CADASTRAL AND PROPERTY REGISTRY MODERNIZATION: IDEAS ON PUBLIC-PRIVATE PARTNERSHIPS

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The Hemispheric Summit in Miami in December 1994 confirmed the need to open up markets and integrate economic activity on a regional basis. In this process, geographic information, including valuable data in registries and cadastres, will play an important role. However, much of the data are in poor condition. Projects to bring registries and cadastres up to date have often failed because they did not focus on the institutional problems underlying the original failure. Attempts to solve institutional problems via technology have also proven inadequate. To make sure reform initiatives are demand driven and commercially viable, governments are considering public-private partnerships, in which risk and revenue are both shared. One such experiment in Ontario may provide a model to the rest of the region on organizational structure.

Le Sommet de l'hémisphère tenu à Miami, en décembre 1994, a confirmé le besoin d'ouvrir les marchés et d'intégrer l'activité économique sur une base régionale. Dans le cadre de ce processus, l'information géographique, y compris de précieuses données des registres et des cadastres, jouera un rôle déterminant. Toutefois, la plupart des données sont en mauvais état. Depuis toujours, les projets de mise à jour des registres et des cadastres ont souvent échoué parce qu'ils ne se concentraient pas sur les problèmes institutionnels sous-jacents au premier échec. Les tentatives pour résoudre les problèmes institutionnels par la technologie se sont aussi avérées inadéquates. Pour assurer que les initiatives de réforme soient axées sur la demande et commercialement rentables, les gouvernements examinent la question des partenariats entre les secteurs public et privé, dans le cadre desquels les risques et bénéfices sont partagés. Une telle expérience se déroulant en Ontario pourrait fournir un modèle au reste de la région en matière de structure organisationnelle.

Why Land Records Matter

The Hemispheric Summit in Miami in December 1994 confirmed the need to expand free trade and markets throughout the Western Hemisphere [*Summit of the Americas* 1994]. Property records become key to this effort in five ways.

First, the requisite geographically-referenced informational data are not yet available to promote heightened, massive investment in the region. While governments spend tremendous amounts on data collection, the information is often of low quality and compatibility, and is often not maintained. As a consequence, governments often misspend much of these scarce resources and fail to generate the spatial data infrastructure needed for investment.

Second, market barriers in the land market distort incentives and lead to lower economic efficiency advantage in agriculture. As trade increases in importance, agriculture will also increase in stature. However, Latin America may be stymied in its efforts to increase exports if its internal markets do not function appropriately. This means addressing, as a priority, the many land market imperfections.

Third, strategies to promote export/trade and economic growth must provide for a secure investment environment. Recent protests in places like Chiapas, southern Ecuador and Caracas underscore the need to address poverty concerns, to insure a safe and secure investment climate.

Fourth, foreign assistance has always held poverty alleviation as a primary goal. With inefficient property registration, those lacking political clout and influence, i.e. the poor, will be most disadvantaged.

Fifth, tariff trade barriers are being eliminated through the North American Free Trade Agreement (NAFTA), the General Agreement on Tariffs and Trade (GATT) and the proposed Free Trade Agreement for the Americas (FTAA). While lower trade barriers will mean increased trade and economic efficiency, it will also mean that governments will have to replace the revenue once generated by these barriers. A logical alternative is property taxation, which implicitly assumes the existence of accurate land records.

Land tenure problems are severe obstacles to broadly based economic progress in Latin America. There now exists in Latin America a great opportunity to take advantage of new geographic information technologies and undertake land market reforms that will spur economic development and favor disadvantaged groups in an environmentally sound fashion.

Current Government Policies

In the post-structural adjustment economies of Latin America, budgets are being slashed and national treasuries look to reduce deficits. A new era of cost-benefit analysis makes funding of large, infrastructure projects, including massive titling programs, difficult to envision in today's political environment. Yet, as economies move from the industrial age to the information age, and with expanding regional trade, demand for geographically-referenced data is set to explode.

In most Latin American and Caribbean jurisdictions, registries and cadastres are inaccurate, out of date, and a bureaucratic nightmare.

