

GEOMATICS IN THE CONTEXT OF SOCIAL DEVELOPMENT AND SPATIAL PLANNING

MENA FRAU C.A., ORMAZÁBA Y., MORALES Y.

Centro de Geomatica, Universidad de Talca, TALCA, CHILE

The spatial planning and the social development are complex and interrelated processes where it must to consider and weigh numerous social, economic and environmental variables, in a multi and interdisciplinary integrating scheme. In this context, the Geomatics arises as powerful tool that makes possible the generation, handling and analysis of large volumes of thematic and spatial information with high precision and reliability; that means to get an optimal computer platform for acquiring a suitable knowledge of territorial reality in order to design and apply plans and strategies leading to enable a balance development of land and its community.

These topics are reviewed in the present paper focusing on the contribution that has meant the incorporation of geo-information technology to the processes of territorial management for supporting decision making. In this way, the main objective was to create a social digital cadaster at local level based on aerial photographs, field survey and GIS software. The study area corresponded to the commune of Chanco, located at the Coastal Range of the Maule's Region (Chile), specifically in the Province of Cauquenes. The commune has a surface of 530123 km² with a population of 9457 inhabitants of which 42.42% live in urban areas and 57.58% in rural areas.

The methodology considered different treatment of the geo-information base (aerial photographs, maps, digital covers, etc.) depending on the precision level required for urban and rural areas. Processes like photo interpretation, land surveying, table digitizing, ortho-rectification, digital editing, among others, was completed. The main object of analysis was the house and the variables were related to: housing (type, property, material and number of floors), equipment (water, electricity and sanitary supply) and social aspects (householder, schooling and employment).

The results make a clear and complete picture of the communal situation in terms of basic equipment of every home. At general scope, it was possible to detect important differences between variables making evident the lack of drinking water systems and sewage disposal, especially in rural areas. For example, there is a high access to electricity (79.9%) contrasting to a low access to safe water for consumption, where there is only a 55.1% of coverage focused mainly at urban areas (45.9%). In this context, a communal digital cadaster supported on GIS technology offers valuable information on which to project activities and resources for improving social conditions allowing the allocation, planning and scheduling of sectorial public investments.