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Title: Cadastres (Land Registries) and Global Security

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Abstract: Ownership outside the bounds of formal property maps is possession by force; logically any country that does not formalize property ownership is doomed to internal violence or tyranny. That assertion, made in support of a GIS mapping project for Colombia, applies everywhere. Its corollary: Developmental projects waste time and money when attempted where property rights and transparent records don't exist. The consequence is obvious, and, among other things, advises industrial-level GIS cadastral projects for countries of special interest in the war on terrorism. The strategic and intelligence uses of property data are spectacular--land records, when placed in a geodatabase, uncover money laundering, extortion, and corruption. They support effective asset forfeiture and geographic crime prediction. Finally, when land ownership is public knowledge, when anonymity of wealth and impunity are gone, landowners are less likely to support terrorism.

Paper body:

(The perspectives, assertions and opinions expressed in this essay are those of the author alone and do not necessarily reflect or represent those of the United States Army or any other part of the United States government.)

*Dosn't thou 'ear my 'erse's legs, as they canters awaäy,
Proputty, proputty, proputty--that's what I 'ears 'em saäy.
Proputty, proputty, proputty--Sam, thou's an ass for thy paains;
Theer's moor sense i' one o' 'is legs, nor in all thy brains.¹*

Alfred Lord Tennyson from "The Northern Farmer"

The link between the existence of formalized property and internal peace is direct and substantial. No foreign policy decision, whether related to counter-narcotics, counter-terrorism, economic development, geostrategy or otherwise, is properly taken if it is not informed by suitable intelligence regarding the ownership of real property. When decision-makers do not arm themselves with facts regarding ownership they greatly increase the risk presented by the unintended consequences of their decisions. Only a few years ago, such an assertion would have been not only curious but unreasonable, not so much because property ownership didn't influence political actors in foreign countries almost everywhere, but rather because such intelligence could rarely be had. Even if our decision makers would like to have had better information about who owned what in foreign countries, the intelligence challenge was generally insurmountable -- at least beyond the most immediate and anecdotal investigation. Today, and only within the past decade or so, property data can be collected, organized, analyzed and presented in ways that can support foreign policy and strategy. A convergence of new technologies, including global positioning satellites, and developing technological standards, such as the National Spatial Data Infrastructure (NSDI), makes the creation of foreign property intelligence both reasonable and practicable.² The implication for the intelligence community is compelling. It must, as part of the suite of product types it provides to national leadership,

include property ownership intelligence along with economic, political, social and military intelligence. It is the same type of information that homeowners want (or should want) to know about their plot of real estate. It is the tax assessment and surveying data that we in the United States would find our names attached to at the county clerk's office and at the bank in its mortgage files. It is also found in the land-use management information now demanded by urban and regional planners almost everywhere.



Figure 1. Plat map showing the Demarest's corner lot, easements, setbacks, etc.

Property data yields to forensic efforts such as tracing ownership for the purpose of identifying evidentiary leads and informants, or for engaging actions of asset forfeiture and denial. Police benefits are generated from digital databases encompassing ever-larger geographies and are naturally combined and correlated with other mass data bases. More interesting to the military or strategic analyst, however, is the possibility of following the course of civil violence, or tracing the progress of an anti-guerrilla campaign, or a drug crop eradication plan. For the political analyst, finding hidden familial and corporate affinities might be the attraction, or for the economic program manager it might be tracing contractual compliance in a crop substitution plan, or following the change in appraisal values of program-aided farms.

In some countries the cadastral (land ownership boundary) information is so dispersed among government and other organizations that its use is impracticable for strategic analysis. However, many governments have begun interagency initiatives similar to the United States NSDI and often using NSDI standards. Multinational initiatives such as the Global Spatial Data Infrastructure (GSDI) prosper.³ In the western hemisphere, progress in coordinating the development of geographic information systems (GIS) has been guided in part by GSDI and mirrored by national efforts such as Colombia's Spatial Data Infrastructure (ICDE) project, which is intended to unify GIS data in the possession of various federal agencies.⁴ Colombians in particular have been active in promoting GIS international cooperation.⁵

The international convergence of technologies and technological standards promotes the creation of georeferenced data. Meanwhile, the sheer weight and fascination of newly available geographic information (some of it from overhead platforms whose product previously would have been classified, and some of it the result of diffusion in the use of GPS devices for all types of academic study) has brought new popularity to geography as an academic discipline in support of public policy decision-making. Geography, in turn, is pulling with it the study of property and cadastral systems. Another providential convergence also promises to make the collection and use of land ownership information less onerous. Since the end of the Cold War, intellectual space has been made available to those thinkers who identify property and property rights as an important starting point for understanding the basic issues of wealth and poverty, as well as the basic nature of conflict and human rights abuse. This increased use of 'property' as a prompt for intellectual consideration of social issues may be due to the lifting of socialist opprobrium that beclouded the notion of 'private' property.

A decade after the fall of the Soviet Union, the leading edge of current economic developmental literature is Hernando de Soto's The Mystery of Capital.⁶ De Soto's book extends a line of free-market theory outlined in his earlier bestseller, The Other Path, for which de Soto gained international recognition.⁷ De Soto and his team of researchers documented, exhaustively, that for the poor to advance materially they need to be able to create capital, and that in most developing countries, they cannot. The inability to create capital can be found in a lack of formalized property regimes -- the kind that in advanced economies survey, record, protect, insure and represent property rights. The upshot of a failure to create precise, reliable documentation of property rights, property courts, title insurance, brokerage laws, and the like, is an invisible world of dead capital -- assets worth literally and measurably trillions of dollars, but which cannot attract investment. De Soto's perspective is a powerful, unavoidable challenge to any developmental strategy or project that does not embrace the question of broad-based capital formation. Furthermore, it has created an intellectual environment in which transparency and availability of reliable land ownership data (not just to the wealthy, but to everyone) is assumed to be a necessary condition for the success of economic development projects. Even traditional redistributive land reform proposals depend for their success on the fidelity and openness of ownership documentation.

Even basic land-use planning, which necessarily draws from multiple disciplines including geography, economics, architecture, environmental studies and government administration, requires transparency of owner information. The effect has been to create a wave of projects to collect, digitize, and process data on land use. In Colombia, for instance, all

municipalities of over 30,000 persons are required to prepare land use plans according to a methodology developed by the Colombian national cartographic institute, the *Instituto Geográfico Augustin Codazzi* (IGAC). The amount of geo-referenced information on land use and accountability generated from this requirement is immense, and includes information on ownership.

It must be underscored, however, that the important nexus between the existence of formal property and internal security is not indirect via prosperity. Apart from the long-term material difference that formalizing property could make in much of the world, an increasing body of scholarship recognizes that polities with formalized property regimes are less likely to suffer internal conflict than those without.⁸ Peace is not simply a secondary benefit that accrues when poverty's cruel choices are no longer the motivation of criminal and subversive behavior. It may be presumed that widespread economic desperation fuels willingness to commit violence (a long-held staple of counter-insurgency theory), but the more important link between property and security is direct and substantial. Prosperity, a worthy goal in its own right, can be promoted via the development of formal property regimes, and this prosperity should have a positive effect on the prospects of peace -- but such an effect is speculative, while the direct linkages between property formality and social peace are concrete and often immediate.⁹ Real estate is very often the object of human conflict, and where the details of ownership and the methods for changing ownership are publicly and precisely expressed, the route of conflict resolution is much more likely to be peaceable.

