (inter-)national donors support
- Growth of agricultural activities and so provided products as a part of poverty prevention
- Rural development policies at all levels will become more focussed, but access to such information at Municipal level will lead to better land use and natural resource planning

#### Work of courts:

- Creating conditions for a functional work of Municipal Courts, by faster Spatial data collection, certificate of land ownership collection and registration
- Municipal administration:
  - Accurate Mapping of the local area
  - Social housing as a product of better usage of land potential and space planning
  - Successful management of municipal facilities and infrastructure
  - Creating conditions for a big construction undertakes

#### Transport (public and private):

- Work on Corridor Vc-branch of the Pan-European Corridor

### **Catalytic effect and sustainability**

This situation, also, has a major influence on real-estate market, planning of the agricultural activities or forest management and protection. Project Spatial information services for BiH - phase two - Digital Orthophoto Maps will, by running updated land book administration ,assist in achieving membership in INSPIRE initiative.

Countries, (non-)members of EU, were brought together in INSPIRE initiative recognising the importance of land and property in the economy of Europe, and the fact that cadastral parcels and property identifiers are specifically listed in the INSPIRE Directive and the need for further work to ensure that the various coordinating groups working in the cadastral field are complementary and do not duplicate and dilute each others work

### **3.3. Results and measurable indicators:**

#### Result:

Orthophoto maps of entire territory of BiH made in mid and/or high resolution (in accordance with geodetic standards)

#### Measurable indicators:

The digital orthophoto maps tested and accepted by the relevant institution

### **3.4. Activities:**

Activity 1

To prepare plan of airplane photographing ("air-saving/ picturing")

Activity 2

To perform the airplane photographing of the entire BiH territory

Activity 3

To process and deliver the taken airplane photographs

### **3.5. Conditionality and sequencing**

Project phases:

- Establish sufficient member of control points – their locations must be determined and marked on the ground for aerial photogrammetry.
- Prepare and calculate the plan of flights for air photographing.
- Air photographing in various resolutions (for urban and rural regions of the country).
- Creation of 3D models requires aerial triangulation.
- Formation of 3D models and subsequence transformation of orthophoto maps.

### **3.6. Linked activities**

The EC has funded a Framework Contract project in 2005-6 aiming to propose "Standards for producing data for the Land Information System in BiH". This project aims to support the various public land administration institutions as well as the private sector in building capacity to establish and maintain a reliable and safe full electronic land administration system with multi-institutional cooperation, including development of legislative and normative framework. One of its recommendations was the realization of orthophoto maps.

Developed GPS - Network (Phase 1 - IPA 2007) will be the basis for accurate measuring, planning, air navigation for successful area-photography, as well for the control of it.

This will be done in a much more accurate and faster way, and then it would be the case using "classical" geodetic methods.

### **3.7. Lessons learned**

Neighbouring countries (e.g., Croatia, Montenegro and Serbia) already did activities on building similar networks and we are in position to compare used standards and technical issues.

Similar development stage and methodology used in developing activities in (whole) neighbouring countries are the basic position for activities in Bosnia and Herzegovina on this issue.

Similarity of a landscape is advantage in usage of they experiences!  
Also it's good basis for forecasting futures outcome of conducted activities.

#### 4. Indicative Budget (amounts in EUR)

			SOURCES OF FUNDING									
			TOTAL EXP.RE	IPA COMMUNITY CONTRIBUTION		NATIONAL CONTRIBUTION					PRIVATE CONTRIBUTION	
ACTIVITIES	IB (1)	INV (1)	EUR (a)=(b)+(c)+(d)	EUR (b)	% (2)	Total EUR (c)=(x)+(y)+(z)	% (2)	Central EUR (x)	Regional/ Local EUR (y)	IFIs EUR (z)	EUR (d)	% (2)
Activity 1	X		3,300,000	3,000,000	90.91	300,000	9.09	300,000				
Service Contract 1	-	-	3,300,000	3,000,000	90.91	300,000	9.09	300,000				
TOTAL IB			3,300,000	3,000,000	90.91	300,000	9.09	300,000				
TOTAL INV												
<b>TOTAL PROJECT</b>			<b>3,300,000</b>	<b>3,000,000</b>	<b>90.91</b>	<b>300,000</b>	<b>9.09</b>	300,000				

Amounts net of VAT

(1) In the Activity row use "X" to identify whether IB or INV

(2) Expressed in % of the **Total** Expenditure (column (a))



## 5. Indicative Implementation Schedule (periods broken down per quarter)

Contracts	Start of Tendering	Signature of contract	Project Completion
Contract 1	Q1 2009	Q2 2009	Q2 2011

## 6. Cross cutting issues

### 6.1. Equal Opportunity

Equal opportunity for participation of men and women will be assured in all aspects of project implementation. Contractors involved in the project will be required to provide monitoring data recording the participation of men and women in terms of expert inputs and trainee days as an integral component of all project progress reports.

