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**Toponymic education and practice and international cooperation:
Technical assistance**

**Norwegian support to Croatia - Establishing the
Croatian Geographical Names Database (CGND)**

Submitted by Norway**

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Norwegian support to Croatia - Establishing the Croatian Geographical Names Database (CGND)

Abstract

In line with developments taking place in other parts of Europe, State Geodetic Administration in Croatia has started an ambitious program to establish a national spatial data infrastructure. A database on geographical names is an important element for operational services based on digital geographical data as well as for producing maps in analogue or digital formats. It is also needed for matching international initiatives and requirements in this direction. In accordance with the Law of State Survey and Real Estate Cadastre, Croatian Geodetic Institute shall establish and maintain a database of geographical names. Norwegian Mapping and Cadastre Authority (NMCA) is assisting Croatia in this work, which was started in 2006. The project title is Croatian Geographical Names Database (CGND). The specification of the database is currently being written by a Croatian GIS company, according to Requirements put up through the cooperation between Croatian institutions and the NMCA experts, and a Pilot Project in Istria is about to be started.

The Norwegian Mapping and Cadastre Authority (NMCA), in Norwegian *Statens kartverk*, is the national agency for cadastre and land registration. Responding to the elements of Norwegian foreign aid—among others to grant equal rights to property and the rights of indigenous peoples to land and natural resources—and with financial support from Norad (Norwegian state agency for foreign aid), NMCA established the Centre for Property Rights and Development in 2005. The Centre shall particularly assist the Government in developing strategies and practical tools for formalization. In addition, the Centre will engage in specific projects in developing countries and in former socialist states in Europe.

In executing its mandate the Centre draws on the wide range of expertise and experiences of NMCA. It also interacts and collaborates with other governmental institutions, academics and the private sector to ensure that the entire formalization agenda is covered. Universities and research institutions possess valuable knowledge and experiences on matters ranging from women's right to property to the rights of the Sámi people to land and property and to place name collection and research.

The Centre's involvement can be explained in examples from Croatia:

- Administering Norwegian support to the cadastre agency in Croatia enhancing the capacity to convert cadastral maps and topographic maps to digital form by scanning and vectorization.
- Supporting the Croatian government in developing information tools for administering national parks and solutions for protecting the coast line. Carried out through registration of the maritime domain as a national resource.
- Helping the Croatian Mine Action Centre in building an information system for the location of personnel mines deployed during the war following the dismantling of the Yugoslavian Federation. Carried out by supporting equipment and training for conversion of military maps and records to digital form and by preparing high resolution orthophotos for mine-infected areas.
- Supporting the Croatian Geodetic Institute in developing internationally recognized specifications and quality control procedures for cadastral surveying and production of cadastral maps and orthophotos as well as for handling geographical names.

Projects are generally outsourced to private companies where the Centre makes the tender process, contracting, supervision and payment, all in close collaboration with the beneficial country.

The last project mentioned in the list above, the project for handling geographical names, is called Croatian Geographical Names Database (CGND). Establishing this database is stated in the Croatian Law of State Survey and Real Estate Cadastre, saying that the Croatian Geodetic Institute shall establish and maintain the register of geographical names.

The work was initiated in 2005 by the Croatian State Geodetic Administration and NMCA's Centre for Property Rights and Development. The assignment is to establish a database of geographical names for the entire Croatian society, to be used for mapping, web-services (place names as search criteria), research and teaching, functioning in the same way as Central Place Name Register (SSR) in Norway. SSR is the Norwegian register of place names in official use, established according to the provisions in the Norwegian Place Names Act of 1990 with amendments of 2005. More than 700 000 place names are registered until 2007.

Experts from the SSR work have been contributing to the Croatian work since March 2006, when the agreement between the State Geodetic Administration, the Croatian Geodetic Institute and the NMCA's International Centre was signed. So far, the different Croatian mapping institutions, geodetic institutions and universities, have had different databases for the same geographical name. There has been little cooperation and coordination between different authorities and institutions.

From the start of the project Croatia has been intending to collaborate in UNGEGN and EuroGeoNames. Acknowledging that UNGEGN calls upon national cooperation between linguistic and geographical institutions and between the different "owners" and users of toponymic databases, the NMCA experts demanded such cooperation to assist in the project. Consequently, the CGND has become a joint project between the Croatian Hydrographic Institute in Split, State Geodetic Administration and Geodetic Institute in Zagreb, and Zagreb University's Institute of Croatian Language and Linguistics, coordinated by NMCA's Centre for Property Rights and Development.

The project was defined in the fall of 2006 and the database Requirements for Specification was written early 2007. UML (Unified Modeling Language) is to be used according to modern, standardized technology.

The tendering for database specification was accomplished in the spring of 2007 with 16 April as opening date. Offers have been received from three Croatian firms, one of which was chosen in June. Specifying the database and choosing the software suitable for the project are the first important tasks. Further items will be user applications, maintenance, filling of data, distribution functionalities and possibly legislation for handling geographical names in Croatia.

A pilot project is planned in the area of Istria, a bilingual (Croatian and Italian) area in the north-western part of Croatia. This area is beneficial also because it is on the coast and thus has available data collected from hydrographic work.