

**Spatial data economic
issues
in the Americas : the World
Bank Approach**

**8th UN Cartographic Conference
27 June – 1 July 2005**

Frederic de Dinechin (WB)

Follow up to

**Spatial Data Infrastructure
Fundamental to World Bank Land
Administration projects**

**7th UN Regional Cartographic
Conference for the Americas
New York, 22-26 January 2001**

Frederic de Dinechin
The World Bank

Main conclusions

- Better demonstrate the economic value of spatial data
- Disseminate more intensively SDI benefits in the Bank and outside
- Develop SDI partnerships between national, regional and global stakeholders, including the UN, the PC on SDI for the Americas, the WB, FIG, etc.

**Why are SDIs important for
the World Bank?**

- Key for objective decision making and sound spatial based policy
- Support economic development and governance
- Encourage socially and environmentally sustainable development
- Increasingly key components of many World Bank projects

Land policy & property rights projects for growth & poverty reduction

- 15-40% of household expenditure is on real estate
- 50-75% of national wealth is in real estate
- Leading indicator of GDP (residential development in the U.S.)
- 20-70% of credit is secured by real estate
- 90% of the poor's assets in land and real estate

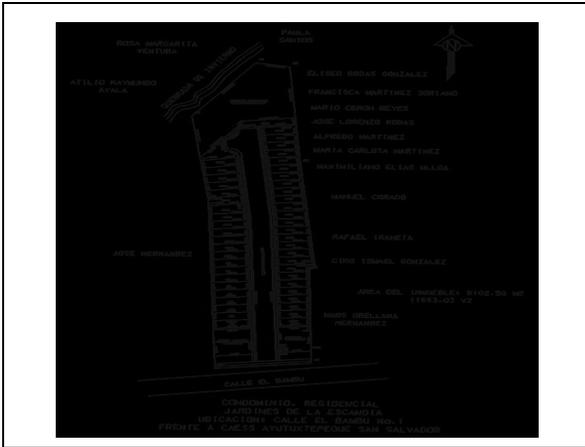
Land policy & property rights projects for growth & poverty reduction

- World Bank has approved more than 200 land and environmental projects from 1989 to date
- SDIs are key components
- SDI =
 - Information (geodesy, mapping, topography, surveys)
 - Institutions (property registries, reforms)
 - Information system (GIS, LIS, EIS)
 -
 - But also PEOPLE (training, technical assistance)

Central American Land Administration programs

- WB, IDB, EU, UNDP, MCA and other donors Land Administration portfolio
 - current = US\$500 million
 - upcoming > US\$500 million
- SDI component share
 - counts for about 60 to 70% of the project total costs





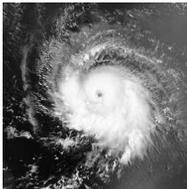
The Mesoamerican Biological Corridor (MBC)

- Long term conservation and sustainable use of biodiversity and natural resources
- Central America, Mexico and Colombia
- Medium and small scale environmental data
- WB and other donors Land Administration portfolio : US\$1 Billion
- SDI = 40 to 50% of costs

MBC Initiative

Meeting Objectives: M&M TOOLS
 >>> A View From Space

Hurricanes: SIAM-SERVIR website includes the latest GOES imagery (every 30 minutes) and important links from the National Hurricane Center.
<http://servir.nsstc.nasa.gov/hurricanes.html>

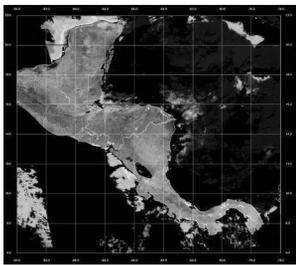


View from the A-train
 2004-10-26 14:15



MBC Initiative

Meeting Objectives: M&M TOOLS
 >>> A View From Space



Chlorophyll a Concentration (mg / m³)

Red Tides

Case: Algae Bloom off the Coast of El Salvador

MODIS (aqua) Image from Oct. 26, 2004 (Image was made using the satellite images at 12:40 and 14:15 CDT)

<http://servir.nsstc.nasa.gov/blooms.html>

Issue 1: Spatial data infrastructure = Public good

- High fixed cost
 - technical infrastructure
 - Institutional infrastructure
 - social infrastructure
- Facilitating the provision of other public services (roads, electricity, water)
- Provide key decision making information
 - regional planning
 - environmental management
 - natural disaster management

Issue 2 : Improve markets and investment climate

- Reduce asymmetry of market information (e.g. PROCEDE US\$1B program in Mexico)
- Facilitate transactions : costs and time
- Increase private rights security

Well-maintained parcel-based property registry enables:

- Credit system to be fostered through the use of land/property as collateral
- Private investment on land to be secured, leading to greater investment on property
- Facilitation of property markets transactions, potentially leading to more efficient allocations of land resources.