### 6.2. Environment

The project will not have any negative environmental effects. It is to be expected to the Environmental care will be encouraged in the future by this project.

### 6.3. Minorities

Participation in the project activities will be guaranteed on the basis of equal access regardless of racial or ethnic origin, religion or belief, disability, sex or sexual orientation.

## ANNEXES:

ANNEX I. Logical framework matrix in standard format

ANNEX II. Amounts (in EUR) Contracted and disbursed by quarter for the project

ANNEX III Reference to laws, regulations and strategic documents

## ANNEX I. Logical framework matrix in standard format

LOGFRAME PLANNING MATRIX FOR Project Fiche	<b>Programme name and number:</b> Spatial Information Services for BiH - Phase Two - Digital Orthophoto Maps		
	Contracting period expires: N+2		Disbursement period expires: N+5
		Total budget : 3,300,000 EUR	IPA budget: 3,000,000 EUR
Updated and reliable land use and land administration information is available to enable effective and efficient land use management.	<ul style="list-style-type: none"> <li>The number of new spatial plans increased</li> <li>Number of illegally built objects decreased</li> <li>Number of property transactions and mortgages increased.</li> </ul>	Public registry databases	
<p>A standardized and harmonized basis of BiH geo-information system is available for:</p> <ul style="list-style-type: none"> <li>Agency for statistics for the purpose of the population census</li> <li>Agricultural administration</li> <li>Institutions dealing with land registration</li> <li>Spatial planning institutions</li> <li>Transport and communications</li> <li>Municipal administrations</li> </ul>	<ul style="list-style-type: none"> <li>Orthophoto maps are used by a NUMBER of relevant institutions</li> </ul>	Reports on the use of orthophoto maps submitted by beneficiary institution to the relevant institution (Ministry of Civil Affairs).	The new service offered by the Project is widely used by statistics, public administrations, geodetic professionals
Orthophoto maps of entire territory of BiH made in mid and/or high resolution (in accordance with geodetic standards)	- The digital orthophoto maps tested and accepted by the relevant institution.	- The certificate of delivery of the digital orthophoto maps - Project reports	Staff of relevant institutions is able to (technically competent for) use of digital orthophoto maps.
<b>Activities</b>	<b>Means</b>	<b>Costs</b>	<b>Assumptions</b>
1. To prepare plan of airplane	Service delivery	3,300,000 EUR	Weather and vegetation conditions (visibility) are optimal for airplane photographing.

photographing ("air-saving/ picturing") 2. To perform the airplane photographing of the entire BiH territory 3. To process and deliver the taken airplane photographs			
		<b>Pre-condition</b>	The feasibility study prepared by Ministry of Civil Affairs

**ANNEX II. Amounts (in EUR) Contracted and disbursed by quarter for the project\***

<b>Contracted</b>	<b>Q1/2009</b>	<b>Q2/2009</b>	<b>Q3/2009</b>	<b>Q4/2009</b>	<b>Q1/2010</b>	<b>Q2/2010</b>	<b>Q3/2010</b>	<b>Q4/2010</b>	<b>Q1/2011</b>	<b>Q2/2011</b>
Contract 1		3,000,000								
<b>Cumulated</b>		<b>3,000,000</b>								
<b>Disbursed</b>										
Contract 1		1,000,000				1,000,000				1,000,000
<b>Cumulated</b>		<b>1,000,000</b>				<b>2,000,000</b>				<b>3,000,000</b>

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\* Planned disbursement, actual disbursement arrangements will be agreed with the successful contractor

### **ANNEX III Reference to laws, regulations and strategic documents:**

The organisation of the current BiH geodetic system is based upon the following legislation;

- Constitution of Bosnia and Herzegovina
- Law on Ministries (2002);
- Law on Geodetic activities (1994);
- Law on Administration and administrative organisations (1996)
- Law on the Classification of activities (2006).
- Law on real-estate trade of BiH
- Law on land books and cadastre of F BiH
- Law on land books and cadastre of RS
- Law on measuring and cadastre of BiH