Although property and peace are intimately joined, it is, paradoxically, the new acceptance of property into developmental and land-use concepts that works in favor of better security and defense – or can, provided intelligence organizations respond. The new wave of developmental and environmental thinking represents a unique convergence of attitudes from across a wide gamut of ideological and bureaucratic positions. In other words, as to the question of transparency and availability of property data, the goals of the US Defense Intelligence Agency (DIA), Environmental Protection Agency (EPA) and the USAID converge and coincide. This is equally true for these agencies’ foreign counterparts. When it comes to property rights, the cronyism we might like to expose in order to better understand a political decision is the same kind of ownership information de Soto says is necessary for the market to create capital, or that others say is needed to resolve conflicts before they grow into grave human rights violations. Transparent ownership information is key to achieving a broad range of social, political and humanitarian goals, and it is something for which economists, environmentalists and public administrators are willing to pay. The same information has essential security applications and, therefore, intelligence agencies should be willing to assign resources to it as well.

Public GIS property and land-use information is increasingly being placed on the internet. For instance, a site funded in part by the State of Wisconsin allows anyone with a web browser to bring into view infrastructure data, aerial photography, ownership and tax appraisal information on every piece of land in Clark County.¹⁰ This kind of information supports the enforcement of environmental protection regulations, allowing quick identification of the owners of land being used inappropriately. If a debt is owed, attachment proceedings can be initiated, and citizens can assess the equity of tax payments. Not all environmental maintenance

applications fall under law enforcement regimes; many are market-driven. For instance, the United States Geological Survey (USGS) maintains an “International Program” web site.¹¹ One of the links there had been to the Dominica Banana Marketing Corporation (liquidated In 2003).¹² While active, the Dominica site assisted interested parties to monitor how growers were meeting certification requirements for the "environmentally friendly" production of bananas. The banana growers in Dominica received a premium price for their bananas from purchasers in Europe concerned about ecological standards. Eventually, as proven by the Dominica experiment, buyers of most crops will be able, on their own monitors, to bring up a digital photo of the plant off which their product was taken. Another web site, this one developed to support a crop substitution program in the Huallaga Valley in Peru, displays a mix of land use and participant information. The images come from a wide number of sources ranging from satellite imagery to a database of the names of coffee growers.¹³ The site has become a record of progress, and a tool to verify compliance and detect fraud.

Those familiar with US domestic land-use questions, and with the power of local politics, understand the threat to social peace and tranquility that the smallest road-building project can promise. That is to say, economic development is not necessarily a peaceful process in the short run. Yet in the foreign policy realm it seems that every highway project is tossed around as if it were inherently a peaceful proposition. When foreign policy decision makers do not arm themselves properly with the ownership facts encompassing such a project, they greatly increase the risk of failure or of negative unforeseen and unintended consequences. No highway is well-conceived in the absence of knowledge about who will benefit, who will not, and why – and such knowledge needs to be on a level of detail that includes names and numbers. This lesson extends

in some measure to any program that affects real property. For this reason if for no other, real property information should be given more than a prominent place in the hierarchy of useful knowledge, it should be considered the foundation for social, political and economic understanding.

Mapping whole national geographies at the level of individual properties is doable. Although expensive, much of the effort to formalize property is already being undertaken by aid and development organizations, and because it is of obvious benefit to local citizenry, the labor-intensive efforts to update and complete records are born locally. Standards for cadastral excellence demand map scales something on the order of 1:10,000, 1:2000 or even 1:500. The traditional 1:50,000 or even 1:25,000 scale maps preferred by military commanders do not represent the technological standard of detail necessary for many strategic purposes, and certainly not for building property intelligence. This is not to suggest that scale is the central measure of excellence. Today, however, it is possible to display the relationships between land and people at a much higher degree of precision measurable in arc seconds and centimeters. Showing roads and bridges remains important, but it is also important to show, in detail and in a way that can be coded, cross-referenced and manipulated mathematically, all the property ownership and land-use information possible. The recommendation for makers of foreign policy flows accordingly: Less developed countries should be induced toward developing formal, transparent, precise, digitized and accessible real property information. This progress may include a renewed role for basic cartographic assistance, such as from the US National Geospatial Intelligence Agency. It may also include, depending on the needs and conditions in a country, the expansion and acceleration of international programs such as the Inter Summit

Property Initiative. This suggestion, however, exposes a need to create an assessment model of property regimes based on cross-country comparisons. There exists a need for some sort of survey instrument for the creation of a property development index that can objectively identify shortcomings and inform improvement. The most important recommendation to policy makers, however, is that they themselves demand to receive property intelligence to the full extent possible in support of all foreign policy decisions, just as their hometown city council members would for the decisions they take.

Looking at the assertions made in the foregoing paragraphs, and recognizing that they are important because they apply to real places and real conflicts, the reader is invited to consider the ongoing and agonizing internal conflict in Colombia. Colombia is an ideal geography with which to consider property as a fundamental element of conflict analysis; where incomplete and imperfect property development has been a cause or enabler of internal conflict; where property creation and formalization would be a practical contribution to long-term social peace; and where property intelligence could speed an outcome favorable to the governments of both Colombia and the United States. Colombia's extravagant geography guides decision-making in that country more than in most. The history of Colombian conflict is a record of competition for control of lands and movement routes related to export products or their taxation.¹⁴ Rebels, pirates and their hybrids, arrayed against the Colombian state and each other, have forever fought over control of product sources, transportation routes, taxation and fiscal policies bearing on Colombia's natural bounty.¹⁵



Figure 2. War of Latin American Independence in what is now Colombia. The battle pattern reflects the limited movement routes in the early 19th Century. The basic cartography is from Augustín Codazzi Geographic Institute, IGAC and battle data is from Eduardo Riascos, Geografía Guerrera Colombiana.



Figure 3. War of the Thousand Days. By the end of the 19th Century the movement routes in Colombia had improved marginally. The basic cartography is from the Augustín Codazzi Geographic Institute, IGAC and battle data is from Eduardo Riascos, Geografía Guerrera Colombiana.

While the current civil conflict differs in significant ways from those of the past, the correlation of outlaw strategies to agricultural and mineral geography is the same, often exactly the same.¹⁶

Leaders of today's illegal armed groups, such as the FARC-EP (or FARC), ELN, AUC, and major drug trafficking mafias are intimately aware of the effects that the control of 'place' has on

profit and on prospects for their long-term organizational health.¹⁷ Like the classic combat commanders, the Alexanders and Napoleons, a successful outlaw strategist recognizes the critical advantage of choosing favorable fighting terrain, protecting his lines of communication (LOCs) and compromising those of his enemy. In Colombia, he must also be sensitive to the relative commercial and industrial value of property and movement routes. Likewise, any winning government strategy seeking to defeat the outlaw, or for that matter, to establish long-term social peace in Colombia, must discover and respect the essential worth of land. Colombia's terrain cannot be considered only in terms of physical defense and attack, but also according to its material value. This marks a difference between internal armed conflict and international war. Especially in Colombia, land is not only a space over which materiel moves, or where firefights occur, it is an engine of disposable wealth and wellspring of the war-making strength of all the contending forces.¹⁸ Moreover, the performance grade given to Colombia's national armed forces always includes a human rights component, yet it is failure on the part of the State to give meaning to property rights that leads to human rights violations. If the Colombian armed forces are to consolidate the human rights issue in their favor, they must better understand the contract between citizens and government that is called 'property.' As for violence, some concept at the strategic level regarding what terrain is most valuable in Colombia can be derived from a look at violence data viewed in geographical perspective. In the simplest terms, Colombian natural resources, seen as places of origin along with their product and input movement routes, combined with the classic guerrilla tendencies to seek sanctuaries in remote and border areas, can be painted via the georeferencing of violence and resource data. This is particularly important to the question of real property ownership and to the relative value of property and land-use intelligence as a national security tool, because it serves both in

prioritizing expensive efforts at determining ownership rights and duties, and in testing the correlations between formal property and violence. Below, figures through show a few of the most infamous characteristics of the conflict in Colombia, in this case, murder, kidnapping and the sowing of anti-personnel landmines.



