Report No. 27942-CO

Colombia
Land Policy in Transition

January 29, 2004

Rural Development Unit
Latin America Region

Document of the World Bank

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Colombia Land Policy in Transition

Vice President	:	David de Ferranti
Country Manager/Director	:	Isabel Guerrero
Sector Director	:	John Redwood
Sector Manager	:	Mark Cackler
Sector Leader	:	John Kellenberg
Task Managers/Task Team Leaders	:	Klaus Deininger and Isabel Lavadenz

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Acronyms and Abbreviations

CAR	*Corporación Autonoma Regional*
CEDE	*Centro de Estudios sobre Desarrollo Económico, Facultad de Economía, Universidad de Los Andes*
CIAT	*Centro Internacional de Agricultura Tropical*
CMDR	*Consejo Municipal de Desarrollo Rural*
CODHES	Bureau on Human Rights and Displacement, *Consultoría para los Derechos Humanos y el Desplazamiento*
DNP	Department of National Planning, *Departamento Nacional de Planeación*
DRI	*Desarrollo Rural Integral*
EOTs	*Esquemas de Ordenamiento Territorial*
FAO	Food and Agriculture Organization
GIS	Geographic Information System
ICR	*Incentivo a la Capitalización Rural*
IGAC	*Instituto Geográfico Augustin Codazzi*
IDP	Internally displaced population
IICA	*Instituto Interamericano de Cooperación Agricola*
INAT	*Instituto Nacional de Adecuación de Tierras*
INCODER	*Instituto Colombiano de Desarrollo Rural*
INCORA	National Colombian Institute of Agrarian Reform, *Instituto Nacional Colombiano de la Reforma Agraria*
INPA	*Instituto Nacional de Pesca y Agricultura*
MAGDR	*Ministeria de Agricultura, Ganadería, y Desarrollo Rural*
NGO	Nongovernmental organization
PBOTs	*Planes Básicos de Ordenamiento Territorial*
PDMs	*Planes de Desarrollo Municipal*, Municipal Development Plan
PECVE	*Primera Encuesta de Calidad de Vida y Eficiencia de los Productores Agropecuarios*
POTs	*Planes de Ordenamiento Territorial*
RA	*Reforma Agraria*
RSS	*Red de Seguridad Social*
RUT	Colombian Bishops Conference's Information System on Displaced Population
SAT	*Sistema de Alertas Tempranas*, Early Warning System
SECVE	*Segunda Encuesta de Calidad de Vida y Eficiencia de los Productores Agropecuarios*
SISBEN	*Sistema de Selección de Beneficiarios para Programas Sociales*, Selection System of Beneficiaries for Social Programs
SUR	*Sistema Unico de Registro*
TA	Technical assistance
UAF	*Unidad Agricola Familiar*
UMATA	*Unidad Municipal de Asistencia Técnica Agropecuaria*
UN	United Nations
UNDP	United Nations Development Program
UPA	*Unidad de Produción Agraria*

Acknowledgements

This report was prepared by a joint Bank Government of Colombia Team led by Klaus Deininger and Isabel Lavadenz (co-TTLs World Bank), Natalia Gomez (Rural Development Specialist, Colombia Office), Juan Lucas Restreppo (Vice Minister, MAGDR), and Jose Luis Gomez (Director, DNP). It builds on background studies and data work by C. Arismendy, R. Castagnini, M. Gonzalez, D. Grusczynski , L.C. Hillon, A. Ibanez, N. Offstein, P. Querubin, J. Riano, M. Rojas, R. Suarez, K. Vinha, and J.G. Zapata. D. Stamm edited the report and O. Taft and G. Boyer provided expert administrative assistance. The analysis on displacement would not have been feasible without the support from the Conferencia Episcopal Colombiana providing access to their database on the displaced population which is gratefully acknowledged.

Peer reviewers are Carlos Felipe Jaramillo (Lead Economist LCC2C), Markus Kostner (Lead Economist MNCA4) and Gustavo Gordillo de Anda (Assistant Director General, FAO Regional Office for Latin America and the Caribbean, Chile). The team would like to particularly thank USAID for financial support to the background work on the displaced population as well as data analysis, in addition to very substantive contributions and continuing support of the study by J. Sanjak from USAID Washington as well as the Colombia country office, in particular P. Davis, and R. El Hamzaoui.

COLOMBIA: LAND POLICY IN TRANSITION

Executive Summary

Unequal land distribution and the negative social and economic implications resulting from such polarization in Colombia have long been of concern to policymakers. A 1950 World Bank mission identified unequal land distribution as a key impediment to economic and social development in the country (Currie 1950). Since then, a wide range of policies has been adopted to deal with this issue and its consequences. Numerous studies show that the success of these policies was often limited by a combination of an inappropriate policy environment, limited financial resources, cumbersome processes loaded with bureaucratic obstacles, drug money, and violence.

This report uses new empirical evidence to describe the dimensions and impact of the problem of land access and land distribution and past policies to deal with this issue, and to identify possible avenues to address land issues in an integrated manner in future interventions. It complements contemporaneous studies by the Bank on rural finance and agricultural competitiveness,[1] and past and ongoing work on Afro-Colombian land issues in the Pacific Coast (Sanchez and Roldan 2002) and improved land access for the indigenous population.