In the future, data demands will require high quality and compatibility. Indeed, these factors in the U.S. led to new initiatives in "Re-Inventing Government Initiative" and "Total Quality Management" to supervise, collect and manage spatial data [*Tosta* 1994]. Executive Order 12906 (April 11, 1994) created the Federal Geographic Data Committee (FGDC) to implement the Re-Inventing Government initiative related to geographic records, and supervise the National Spatial Data Infrastructure. The FGDC provides new metadata standards for compatibility and data quality with public access. Clearly, governments need to focus on ways to improve data quality, compatibility and access, while improving system efficiency and reducing cost. In conclusion, any registry or cadastral reform must provide quality and compatibility while being commercially viable and market driven.

Common Problems in Registries and Cadastres

In most Latin American and Caribbean jurisdictions, registries and cadastres are inaccurate, out of date, and a bureaucratic nightmare. Many, like Bolivia and Venezuela, have no technical specifications for spatial data. [*Hendrix* 1995b]. Corruption is endemic, due in part to low salaries, poor supervision and unqualified staff. Public finance failure is near universal as registries and cadastres are not designed to be self-supporting, and often charge fees which do not even cover cost of service. [*Stanfield* 1985].

Titling initiatives have often relied on centralized registries. In Guatemala, for example, there are only two property registries servicing the entire country. [*Hendrix et al.* 1992].

Some countries (like Guyana, El Salvador and Bolivia) still organize their registries at least in part by owner rather than by parcel. Often, unnecessary redundancy of lawyers, notaries and registrars is built into the system, while multiple government agencies (Military Mapping Institutes, Registro Público, Cadastre Institute, Municipalities, Agrarian Reform Institutes, etc.) collect the same data in incompatible, often inconsistent manners. Often, the cost of titling can exceed the value of the land titled.

Few countries have even experimented with private sector participation or new technologies as methods for lowering costs. Those least able to manipulate the system, i.e. the poor, are most prejudiced by this inefficient, politicized system.

On the contrary, governments have looked to technology for ways to automatize existing inefficient arrangements. As a result, automatization may actually be leading to institutionalization of redundancy of effort, with little compatibility or consistency.

In registry and cadastre reform projects in places like Honduras and Bolivia, the reasons for the original failure of the registry are not addressed. This top-down design lacks any assessment of the needs of users, and this is why many were not participating in the formal system to begin with. Since these issues were not addressed up front in many countries, like Honduras and Bolivia, the completion of the registry titling project represents an aberration from a tendency toward informality. As the projects conclude, the informal market once again begins to appear.

Even the better property registration projects have serious design defects. On the one hand, by not including many extra costs in the cost-benefit equation many institutional costs such as rental of building space, public sector salaries and so on are exaggerated. So a true accounting is obscured. On the other hand, there has been wholesale overpromising of benefits to make projects look irresistibly attractive, as in Peru [*Hendrix* 1995a].

Technology to the Rescue?

Faced with this poor experience in registry and cadastral reform, some governments have decided to contract out modernization. Indeed, international donors often advocate the merits of public-private partnerships. This has been interpreted in some countries as doing the work via the private sector, not within the public sector. However, this experience has not been satisfactory. In Nicaragua, one private sector proposal, which was seriously considered by a major international donor, promised to resolve all property conflicts. While no methodology was stated in the proposal, the exact brand name and model of what computers were needed was clearly indicated. Similar proposals, which have also been seriously considered by international donors, have been made in Guatemala and Guyana.

In Venezuela, project design in the area of fiscal cadastral reform has proven even more problematic. Like many countries in the region, Venezuela has tried to decentralize government and allow municipalities to collect and retain at least some level of property tax revenue. This requires a municipal fiscal cadastre. Yet central government gave no instructions regarding how to do this. Consequently, cities are now turning to vendors for turnkey operations. Some projects, like the one by the Mercator Group in El Hatillo, appear serious. Others appear to be rip-offs. In any event, even if all goes as planned and contractors give serious products to their client municipalities, Venezuela risks being a country comprised of multiple municipal cadastral systems, none of which interact or are compatible. Further, Venezuelan taxpayers will have footed the bill for this reinvention of the wheel in each municipality.

Based on these types of experiences with vendors, governments are becoming very suspicious. Vendors are stereotyped as having a certain mentality, reputation and pure profit motivation. Governments feel vendors promise the sky, but deliver as little as possible. Governments think vendors claim the solution is in buying computers, not solving institutional chaos.