Figure 4. Homicides and the Murder of Mayors and Councilmen. The basic cartography is from the Augustín Codazzi Geographic Institute, IGAC, and the violence data was provided by the Human Rights and IHL Observatory of the Office of the Vicepresidency of the Republic of Colombia



Figure 5. Landmines. Few things lower the value of real estate more. The basic cartography is from the Augustín Codazzi Geographic Institute, IGAC, and the violence data was provided by the Landmines Observatory of the Office of the Vicepresidency of the Republic of Colombia.

The author, with a team mostly from the Foreign Military Studies Office at Ft. Leavenworth, KS, did an investigation into the feasibility of creating a database of real property ownership in Colombia. In the course of the study, which lasted almost two years and involved dozens of trips to and within Colombia, a picture was gained not only of the central position of real property in the calculus of Colombian violence, but of the tremendous, overlooked (and still available) opportunity to change the direction of Colombia's political history.

The history of property rights in Colombia is typical of many Latin American countries.¹⁹ The Spanish crown justified appropriation of "New World" lands within the context of Christian proselytizing and affirmed by Roman ecclesiastical authority. Division of lands then went to governors or captain-generals who swore allegiance to the crown. The assignment of urban *solares* or rural *estancias* correlated to the importance of the individual participant in a particular conquest expedition. Originally, a system of *morada y labor* was applied in which the receiver of lands had to stay resident on them for five years and work the land in order to gain permanent title. Later, under Bourbon reforms, the system was changed to that of conditional sale of royal holdings. The crown reserved to itself mining and subsurface rights. At first, indigenous people, while not considered property outright, were virtually chattel under a system of territorial *encomiendas* that gave managerial control over indigenous labor sources, these *encomiendas* being territorially demarcated. Later, when treatment of indigenous people as property was outlawed, blacks were introduced in the equivalent condition.

Colonial titles were clouded, and in many cases remain so even today in two principal ways, first by imprecise boundaries and secondly because many of *mercedes reales* (royal grants or favors) were often not authorized by competent officials.²⁰ Some property rights were claimed without the *morada y labor* having been fulfilled. The distinction between private and public property was often uncertain because the *merced* might be conceived of more as a royal tolerance and not as delivery of the fee simple. Also, there was often little distinction between the local functionary and the landowner, since many favored subjects of the crown exercised public and private roles simultaneously. Urban properties were relatively well marked, given that the Spanish urban planning system required rectilinear forms and generally standard sizes, but rural lands were often huge, irregular, and the terrain unknown.

Real property with documented ownership did not change hands often in colonial Colombia, but tended to stay within the same family group. Obstacles to the development a freely functioning market for even documented real estate included obligations known as *décimos* and *censos*, the *décimo* being at first a ten percent ecclesiastical tax based on the value of land (generally undervalued by the possessors until the point of sale). In the first half of the 18th century these *décimos* were denied to the church, but continued in various forms in support of civil government until mid-century. The *censos* were a variety of mortgage types, often involving annual payments to an individual for life in exchange for basic possessory rights. Both these encumbrances made purchase and sale less attractive. Hording or setting aside of lands by the church, the doubtful character of many titles, slow processes of registration of encumbrances; unlawful expropriation of indigenous reservation lands; questionable paper transformation into real property of what had begun as indigenous labor control rights; state monopolies over the

production of certain export commodities; and the abundance of royal patrimonial lands and their actual or fraudulent grants -- all had a dulling effect on market development.

Aside from market barriers related to direct encumbrances we must add debilitating aspects of Colombian jurisprudence. Many locally determined laws and regulations opposed norms unsuccessfully pronounced by the Spanish throne that were intended to protect the indigenous work force. The royal juridical system rarely even contemplated the growing condition of *mestizaje* (racial mixing), creating large gray areas and loopholes in the law. Most of the clergy also escaped regulation by the crown.

Colombia's immediate post-colonial political reordering, influenced as we have highlighted by the extreme nature of its geography, prolonged some idiosyncrasies of royal land policy. It also left regional divergence and disarticulation as Colombia lived a violent process of deciding the federalist debate. Eventually the whole range of western ownership rights, including alienation, compensation and free marketability, found expression in the Colombian civil code to one degree or another. Bureaucratic evolution competed mightily with juridical evolution, however. The property regime pertaining to subsurface resources and government open lands, for instance, was built on a theory of government prerogatives fundamentally at odds with the guiding principles of the civil code.

In recent decades, Colombian legislation has seen the advance of the concept of 'social property.' Tangible effects of the movement to deduce social property include regulations determining unit minimums of real property ownership (such as the agricultural familial unit

which is an attempt to set the minimum amount of land needed for an agricultural family to survive), redistribution plans, and the organization of collective ownership entities. Social redistribution of real estate has been a political and academic favorite, implemented sporadically in the following forms: Voluntary negotiation, rural condemnation and taking, forfeiture for disuse or misuse, freezing of rents, urban expropriations, environmental expropriations, distribution of unused lands by petition, etc. The three major initiators of these processes of redistribution have been: the government under the auspices of established programs, class action lawsuits by claimants or dispossessed, and on occasion the private sector. In Colombia, a perpetual re-servicing of the theory that inequitable distribution of land is a primary cause of conflict tells us four things: One, that real estate is indeed important to Colombians; two, that redistribution efforts generally have not worked; three, that a fixation on the object of property has reigned without an understanding of property as a social contract involving distinguishable and divisible rights; and four, a failure to perceive the determinants of land value as it is reflected in the free exercise of and market for rights. Precisely enunciating and evidencing (that is mapping, monumenting, titling, registering, and digitizing) the various rights associated with the object (land in most rural contexts) is an dispensable start. Creating an open fluid market for real estate rights would further identify what was worth more than what, and who actually had it. Colombia's is a history of territorial competition; mostly land grabs and failed land reform. It needs to become one of property development if as a nation it is ever to join the community of prosperous and peaceful countries that is generally considered as the "First World." That said, as with so many aspects of development, Colombia is uneven in its property. It is by no means underdeveloped in all places or in regard to all real estate. The differentials in the development of formal property themselves have an influence on the geography of social conflict within

Colombia.

