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Country Report of Sri Lanka *

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Geospatial Information Management
Country Report

by
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Main functions of the Surveyor General as mentioned in the Survey Act No. 17 of 2002 as follows:

- To establish and administer the National Geodetic Control Network
- To specify the standards of accuracy for cadastral, geodetic and topographic surveys
- To receive, approve and maintain, casdastral surveying records so as to facilitate the production of cadastral survey plans and maps and to serve as a comprehensive base for integration of land information.
- To receive, store, reproduce and distribute, topographic, cadastral and derived maps, remote sensed data, aerial photographs and other survey and mapping documents.

During early 1900's the department had established Geodetic triangulation network and after that the entire island was mapped using plane table method at the scale of one inch to one mile. This map series popularly known as "One Inch Maps" consist of 72 sheets to cover the entire Island. During the period 1980 - 1997 the department has produced 1: 50,000 Topographical maps for the entire island by combining these one inch maps and aerial photographs. The department is engaged in producing 1 :10,000 map series using photogrammetric methods and high resolution satellite images. Out of 1834 sheets 1193 sheets were completed.

Sri Lanka was completely Aerial photographed at the scale of 1: 40,000 in 1956 by a foreign company. Subsequently using departmental air craft, country has been photographed again at the scale of 1:10,000 (coverage *5%),* 1: 20,000 (coverage 100%) & 1: 40,000 (coverage 70%). For aerial photography and phorogrammerric data capturing the department uses Cessna air craft, 'WILD RC2O aerial camera, nine analogue plotters with digital encoders, two analytical plotters and eight digital photogrammetric workstations. Since 1999, the department has introduced Geodetic type Global Positioning System (GPS) receivers to determine the co-ordinate values of the ground control points. During 1980's with the assistance of Sri Lanka /Swiss Remote Sensing project, department has acquired SPOT, LANDSAT (MSS & TM), IRS satellite imagery and image processing software for mapping activities.

Our Geodetic network was established in early 1900's and the average accuracy is around 1 : 40,000. As this is inadequate to meet the demands, new geodetic net work for the entire country was established in 1999 to work with Global Positioning Systems. According to the adjustment, statistical accuracy of the present network is around 1: 750,000 which is suitable for present mapping and cadastral survey procedures. The datum we based on Everest 1830 Ellipsoid and Transverse Mercator projection. The 7 parameter transformation parameters have been published and this would useful to project the data from WGS84 to our local system.

At present the department is engaged in preparing 1:50,000 updated digital topographic data by using Advanced Land Observing Satellite (ALOS) images with resolution of 2.5 m. We have

almost completed about 35 sheets of Digital topographic database. Part of the Island was covered with 0.6 m resolution Quickbird satellite images and 229 of 1:10,000 sheets were revised using same.
The following digital data is available in the department.

Scale	Coverage
1: 250,000	100%
1: 50,000	100%
1:10,000	65%
1: 5,000	30 Major Towns
1:1,000	Colombo City and Suburbs

The 10K database is a tile structured and each tile consists of 10 layers, namely *ADMINISTRATION, BUILDING, TRANSPORT, HYDROGRAPHY, PLACES, TERRAIN, LANDUSE, RESERVES, UTILITIES & GRID*. Data in each layer is linked with an attribute table having items such as Geographic Feature Code (GFCODE) and is unique to features.

Upto 2003, all land information and plans were prepared in the hardcopies only. The department introduced digital land Information System (LIS) in 2003 and accelerated from 2009. Upto to now, we have completed around 400,000 land parcels. Estimated number of parcels for the entire country is around 12 million parcels. The Survey Department is being strategically re-organizing its system architecture of the Land Information System in order to facilitate the customer needs.