In actual fact, we see few true public-private partnerships. Nearly all countries claim they advocate public-private ties. Yet often, vendors get paid up front, sell equipment and walk away or just disappear. There is a perception that private companies received their benefit up front, whether or not the government got any later benefit. The private company was not at risk, but the government was.

Need for Models of True Public-Private Partnerships

Public-private partnerships are not a bad idea; they just have not been tried in Latin America or the Caribbean. From the private sector, the governments need access to the new technologies and private capital/financing. Yet, perhaps due to mistrust, perhaps due to a view that registries are a public function, governments show an extreme reluctance to privatize. After all, governments via their registries guarantee private ownership. This is a public function.

There is one experiment, however, that does seek to establish a true partnership arrangement. This is being carried out in Ontario, Canada. Here, the government did not seek to privatize the registry, but sought to establish a solid relationship with the private sector. From a policy perspective, the Ontario government looked to use private sector capital to fund services while shifting to user-pay concepts. It also looked to modernize and automate with digital graphics. As a paradigm, the Ontario model was publicly presented in October 1994 [*Logan* 1994], and can be summarized as follows:

From a policy perspective, the Ontario government looked to use private sector capital to fund services while shifting to user-pay concepts.

1. The program begins with an existing registry, based on paper documents, in need of modernization. There may even be land currently outside the formal system, in need of survey, titling and registration.

2. A private consortium of major companies is contracted through a competitive bidding process to form a joint partnership using private incorporation as the corporate structure. That new company is allowed to keep any fees generated from the registry, but only from the portion of the registry already modernized by the company. This provides for cost recovery and quality assurance. In Ontario, the government entered into partnership with a consortium called Teramira Inc. The result of the partnership was Teranet Land Information Services Inc. which in turn contracted with government to automate, implement and operate the land registration services.

3. Over time, as computerization and conversion take place, the company will realize an increasing amount from the

transactions within the modernized system. This gives the firm an incentive for accelerated implementation.

4. Until the new system is implemented, fees paid under the old system still go to the government and, in addition, Teranet pays a royalty to government in return for the exclusive license to manage access to the automated database.
5. Fees collected in the first five years of operation are reinvested in the system to get as many documents on line as possible, as soon as possible. This gives greater customer service and further accelerates the modernization process.
6. The private company is left to attract the venture capital to finance the project. Most important is that, the government is allowed to be an investor with up to 50 percent ownership. Investors then comprise the board of directors in accordance with the investment made. In Ontario, shareholders in Teranet include the government, with a 50 percent interest, and the private consortium Teramira with a 50 percent interest. This balanced approach to ownership of the partnership has proven to be the most workable arrangement.
7. Information on the partnership selection process and contract arrangement should be open to the public and the press. When dealing with government, there should be no secrecy. In Ontario, this was not originally done, and the secrecy led to allegations of abuse. When documents were made public, interest in the transaction and contractual arrangements fell to near zero. When documents were secret, the press had a field day.
8. On-line information is available to all—open access. But it is not free of charge. Published user fees are established for standard inquiries.
9. The company builds, manages, and operates the registry in the name of and on behalf of the government. The registry is still government property and is still the official governmental registry.
10. At the end of the ten year contract period, the entire system may be handed over to the government. Prior to the conclusion of the contract, the government should request training for the new operators if the government wishes to return to management or if a different firm is contracted for management. The Government of Ontario and Teranet have the option of negotiating a new concessional contract so that Teranet can continue operating the system if they so choose. That would entail re-negotiation of the compensation arrangement and the effective operating license.

Throughout the process, the Government of Ontario maintains a great deal of control.

Such a public-private partnership has two main benefits. First, there is no profit for the private company until the government also starts to perceive a benefit. This implies risk sharing and mutual interest in an accelerated, high-quality delivery. Second, at the end of the contract period, the government is left with a modernized, technologically-sound registry without further investment of any government funds.

In the Ontario model, the company can produce spin-off products at any time in the contract period for its own profit. Such new products may include street centerline maps, various thematic maps, time series data for environmental analysis, and a wide variety of land related information reports.