“A cadastral system is understood as an inventory of land information, continually updated, based on the parcel lot, and comprised of a registry of interests that exist regarding the land (rights, restrictions, responsibilities).”²¹ Cadastral files in Colombia are found in five jurisdictions: the national cadastral office and four independent cadastral offices -- the Federal District of Bogotá, Antioquia, Medellín and Cali. Each has independent authority over development and maintenance of the files. The existence of the independent cadastral offices is related to the historic anti-federalism noted above. The offices are politically, administratively and budgetarily autonomous, but take technical guidance from the national cadastral office and theoretically follow the same technical protocols. Technical and professional conditions among the cadastral offices are unequal and unification of the offices is not predicted for the foreseeable future.

The Colombian national cadastral office is a directorate of the national geographic institute, The Instituto Geografico Agustín Codazzi (IGAC), which is a dependency of the Ministry of Interior and Public Credit (*Ministerio de Hacienda y Credito Público*). The cadastral offices are responsible for appraising land values as the basis for taxation.²²

The cadastral offices are charged to keep records of the size, location, use, potential use and tax currency of all properties. In order to fulfill all the requirements of Colombian administrative law, a seller must produce certification from the cadastral offices showing the precise, boundaried description and location of land to be sold, as well as any tax debt. This process seems to be followed as an exception, however, in many rural areas, and often in the city. The

cadastral offices are not the official record of ownership of a property. That function belongs to the registry offices of a separate ministry, the Superintendency of Notaries and Registries.²³ In the course of many land transactions, new owners often consider it sufficient to register using a bill of sale in the registry without consulting the cadastral office or having received a certificate of description and assessment from the seller. Therefore, the cadastral records, while determinant of the location, shape, size and tax value of a piece of land, are not legally sufficient to establish definitive ownership.

Historically, the cadastral office records have not been compatible with the registry files, and until recently there was no common field of data in the spreadsheets that made the two sets of files easily reconcilable. Even descriptions of location and size have not always been of the same type in both record sets. It is likely that in the course of reconciling the two sets of land records, thousands of location and size inconsistencies will arise. Unless adequate structures for adjudication and compensation are created, perfecting property records in Colombia might have the effect of creating as many local conflicts as it resolves.

The national cadastral office within IGAC maintains records on more than seven million properties. This constitutes administration of around three-quarters of the recorded properties, and ninety percent of the geographic space. While most of these records are on computer media, in alphanumeric order and include physical, economic and juridical information; many maps associated with the cadastral files are still in analog form. There is as yet no geospatial visibility of the information that allows it to be readily compared to other georeferenced information. The

cadastral office is pursuing a process, supported in part by loans from the Inter-American Development Bank, to modernize its cadastral file system.

The Federal District of Bogotá has one of the four independent cadastral offices in Colombia with 267 employees at the city's Municipal Administration Center. The Bogotá cadastral office is seemingly well-funded and well-led. Cadastral information for the Federal District of Bogotá is almost entirely digital, aggregated in an ArcInfo® database. The district is divided for cadastral purposes into just over 1,100 cadastral sectors and 41 separate layers of information. These layers are available for sale to the public and are priced by virtual map sheet (most at 1:2,000 scale) and by layer. The cost of the layers per map sheet area ranges from about six to fifty dollars. Almost the entire digital map, in the form of ArcInfo® files with all 1,100 sectors and all correlative data layers can be purchased retail.

The Medellín cadastral office maintains cadastral changes, and another government entity, the Medellín Public Enterprises (*Empresas Públicas de Medellín*, EPM) sells cadastral information to the public. Cadastral maps are integrated into the municipal digital plan, mounted on Intergaph® software, and constitute four of several dozen layers of municipal data, almost all of which is for sale. The prices for digital data from the EPM are a little higher generally than at the Bogotá cadastral office; however, the Medellín cadastre is in much better condition than Cali's and can be purchased almost in its entirety.

The Medellín office coordinates some appraisal activities with the other counties that make up the Valle de Aburrá, or the greater metropolitan area. Recognizing the economic, social

and fiscal advantages of formalized property ownership, Medellín's city government has in the past several years legalized more than 8,000 lots in economically disadvantaged areas. City officers believe the process of cadastral formation has contributed to positive evolution of several neighborhoods. Some zones that are considered high-risk for environmental reasons have a low priority for formalization. As many as 150,000 of the 650,000 lots mapped by the office remain un-legalized.

In 2003 Medellín suffered a severe outbreak of organized armed violence as units of the FARC, AUC and ELN vied over select neighborhoods considered essential to maintain control of smuggling and resupply routes through the city. Medellín lies across a vital line of communication between the western lowlands and the interior of Colombia. It would be quite a stretch to suggest that better developed urban property and records would have prevented this violence. As in the case of Bogotá, Medellín pays a cost for the weaknesses of the region as a whole. Still, while Medellín has made strides to formalize property, it is in areas of the least formal property ownership that much of the fighting broke out.

Organized similarly to that in Bogotá, the cadastral office in Cali has four divisions -- Cadastral Formation, Conservation, Cartography and Systems. At the time of the field study in 2002 the office had records on 505,000 urban plots and about 16,000 rural plots. It was in possession of a digital plan based on 1993 aerial photography and completed in 1995. The plan includes 35 urban data layers and 25 rural layers in ArcView® format, and it covers 37,000 urban hectares and 30,000 rural hectares. However, the Cali cadastral office had no employees who knew how to work the digital plan software, and while the city planning office apparently had a

current ESRI license, the Cadastral Office did not. The 1995 plan has not been updated. From Jan 1, 1982 until December 31, 1995, the office had 235 employees, from Jan 1, 1996 to Jun 30, 2001 it had 90 employees, and from July 1, 2001 until mid 2002 it had 25 persons. According to various informed Colombians these cuts reflect a political decision on the part of the Cali municipal government to not have a current, accurate and transparent cadastral record. The most likely reasons for maiming the cadastral office are to disable their obvious forensic utility; appease special interests that do not want the tax assessments to reflect true values or identify their properties for taxation. In service of these reasons, the office was apparently purposefully overstaffed with unqualified political appointments (reportedly including dozens of wholly illiterate persons) so that a subsequent radical reduction in personnel became broadly accepted as a reasonable efficiency measure.

The effect of the reduction was perfectly understood by the technicians in the cadastral office who remained. Millions of dollars in tax revenue are forgone in Cali by the failure to update appraisals. Meanwhile, tax rates have been rising to make up needed income. Forensic uses for both criminal and civilian courts are stymied. Land-use planning is made unreliable and many opportunity costs are incurred by city services. Any obligation on the part of the government to affirm and enforce property rights can be aimed politically and preferentially in favor of the supporters of the regime. Cali, far more than Bogotá or Medellín, is a metropolitan area, not guided by the rule of law, where the negative *isms* of a failing society are more prevalent. In the confusion and violence of cronyism, paternalism, and bullying populism, drug mafias are more likely to thrive and guerrillas to find safe harbor. Thug leaders, who have arrogated power and gained impunity in Cali's slums for bomb-making or kidnap victim storage,

are able to reach out into other neighborhoods of the city. As it stands now, Cali is unlikely to find a successful outcome to a major outbreak of urban violence such as that which occurred in Medellín. Cali's property values are on the decline and its general prospects for economic health are declining commensurately. Those seeking an answer to what appears to be a vicious economic down-spiral might claim a failure of social services, but they would be mistaken. They need look no further than the city's cadastral office. The government in that city decided emphatically to not be equitable in observing the rights of Cali's citizens in their residences and businesses. In the most favorable light, they pressed for greater redistribution of "social property." The result has been support to political elements most able to win a game of possession by force, aiding those elements by allowing anonymity and impunity. It is a perfect formula for strategic reduction of the value of property, and thereby, the value of rights.