Issue 3: Private sector development

- Development of Information and Communication Technology (ICT) sector
- Create a market for SD within the country, including intermediaries -> surveyors, notaries, value added developers, etc.
- Impact on other sectors = credit institutions (land as collateral), etc.
- Public/private partnerships = GPS and Galileo

Issue 4: Land taxation and decentralization

- Strengthen municipalities
- Partnership with municipalities for data maintenance
- Improve collection of local taxes and fees
 - equitable revenues & local accountability
 - improve social welfare through the provision of better local public services.

Issue 5: State/government modernization

- More efficient & accessible SDI services
- Better delivery of services to the poor (World Development Report 2004)
- Data -> Information -> Knowledge society
- Standard and quality (e.g. ISO qualification)

Issue 6: Economic development planning

The benefits of SDI collection and analysis include

- More economically efficient government policy
- Better targeted programs for poverty reduction and sustainable growth
- Reduce cost of spatial analysis

Drivers of growth for Nicaragua, Honduras and Guatemala

- Framework of a spatial, multiple asset-based approach to rural growth
- Taking into account the problems of historical inequality, imperfect markets, and imperfect information
- Assess and attempt to control for a large number of economy-wide and household variables

Assets of "extreme poor" rural HHs

Human	Social	Physical	Financial	Community Level
Low level of education (incomplete primary)	Excluded from many community org and activities	Landless or small landholding	Minimal access to credit	Poor access to major roads, long distance to market town
Children might complete primary schools	Social networks mostly religious groups	Have small hand tools	Hold only small livestock and minimal food stocks	Lack of community infrastructure, or deteriorating
Larger families &/or single mothers	Depend on humanitarian assistance	Marginal soils, no irrigation	Seasonal migration to obtain cash	If have schools, health center; then lack teachers, nurses and supplies,
Poor nutrition levels		Lack own transport	Multiple low-paying sources of income/savings	

Issue 7: Integration and coordination = sustainability

- Single agency model : a preferred option
 - Financially sustainable
 - More secure
- Donors coordination and better synergy and sequencing with other sectors (judicial, decentralization, rural finances, CDD, infra and education)
- Regional cooperation fosters national reforms
 - CA Superior Council of Property Registries = coherent regional reforms

EI Salvador National Registry Center = Unique SDI institutional model

www.cnr.gob.sv

Property Registry

Cadastre Directorate

Commercial Registry

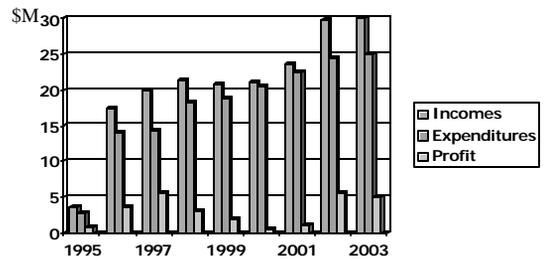
National Mapping Directorate

Intellectual Property Registry

And ...

Future : Movable Assets Registry

EI Salvador National Registry Center = Financial sustainability



Issue 8 : Peace and social stability

- Direct cost of land conflict due to misinformation is high
- Governance = good decision making relies on accurate and up to date and spatially based information
- Equal access and provision of information (e.g. disadvantaged groups)
- Transparency = less corruption and better governance

Central questions for studies

Do SDI achieve their intended impacts? What are the factors which contribute to success?

How does the behavior of other markets and institutions condition the impacts of SDI? And vis versa?

Do socially excluded households realize the same benefits as wealthier groups—and if not, why not?

Costs/benefits & cost of doing nothing? Social costs vs. direct economic benefits?

Next steps

- Higher in the national political agenda
 - i.e. : Next OAS summit
- Better communicate with media = dream sellers
 - i.e. : National Geographic
- Increased analytical work
 - i.e. : On going WB Analytical work assessing impact of land projects in Central America (2006)

Thank you

Gracias

Obrigado

Merci