In terms of output, the Ontario project has been converting data at the rate of 25 to 50 000 titles per month. This involves conversion of paper records to computer records, as well as conversion from a deeds system to a title-based system.

Throughout the process, the Government of Ontario maintains a great deal of control. It is the owner of the data. It sets the statutory fees. It operates the land registry office counter services, and reviews all value-added products. On the other hand, the company manages the data, supports data communication, and markets its own information services.

Perhaps one of the most difficult problems with the Ontario model has been human resource policies. Union employees need to be made partners as well in the process. As a result, a carefully negotiated agreement between the implementing firm, Teranet in Ontario, and the union is needed.

A second lesson learned from Ontario is that the public-private contract arrangement should be very detailed. This avoids conflicts later concerning corporate direction, compensation, costs and income streams.

Conclusions

Geographic information is a key ingredient in hemispheric economic integration. Yet registries and cadastres are quite often in very poor shape.

Past modernization programs have often failed to address the underlying causes of the institutional malaise. In today's economic and political environment, registry and cadastral reform must be demand driven and commercially viable. Consequently, there is renewed interest in possible ways to tap the private sector for capital and technology to generate automated, streamlined registries. One such model in Ontario has produced exciting results, and may serve as a paradigm for other countries.

References and Bibliography

Barnes, G. 1990. A comparative evaluation framework for Cadastre-Based Land Information Systems (CLIS) in developing countries. Land Tenure Center Research Paper 102, University of Wisconsin, March.

Coles, A. 1988. Transacciones de parcelas y el proyecto de titulación de tierras en Honduras. Land Tenure Center Report, University of Wisconsin, September.

DAI. 1990. Ecuador land titling project evaluation. Photocopy, available from the Agency for International Development, December.

Goldstein, B. 1974. Intercountry evaluation of cadastral programs. Photocopy, available from the Agency for International Development, June.

Hendrix, S.E. 1994. Unas experiencias regionales con la modernización de registros. Presented at the Seminar on Registry Modernization, Ministry of Housing and Urban Development, Government of El Salvador, San Salvador, May.

Hendrix, S.E. 1995a. Myths of property rights. *Arizona Journal of International and Comparative Law*, Spring.

Hendrix, S.E. 1995b. Tenure insecurity in Venezuela: Empirical data on the failure of cadastral and registry systems in the reformed agrarian sector. *Surveying and Land Information Systems*, March.

Hendrix, S.E. and Leon Rockcliffe. 1994. The deeds registry in Guyana and its legal and institutional framework: Views toward promoting transaction efficiency. Land Tenure Center, University of Wisconsin, July.

Hendrix, S.E., D. Moyer and R. Strochlic. 1992. Land registry reform in Guatemala: A status report with recommendations. *LAC TECH Report,* available from the Agency for International Development, June.

Logan, R. 1994. Teranet International. Presentation at the FIG/Geomatics Conference, New Brunswick, Canada, October.

Moyer, D. 1980. An evaluation of the Instituto de Tierras y Colonización (ITCO) land titling system. Photocopy, available at the Land Tenure Center Library, University of Wisconsin, June.

Stanfield, J. D. 1985. Projects that title land in Central and South America and the Caribbean: Expectations and problems. Land Tenure Center Paper 126, University of Wisconsin, June.

Stanfield, J. and S. Hendrix. 1993. Ownership insecurity in Nicaragua. 22 Captial University Law Review 939.

Strasma, J. 1983. Calculating costs and benefits of land registration in St. Lucia. Photocopy, available at the Land Tenure Center, University of Wisconsin.

Summit of the Americas. 1994. Declaration of principles. Maimi, Dec. 9-11.

Tosta, N. 1994. Land records management in the U.S. and the federal geographic data committee. FIG/Geomatics Conference, New Brunswick, Canada, October.

Williamson, I. 1986. Cadastral and Land Information Systems in developing countries. *The Australian Surveyor*, 33(1), pp. 27-42.

Williamson, I. 1988. Lessons and issues in establishing Land Information Systems in developing countries. Presentation at the seminar on "Low Cost LIS" in Brisbane, Australia, September 12-15.

Williamson, I. 1994. Cadastral Systems in the Asia-Pacific Region: Experiences and Lessons. Presentation at the FIG/Geomatics Conference, New Brunswick, Canada, October.

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