Not everything is going badly in Cali in terms of property, and the place is by no means beyond hope of peaceful return to a path of broad economic prosperity. The real property registry (as opposed to the cadastral office) is in pretty good shape from what the researchers could tell. Researchers visited the Registry of Public Instruments in Cali, and unlike the cadastral office, the registry appeared efficient and disciplined. The Cali registry is the axis of a registry circle that includes Cali and its surrounding counties (the *municipios* of Cali, Jamundí, La Cumbre, Jumbo, Restrepo, Vijes and Dagua). The registry employs 91 individuals and maintains more than 700,000 files. Eighty percent of the information managed by the registry is digitally systematized. Registry personnel expressed complete willingness to share data with the cadastral office and knew of no practical or legal reason that the files could not be shared. The separation seems to be a purposeful one, guided by the knowledge that persons with any

substantial real property want to preserve their legal claim, and so are willing to maintain the registry, but do not want the information to be used for any public purpose that would expose their ownership in any way--which would be the case if the cadastre were functional.

Another important, overlooked practical aspect of the world of Colombian real property is the nascent community of professional real estate agents and appraisers. There are 22 professionalized real estate boards in major urban areas called *Lonjas de Bienes Raizes*. The government does not regulate them, and, in fact, there are few, if any, professional standards or statutes that specifically regulate the behavior of real estate agents or agencies. Appraisers, at least, are required by the government to pass an exam and meet some specifications in order to produce certifiable appraisals, and from the core of licensed appraisers a private association of real estate professionals was born. The *Lonjas*, through the national association, produce their own standards for membership and behavior based on international practice and norms of the legal profession.

Like local appraisers and experienced real estate agents in the United States, members of the *Lonjas*, and their community of qualified appraisers, have unique, extensive, direct knowledge of the real estate market. Most of that knowledge is related to the urban landscape, since few rural parcels are sold through agents. Nevertheless, *Lonjas* agents are often aware early of changes in the rural real estate markets in their cities, including pace of activity, normal price levels and market anomalies. Few groups of people in Colombia are more aware of events that bear on the value of land, including social conflict. As Medellín has suffered urban warfare, members of the *Lonjas* have been acutely aware, in detail, of the abandonment of homes,

collapse of market values block –to-block, and, of course, indications of recovery. Although the real estate people are less aware of changes in rural land markets, the national *Lonja* has of its own initiative begun projects to index price levels in various parts of the country, and is interested in expanding formal commercial activity into the rural areas. *Lonja* leaders would be enthusiastic participants in a project to establish a comprehensive index of values because such a database would be immensely helpful to their industry. It would also be immensely helpful to anyone interested in following the course of money laundering, extortion, displacements, and violent organized criminal behavior. The single most powerful tool that could aid the progress of the real estate sales and appraisal industries in Colombia is GIS property mapping.

The above description of property records in Colombia paints a mixed condition of the general property regime across the country. Records are excellent in some offices, a disaster in others. Our research was not so complete that we could express a correlation between local conditions of property records and the local incidence of violence with any degree of accuracy. Nevertheless, the anecdotal evidence is impressive, the logic compelling, and it is hard to imagine that combat over urban or rural territory would have unfolded as it did had ownership rights been clearly recorded, transparent, and protected early in the evolution of predatory behavior on the part of the illegal armed groups.

Obviously, the whole array of Colombia's ills cannot all be explained as a failure to develop a civilizing property regime, but the assertions made at the outset are reinforced and amplified by reference to almost every facet of disorder and violence there. One of those assertions extolled the power of property information for its forensic value. Looking at a

Colombian trademark vice, the cocaine industry, one can see how real property records can quickly become “actionable intelligence.”

“Next to extradition, if there is something that the big drug traffickers fear it is the confiscation of their properties. More than fumigation of illicit crops, which can be replanted; destruction of drug labs, which can be rebuilt; or capture of shipments while others make up the difference, what hits the drugtrafficker hardest at is that the product of his ill gotten gains pass into the hands of the state.”²⁴

The above paragraph begins a recent editorial in El Tiempo, Bogotá’s leading newspaper regarding a sea change in progress that occurred in just the past year or so. According to the article, between 1996 and 2000 only fourteen successful forfeitures of property against major drug dealers occurred, while in 2002 and 2003 one hundred eighteen were completed, moving almost 2,800 real estate locations into government hands. Just two years ago the forfeiture law in Colombia was all but toothless and in doubt, but suddenly the war against drug dealing in Colombia seems to have improved on an immensely effective weapon. Asset forfeitures, which obviously depend on ownership data, quickly come to mind as a law enforcement advantage of a modern property system, but there are other forensic applications. In Colombia, the possibilities are mixed, and reflect the varied and incomplete nature of the property regime in that country.

In Colombia the terrain calculus is immensely intricate and local, each hectare presenting its own mix of military and economic value. Reconciling the two (what we might call the

maneuver view of terrain and the economic view) for the purpose of shaping strategy is crucial. Fortunately, the government of Colombia, with US assistance, can produce a comprehensive, detailed database of Colombian land use and ownership. In order to understand the specific utility of such a map, especially for the formation of military strategy, some foundational assertions are offered regarding what it is that makes one piece of land more valuable than another.

A suburban American real estate broker might quip that there are three factors contributing to the square-meter value of a piece of property – location, location and location.²⁵ Of course location is immensely important to the value of Colombian rural land as well, even more so if we allow the definition to include aspects of productivity such as climate, soil and rainfall. However, and this is the part that is too often overlooked, the single most important determinant of the value of real property is not its location, but the mix of theoretical rights associated with the land, along with the practical effect those rights are given through government enforcement. This is not an abstract comment on political philosophy. The market price of a piece of land is closely related to the basket of rights attendant to it. If we want to sell Granddad's farm in American suburbia, we will get less for it if there is an easement for a power line across it, or if there is a zoning ordinance disallowing commercial construction, etc. The farm's longitude and latitude are important, but not as important as the mix of rights associated with it. That is because property is not a thing, it is not dirt in a place. 'Property' is the set of rights that regulates relations of persons with places. Just listing and formalizing the understanding of those rights, however, is not enough to give them their entire value. If the police cannot or will not prevent the use of an empty lot as a place where drug dealers convene,

the market value of the houses nearby may plummet. If potential buyers of a Colombian farm cannot travel the road to the farm without the likelihood of being assaulted or kidnapped, the farm's market value will be almost nil. In almost every Colombian locale that deals in some way with the extraction, cultivation, processing or transport of a natural resource (and by no means just coca and oil) armed criminality has a direct effect on the value of real estate, the quantity of confidence, of positive aspiration, and of positive social ethic. To be sure, these values, save positive social ethic, are actually increased, often dramatically, for some enterprises and persons favored by the illicit exploitation. However, insecurity and violence reduces market value for most landowners, and good times are short-lived in areas where organized armed criminals fight for advantage. Organized criminality weighs constantly on the quality and enjoyment of citizens' rights. It is especially visible in the value of property rights. In line with the thesis of this book, the influence is two sided: Illegal behavior, especially as it concerns real property in Colombia, continues to undermine market value. Conversely and concurrently, failure of the society to formalize property has permitted and encouraged that illegal behavior.

