"GIS based Rectification of GN (Villages) boundaries for Household Planning"

(Special references to Kalutara District - Sri Lanka, Pilot Project's work collaborating with Urban Development Authority, Department of Census and Statistics, Department of Survey of Sri Lanka)

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Sri Lanka: Location

Population: 20 Million
Population Growth Rate = 1.5%
Area = 65300 sqkm

Literacy rate : 90.9 %

Per Capita Income $ 1375

Administrative Boundaries:

1. Provence Boundaries 09
2. District Boundaries 25
3. DSD Boundaries 250
4. GN Boundaries 14413
WHY NEED ACCURATE VILLAGE (GN) SPATIAL DATABASE:

- Census Purpose
- Disaster Management
- Public Administration
- Research Work
HOUSEHOLD PLANNING IN CASE OF TSUNAMI ETC:
INDIAN OCEAN TSUNAMI OF DECEMBER 26TH, 2004
Selected Area for Pilot work

1. Kalutara District: Existing GN Boundary of Kalutara DS Division
Existing Paper Maps at Divisional Secretariat Office
2. Geo referenced Satellite image of Area
The GeoXT™ handheld from the Trimble® GeoExplorer® 2005 series is the essential tool for maintaining GIS. A high performance, submeter GPS receiver combined with a rugged handheld computer, the GeoXT handheld is optimized to provide reliable, high-accuracy location data.

Price = USD 10000

The eTrex Summit was designed for both marine and recreation use. This all-in-one navigation device for the outdoor enthusiast is the first combination GPS, altimeter, and electronic compass.

Suggested Retail Price: $214 U.S

3. Available GPS UNITS

2 Units
Belongs to UDA

25 Units
Belongs to Census Department
Marshy Area
Can’t Accessible
Not Clearly demarcate GN Boundary
Scrub Areas
CLOUD ON SATELLITE IMAGE
GPS Data Collection using GeoXT Handheld Trimble Unit
GPS Collection using eTrex Summit Unit
Difference between two machine

8 M Difference

6 M Difference

8 M Difference
Difference between Existing Boundary & Updated Boundary
COMPLETED THREE GN BOUNDARY
Final Objective:

Editing & Rectification of Grama Niladhari Boundary Database Using High Resolution Satellite Images

PHASE ONE

This process involves the UDA/SR Centre’s involvement in developing National Spatial Data Infrastructure to facilitate e-Governance and Business Processes, re-engineering programmes of UDA under iCity Planning

PHASE TWO

Corrected Boundaries Based on High Resolution Satellite Images. Programme started from main urban centres and areas declared under iDA

PHASE THREE

DS Division Anuradhapura - GN Division No. 43, Magana North

Legend

- Grama Niladhari Boundary
- DS Division Boundary
- Urban Boundary
- Rural Boundary
- Electoral Boundary
- State Highway
- Provincial Highway
- Principal Road
- Other Road
- Railway
- Floodplain
- Forest
- Wetland

Drawn by: Divisional Secretaries
Compiled on the basis of 1:85,000 Topographical Map of Survey Department

The project location will be identified by its Assessment Number and GIS Code in relation to Reference Datum of the DS Division of Regulation & Housing
Thank You very much !