The efforts building GIS infrastructure in a newly independent state - The case of Timor-Leste -

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Where is Timor-Leste?

1. Country Profile

From Google Earth
Outline

- A Southeast Asian Country
- Size: 15,000 sq. km
- Mainly mountainous, with small plains
- Tropical monsoon climate
- Population: around one million
- Capital city: Dili
- Economy: Agriculture (Coffee, sandalwood), Offshore oil and gas
- 13 Districts, 65 Sub-districts and 442 Sucos (Villages)
History

- 1600: Small kingdoms recorded
- 1611-1975: Portuguese colonization
- 1975: Indonesian occupation and administration
- 1999: Referendum on independence
- 2002: Independence (20 May)
- 2009: Eight year from independence
GIS development Chronology

• 1990s, Second Land Resource Evaluation and Planning Project (LREP-II), ADB funded
  – First GIS application, during Indonesian period
• 2000- Various supports from UN, Int’l Organizations and bilateral donors,
  – Transitional period and independence period
• 2006: Interrupted by internal conflicts
  – Support Resolution at 17th UNRCC-AP
• 2007-: Resume of GIS development with international supports.
Policy Overview

- No comprehensive legal framework for GIS infrastructure development (e.g. NSDI law)
- Bill on land registration and cadastral system is being prepared.
- DNTPSC, Ministry of Justice is responsible for national cadastral and geographic information system.
- No official coordination body for GIS policy, but
- GIG (Geographic Information Group) is virtually the national coordination body
  - Experts from Gov., UN and Intl. Organizations etc.
DNTPSC, Ministry of Justice

- Cadastral surveys for determination of location and size of parcels for development and use.
DNTPSC, Ministry of Justice

Maintain framework geographic database

1. Topographic Map scale: 1:50,000
2. Aerial Photograph  scale 1: 1000

Cadastral map
3. Geodetic networks

- First Order

- Second Order
3. Major activities

DNTPSC, Ministry of Justice

- Contribution to National Development
  - Prime-Minister’s Office
  - Providing thematic maps for consideration
- “Ita nia rai(Our Land) ” Project
  - Establish land registration system
    - Legal and technical (cadastral) base
    - USAID supported
- Boundary Demarcation survey
  - Joint survey with Indonesian side
DNTPSC, Ministry of Justice

- **External support made so far**
  - Australia: Air photograph, 1:50,000 topographic map
  - Germany: Website, foreign scholarship
  - Japan: 1:2,000 topographic map for Dili, training, equipment
  - Portugal: National Geodetic framework, Geographic Information portal site
  - US: Land Registration System
Other institutions

- Ministry of Agriculture
  - ALGIS: Agricultural and Land Use GIS
  - Sustainable land management with UNDP
- Ministry of Finance / UNFPA
  - GIS support for census implementation
- Ministry of Health / WHO: Health GIS
- Ministry of Education: School GIS
- Ministry of Infrastructure: Road database
- WFP: Food security and logistics
- UNMIT (UN Integrated Mission in East Timor): GIS for UN operation
Capacity building

- Generous supports from donors and international community
  - Development of many datasets
- Yet severe lack of human and institutional capacity
  - develop, store, revise, distribute GIS data.
- Training (External and internal) still required
- Possibility of using existing resources
  - Knowledge of residing UN and International organizations can be transferred to Timor-Leste side
Towards a NSDI

- Achievements so far
  - UTM 51 S, WGS84, GI portal
- Still required for effective and efficient GIS infrastructure
  - Standardization
  - Centralizing metadata and feature catalogues
  - Facilitate data exchange and dissemination, revision of GIS portal
  - Formalized national coordination body
Administrative boundary

- No legitimated administrative boundary data
  - Various versions lead confusion
  - Potential cause of land disputes
  - Misconduct of administration works (census, election)

- Approaches for solving the problems
  - Lobbying, information sharing
  - Cooperation with Ministry of State Administration
  - Project configuration, seeking funds
Border demarcation

- Clear national border demarcation between Timor-Leste and Indonesia for
  - Maintaining security
  - Facilitate the movement of people and goods
  - Effective natural resources management

- Continuing joint efforts are
  - Resolve contested sections
  - Border marker installation, survey and maintainance
  - 1:25,000 mapping in the border area
  - Establishment of gazetteers
Establish of the Border Marks TL _ RI on 20- Oct- 2009

Location Fatuk- Assuain
5. On going activities

1. GIS celebration days (16 Nop-2009)
2. Survey on International boundary Timor-Leste and Indonesia.
3. Maintenance of the Geodetic Network II and III order
4. Ita Nia Rai Project (USAID)
6. Conclusions

- Efforts have been made, but national capacity is still low.
- Priorities are
  - Sufficient technical capacity development
  - Overall coordination of GIS infrastructures
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