The value of land speaks volumes about the degree to which rights are established, recorded and enforced. The market for property describes in detail what an internal war does to the essential contract between government and the population.²⁷ That contract is supposed to be one in which the government creates the possibility of property. In other words, when the contract is in practical effect, people can obtain a set of preferential rights, enforceable by the government, and associated with a specific place. When the contract is not functioning, property is reduced by degree to the base state of possession by force.

The above philosophical drift can be taken as irrelevant and unresponsive to a situation in which the immediacy and deadliness of violence makes reflection on the benefits of civilization seem a luxurious impertinence. But in the case of formalized property there are specific, immediate contributions to what is fashionably called actionable intelligence. In the case of Colombia the “actions” may include the forfeiture of the property of outlaw leaders, linking relationships and affinities in order to expose the “order of battle” of illegal organizations, or even to anticipate whereabouts so that arrest or destruction can be effected. How this can be done -- where information is made available on a precise, comprehensive basis -- is suggested by the results of the experiment described by the series of images below. The same kind of linking sequence, if played out at the regional or national scale, would be able to expose criminal affinities, the real property wealth of known organized criminal organizations, geographic strategies of outlaw organizations, aberrations in market prices that often indicate money laundering or extortions. It would also aid in prioritizing illicit crop eradication, and in identifying optimal targets for police questioning. These are not speculative uses, either. Cadastral data is already a staple source of forensic information in jurisdictions in the United States where property is already formalized and information is readily available.

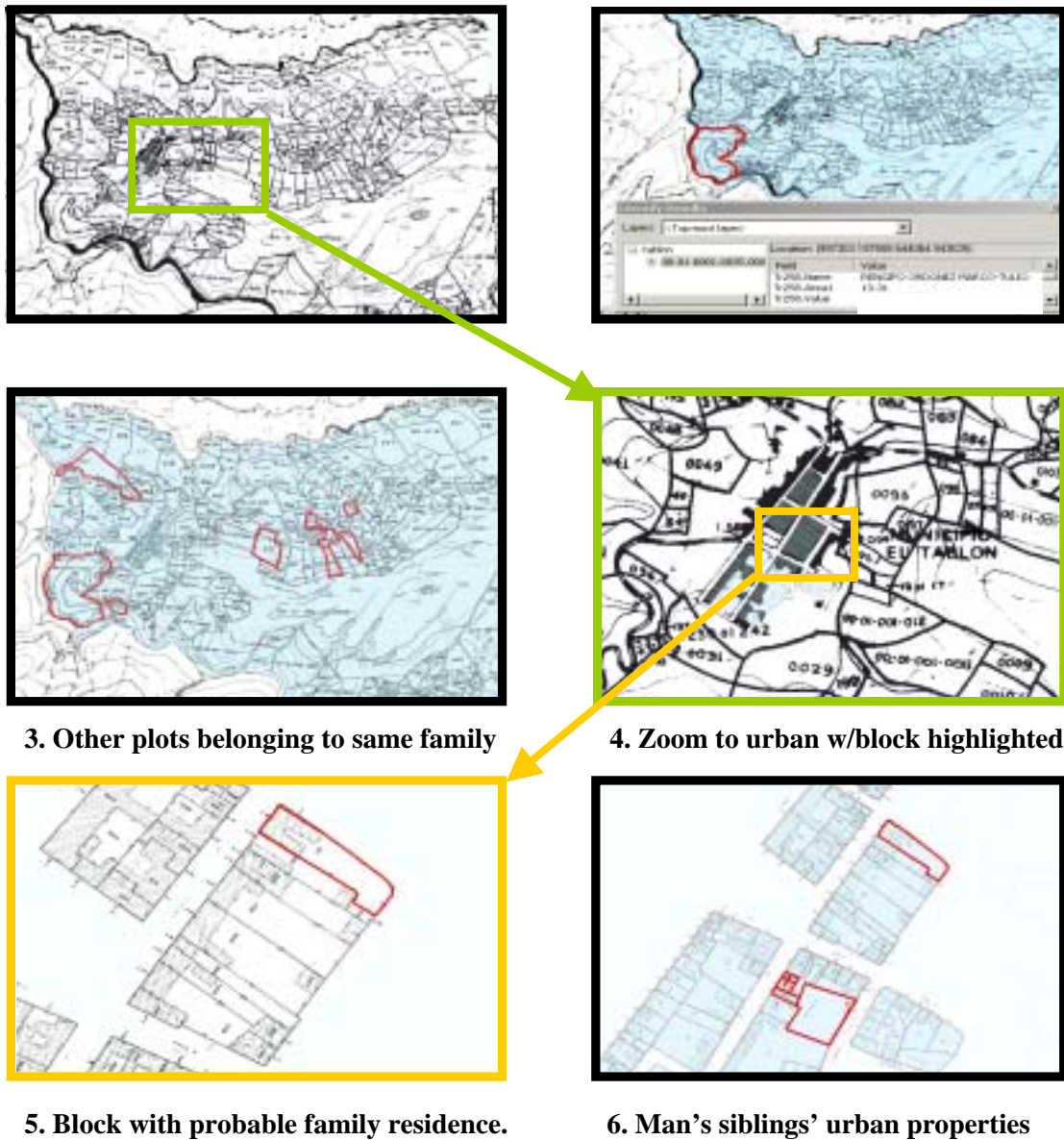


Figure 6. One Man's Property in Tablón, Nariño

The series of images below shows a typical forensic process that can be applied to GIS cadastral data. The images were created at FMSO using GIS software and actual cadastral information purchased in Nariño Department, Colombia. Shown is the property owned by one family (not suspected of any crime, by the way). From left to right, top to bottom: 1. the 1:10,000 cadastral map; 2. the same map matched to ownership data with one owner-plot identified; 3. other properties owned in the locale by the same man; 4. a magnification of the county seat; 5. the same man's urban residence; and 6. urban properties owned by a few siblings. This process could be applied to the entire country.

In Colombia as elsewhere, the issue of human rights protection quickly surfaces as a central issue and measure of performance. While it may seem at first a curious connection to

propose, the development of GIS cadastral maps (along with the records that generate them) constitutes a singularly important opportunity for the long term protection of human rights and avoidance of human rights abuses.

"In every civilized society property rights must be carefully safeguarded; ordinarily and in the great majority of cases, human rights and property rights are fundamentally and in the long run, identical; but when it clearly appears that there is a real conflict between them, human rights must have the upper hand; for property belongs to man and not man to property."

Theodore Roosevelt

The subject of human rights is omnipresent in international matters. In one form or another, United States foreign policy has always been conducted in light of or in spite of a hefty measure of human rights concern. Specific use of the term "human rights," and integration of the term into policy, has been a more recent phenomenon. "Property" rights have not seen such a fashion, but the link between individual liberties and property rights is already scarred into the American cultural experience. Nothing more clearly proves the point than the agonizing debate of man as chattel that led to the American Civil War. Few understood better than Abraham Lincoln the continuous weave of property and human rights. Lincoln himself equivocated over interpretation of the constitution's respect for private property and the "peculiar institution" that allowed treatment as property of beings supposedly endowed by the creator with the right to liberty.²⁷

It is safe to say that to one degree or another human rights performance has always figured as an element of the United States' relationships with other lands. Violations of human rights most decried by our government, or by private citizens working through non-governmental organizations, include lack of habeas corpus, torture, organized rape, extrajudicial execution, forced exile, disenfranchisement, and genocide. Less heinous, but more typically practiced abuses abound, and these can be usefully described in property terms. An exclusionary government might exercise property ownership in disregard of what should be the ownership rights of populations within its geographic reach. A government can represent the ownership arrogance of the majority of citizens against a minority population or against another nation. In other cases the government is unable or unwilling to enforce the property rights of citizens that do identify with the government. Failure to acknowledge relationships between human rights and property ownership can mistakenly force human rights into a category apart from standard policy. Not all violations of human rights are as morally gripping as governmentally-sponsored mass rape or the organized disappearance of dissidents, but if, in all the lands where the United States regularly cites grave human rights inadequacies, one were to ask simple questions about landlord-tenant laws, title registry systems, zoning ordinances, mining stakes, paving contracts, street gang territories, paternity laws, or water courts, two judgments would be reached: First, that powerful linkages exist between violent abuses of human rights and contested property rights. Second, that U.S. intelligence collectors, analysts, and policy makers are often indifferent to details of the ownership environment. Today, in part because of the expanded application of GIS software applications, ownership data can be made understandable on a strategic scale. Moreover, because the property data (and here it bears noting that property data is an evidentiary

record of rights and duties) is digitized and electronically published, it is much more difficult to corrupt or to effect fraud.

"It should be remembered that the foundation of the social contract is property; and its first condition, that everyone should be maintained in the peaceful possession of what belongs to him."

Jean Jaques Rousseau from A Discourse on Political Economy

In Colombia, the development of property would help in the short run with the most palpable goals of law enforcement – to kill or capture criminals, take their ill-gotten wealth, repress the growth of their power. In the long run, however, development of the property regime can redress and eliminate much of what has, at least in the past, been valid in rebel arguments, and it can close space to the free action of would-be terrorists. With better property, Colombia will be a more prosperous trading partner, a more stable and stronger military ally, will suffer fewer violations of human rights, and may even export lesser quantities of illicit drugs. Furthermore, if Colombia's property regime is not improved, the likelihood of achieving long term internal peace is all but nil. There is no other democratic option. Formalized property goes hand and hand with democratic social peace. And, yes, the example presented by Colombia can and should be extended to other cultures and polities.

By way of summary, the following list of assertions is offered.

1. To enjoy domestic peace, a democratic society must know in detail *who* owns the land and how much it is worth -- not simply what is on it.

2. In places where property has not been formalized, most other developmental efforts will be a waste of time and money.

3. Human rights prosecutions are often a chase after the ultimate symptom of a society's failure to create and respect formal property.

4. A leader who deals with issues of peace and violence (or of economic development and social justice) should demand to know who owns what.

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Appendixes: None

End Notes:

1. Alfred Tennyson, Alfred Tennyson Selected Poetry: Edited, with an Introduction by Douglas Smith (New York: Random House, 1951), p. 307.

2. On April 11, 1994, President Clinton signed Executive Order 12906 creating the National Spatial Data Infrastructure (NSDI), which advanced the nation's capacity to develop, use, share and disseminate geospatial data.

3. "GSDI is a global and open process for coordinating the organization, management and use of geospatial data and related activities." See generally, <http://www.fgdc.gov/index.html>

4. Gladys Pulido Reyes, editor, ICDE: Infraestructura Colombiana de Datos Espaciales (Bogota: INGEOMINAS, 2001).

5. At a 2002 GSDI conference in Cartagena, Colombia, the Pan American Institute of Geography and History (PAIGH), based in Mexico City and a statute body under the Organization of American States, was asked by Colombia to seek full hemispheric participation toward GIS compatibility.

6. Hernando de Soto, The Mystery of Capital: Why Capitalism Triumphs in the West and Fails Everywhere Else, (New York, Perseus Books Group, 2000).

7. Hernando de Soto, The Other Path: The Invisible Revolution in the Third World, (New York, Harper & Row, 1989).

8. See, for instance, Tom Bethel, The Noblest Triumph: Property and Prosperity through the Ages, New York: St. Martin's Press, 1998; Geoffrey Demarest, Geoproperty: Foreign Affairs, National Security and Property Rights. London: Frank Cass, 1998; Andro Linklater, Measuring America, New York: Walker Publishing Company, 2002; Richard Pipes, Property and Freedom, New York: Vintage Books, 2000; Powelson, John P., The Story of Land: A World History of Land Tenure and Agrarian Reform, Cambridge, Massachusetts: Lincoln Institute of Land Policy, 1988.

9. In the Americas, a United States Agency for International Development (USAID) initiative stemming from the Summit of the Americas Inter-Summit Property Systems Initiative (IPSI), calls for the governments of the Americas to incorporate alternative dispute resolution mechanisms into their plans. It is understood that successful local judicial and non-judicial resolution of property conflicts is dependent on reliable, open information regarding ownership. Assuring the fidelity and permanence of public records is an obvious start point for building systems for quieting title. See, Summit of the Americas Information Network, "Land Registration," <<http://www.summit-americas.org/propreg.htm>>.

10. See, Clark County Planning Zoning Surveying and Land Information, "Clark County Geographic Information Server," <<http://www.co.clark.wi.us/Website/ClarkIMS/viewer.htm>>.

11. See, USGS, International Program at the EROS data center, <<http://edcintl.cr.usgs.gov/stcplaactivities.html>>

12. USGS, "Dominica Banana Marketing Corporation" <<http://www.dbmc-dm.com/maps.html>>.

13. USGS EROS Data Center, "Highlighting Peruvian Coffee: A Closer Look at a Quality Product," www.perucoffee.com.

14. On the history of agricultural and extractive products as a factor in Colombian see, for instance, Frank Safford & Marco Palacios, Colombia: Fragmented Land, Divided Society (New York: Oxford University Press, 2002); See also, generally, Indalecio Lievano Aguirre, Los Grandes Conflictos Sociales y Economicos de Nuestra Historia (Bogotá: Círculo de Lectores, 2002).

15. This theme of conflict over cash products and their geography is not at odds with another common thread in the literature of Colombian conflict -- the struggle for control of labor. Colombian labor sources, whether indigenous populations, imported slaves or otherwise, have been variously courted and abused for the purposes of exploiting product or controlling terrain. Thus the two themes are interwoven and complementary. The political assumptions and preferences of Colombian authors seem often to correlate with one theme or the other. Those Colombian authors focusing on human exploitation tend to favor socialist solutions. See, for instance, María Clemencia Ramírez, Entre el estado y la guerrilla: identidad y ciudadanía en el movimiento de los campesinos del Putumayo, (Between the state and the guerrilla: identity and citizenship in the campesino movement in Putumayo) (Bogotá: Instituto Colombiano de Antropología e Historia, 2002); Orlando Fals Borda, Historia de la cuestión agraria en Colombia (Bogotá: Carlos Valencia Editores, 1982); Margarita González, El Resguardo en el Nuevo Reino de Granada (Bogotá: El Áncora Editores, 1992).

16. The author does not cite illicit drug profits as the characteristic distinguishing the current struggle from those of Colombia's past, although this is clearly important to the scale of the problem. Rather, the key difference between today's civil conflict and its predecessors is the imported nature of the ideological base of the rebel (FARC and ELN) projects. The ostensible argument of the guerrillas is not rooted in the traditional Colombian federalist – anti-federalist debate, but rather in class struggle. It may be that the un-Colombian nature of the argument is part of the reason that the guerrilla has seemed to loose ideological compass. Interestingly, there is a new and growing body of political literature in Colombia that emphasizes regional and territorial issues, advocating the reshuffling of administrative political units of the state. Even those writings inspired by socialism seem less taken by class-consciousness than by the traditional Colombian centrifugal quarrel. See, for instance, 'Conflicto, Autonomía Regional y Socialismo Ecológico,' (Conflict, Regional Autonomy and Ecological Socialism) or 'Descentralizar para Pacificar' (Decentralize to Pacify) in Agenda Ciudadana, Las claves territoriales de la guerra y la paz, desarrollo regional, participación ciudadana y agenda de paz (The territorial clues to the war and peace, regional development, citizen participation and the peace agenda) (Bogotá: Agenda Ciudadana y Cátedra para la Paz, 2000); Jaime Castro, La Cuestión Territorial (Bogotá, Oveja Negra, 2002); and Orlando Fals Borda, Kaziyadu: Registro del Reciente Despertar Territorial en Colombia (Kaziyadu: Record of the recent territorial awakening in Colombia) (Bogotá: Ediciones desde abajo, 2001); Alejo Vargas, "La guerra por el control territorial," (The war for territorial control) El Espectador, 17 Nov, 1998, p. 4A;

“Guerrilla exigirá derecho a gobernar territorios” (The guerrillas will demand right to govern territories) El Espectador, 16 Nov, 1998, p. 6A.

17. FARC-EP is the acronym for the Fuerzas Armadas Revolucionarias de Colombia - Ejército del Pueblo (Revolutionary Armed Forces of Colombia - People’s Army), ELN is the acronym for the Ejército Nacional de Liberación (National Liberation Army). Roots of these two communist guerrilla groups reach back to at least the early 1960's. See, on the history of the Colombian guerrillas, Michael Radu, Violence and the Latin American Revolutionaries (New Brunswick, 1988); Russell W. Ramsey, Guerrilleros y Soldados, Segunda Edición (Bogotá: Tercer Mundo Editores, 2000); Cordillera Editores, Historia de las Fuerzas Militares de Colombia: Ejército, Tomo III (Bogotá: Planeta Colombiana, 1993) pp.124-141; Eduardo Pizarro Leongómez, Las FARC: 1949-1966 (Bogotá: Tercer Mundo, 1992); Carlos Medina Gallego, ELN: Una historia de los orígenes (Bogotá: Rodríguez Quito, 2001); AUC is the acronym for the Autodefensas Unidas de Colombia (United Self Defense Forces of Colombia), another illegal, armed irregular force popularly described as ‘paramilitary’ and as ‘right wing,’ although it has made few ideological statements beyond opposition to the communist guerrillas. For more on this organization, see David Spencer, Colombia’s Paramilitaries: Criminals or Political Force? (Carlisle, PA: Strategic Studies Institute, U.S. Army War College, 2001); Mauricio Aranguren Molina, Mi Confesión: Carlos Castaño revela sus secretos (Bogotá: Editorial Oveja Negra, 2001); ‘Place’ as used here alludes to a body of theory in the study of geography, a centerpiece of which is called ‘central place theory,’ that considers competitive weeding-out and survival of businesses. Associated normally with urban economics and geography, place theory has obvious application in Colombia. See in this regard, <<http://geography.about.com/cs/centralplace/>>

18. For a brief description of Colombia’s current ‘contending forces,’ their methods and goals, see generally Max G. Manwaring, Nonstate Actors in Colombia: Threat and Response (Carlisle, PA: Strategic Studies Institute, US Army War College, 2002).

19. Thanks and apologies to Professor Mauricio Rengifo Gardeazábal of the University of Los Andes. Much of the material on the history of the Colombian property regime is adopted and translated from his Los Derechos de Propiedad en Colombia: Una Interpretación Comprensiva (Property Rights in Colombia: A Comprehensive Interpretation). Bogotá: Ediciones Uniandes, 2003.

20. For brief definitions of various historic real estate terms see, Jaime Sierra García, Diccionario Jurídico, (Bogotá: Librería Jurídica Sanchez R. Ltda., 2001).

21. Angela Tejada de Walter and Soraya Peralta Bidó, Mercados de Tierras Rurales en la República Dominicana (Santiago de Chile, United Nations Economic Commission for Latin America and the Caribbean, 2000) p. 1 (translation by the author) online at

<<http://www.eclac.cl/publicaciones/DesarrolloProductivo/3/lcl1363/LCL1363P.pdf>>; This definition is offered as the standard throughout Latin America and among development organizations.

22. The tax rates vary as a percentage of market value and no general figure for the relationship between the appraised value and market value would be broadly accurate. According to many familiar with the system of appraisals and the market for real property, an appraisal of around fifty percent of market value would be typical.

23. Real property registrars are named to all of the departmental capitals and to a number of other cities. Registrars to the departmental capitals are named directly by the President of the Republic. Registrars are subordinate administratively to the Superintendency of Notaries and Registries (*Superintendencia de Notarios y Registros*) and those registrars named to non-departmental capitals are generally named by the Superintendent, who is in turn appointed by the President. The Superintendency is subordinate to the Ministry of Law and Justice (*Ministerio de Justicia y Derecho*). The registrars direct the registry offices, known as Offices of the Registry of Public Instruments (*Oficinas de Registro de Instrumentos Públicos*), which are organized into what are called Registry Circles (*Círculos Registrales*) and into which may fall several to many counties (*municipios*). That is to say, only about one in ten counties has a registry office.

24. El Tiempo, “Las incautaciones de propiedades son golpes que duelen a los narcotraficantes.” (Forfeiture of properties are blows that hurt drug traffickers) El Tiempo, online April 20, 2004 at < http://eltiempo.terra.com.co/opinion/reda/2004-04-20/ARTICULO-WEB-_NOTA_INTERIOR-1588716.html> translated by the author.

25. On the nature of property ownership see generally, Wesley Newcomb Hohfeld, Fundamental Legal Conceptions as Applied to Judicial Reasoning (New Haven: Yale University Press, 1919) reissued 1964; Reinold Noyes, The Institution of Property (New York: Longmans, Green and Co., 1936).

26. See, for instance, Jesus Antonio Bejarano Avila (Director of Research), Colombia: Inseguridad, violencia y desempeño económico en las áreas rurales, (Bogotá: Universidad Externado de Colombia 1997) p. 225. This work includes extensive presentation of the relationship between violence and rural land use and markets in Colombia (Spanish).

27. See Noah Brooks, Abraham Lincoln and the Downfall of American Slavery (New York: G.P. Putnam's Sons, 1898). "Not at once did he throw in his fortunes with those who were to be the leaders of the new Free Soil party. He always moved slowly and with deliberation that deceived many and annoyed not a few. They thought him too slow, over-cautious, even waiting to see which was to be the winning side.. . . But the time came when he took his final stand and

declared that he must thenceforth be the champion of freedom against slavery..." Ibid., 152; See also Robert W. Johannsen, Lincoln, the South, and Slavery: The Political Dimension (Baton Rouge, Louisiana: Louisiana State University Press, 1991).

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