The Role of Land in Confronting the Challenges of Transition in Colombia's Rural Sector

To implement the vision of fostering economic development, social equity, and a transparent and efficient state (Government of Colombia 2002) in rural areas, three key transitions will need to be accomplished. They are transitions (a) from a production structure based on crops in which the country does not have a comparative advantage to one that focuses on products with high value added that makes better use of the country's rich natural resources and human endowments; (b) from a rural economy dominated by agriculture to a diverse and multifunctional rural space that provides the population with livelihood opportunities and services; and (c) from war, civil conflict, social polarization, and the associated climate of fear and insecurity to a peaceful society where economic opportunities are distributed in a more equitable fashion, and the poor can share in broader growth.

Issues of land tenure and broad-based land access have a critical role to play in all of these areas.

- To reorient the structure of agricultural production toward products with higher levels of value added, significant private and public investments will be required. Private investments will be contingent on the security of land tenure. The scope for public investment can be enhanced by having in place mechanisms, including land taxes, to provide predictable and sufficient revenues for local governments, to encourage more efficient land use and to discourage speculative accumulation of land for nonproductive purposes.
- The ability to make investments in the rural non-farm economy will be greatly enhanced if households are able to use land as collateral to obtain credit from formal sources rather than being dependent on costly informal sources. Also, the ability to transfer land out to other users greatly reduces the cost of engaging in off-farm employment, and is likely to constitute a critical precondition for the emergence of a vibrant off-farm sector.

[1] Colombia Rural Finance: Access Issues, Challenges and Opportunities," World Bank Report No. 27269-CO, November 2003; and "Colombia: Agricultural and Rural Competitiveness, World Bank Report, 2004.

- The economic potential that is currently locked up in underutilized land needs to be unleashed in a way that improves access to economic opportunities and allows the country to overcome the high levels of inequality that have caused social polarization and violence, made it difficult to establish representative and democratic institutions, and make it more difficult to achieve poverty-reducing growth.

Experience with land policy reform in other countries illustrates that, although doing so will require a longer-term strategy, dealing with these land policy issues is feasible (Deininger 2003b). It can improve not only the well being of the rural population, but also the contribution of the rural sector to overall growth, especially in a situation of high and very polarized land. Exploring how the lessons from such experience might be applicable to Colombia is one of the objectives of this report.

Extent and Consequences of Land Inequality in Colombia

Colombia's land inequality remains high by international standards. The far-reaching and harmful impacts of high levels of inequality—in incomes, assets, voice, and opportunities—in Latin America are well recognized. There is, however, some discussion whether, because of their failure to adjust for land quality, earlier estimates of land inequality in Colombia may have overestimated the extent of the phenomenon. Use of registry data at the plot level that allows proper adjustment suggests that land inequality in Colombia remains high, and that using land valuation (*value*) instead of physical area leads only to a slight decrease of the Gina coefficient to about 0.85. This is still very high by international standards (compared, to, say Korea with 0.35, or Japan with 0.38). To overcome the negative impact of such high levels of inequality which can undermine poor people's efforts to move out of poverty, reforms to make institutions more open, transparent, and participatory will be required (de Ferrate and others 2003).

High inequality goes hand in hand with widespread underutilization of land. Despite high levels of land inequality, recent estimates suggest that only 30 percent of the land suitable for agriculture is utilized for this purpose, though notably there is significant regional variation. At the same time, more than double the area that is suitable for pasture is used for livestock grazing, with negative consequences for the environment. The fact that until 1999 (the latest year for which figures are available), underutilization of cropland and overuse of pasture areas increased, further suggests that speculative land concentration continued, at least in some regions. Although markets provide access to poor and productive producers, they are not very effective in transferring land from large to small producers, implying that, at least in some regions, there is a continuing trend toward increased concentration, driven largely by violence and displacement.

Land inequality in Colombia has far-reaching consequences. Exploiting the variability in land tenure arrangements across municipalities allows us to demonstrate that land inequality is associated with undesirable outcomes in a number of respects, and that high levels of land inequality may be an important factor that contributes to a vicious cycle of low growth, violence, and even greater inequality.

- *Underutilization of productive land:* Data from about 800 *municipals* (municipalities) show that high land inequality is associated with greater expansion of livestock farming into ecologically fragile areas that are unsuitable for farming, and underutilization of land suitable for agriculture. This severely limits Colombia's ability to realize its comparative advantage in perennials and high-value-added crops, and reduces the direct and indirect contribution of the agricultural sector to the evolution of the rural non-farm economy.
- *Lower shares of investment by local governments:* We also find that higher land inequality is associated with a lower share of public funds being spent on investment, which is consistent with theories that establish a link between inequality and the scope for local institutions to restrict the ability of powerful elites to dominate institutions at the local level. The negative impact of land inequality on the share of investment is decreasing over time, although it is not clear whether this is due to more stringent central controls or greater effectiveness of local institutions.

- *Higher levels of violence:* Consistent with a growing literature arguing that where, due to high inequality households have little access to economic opportunities it will be easier for guerrillas, paramilitaries, or organized crime to find cheap recruits, we find that in highly unequal *municipals*, the level of violence, in a number of dimensions, is significantly higher than in more equal ones.

Land policy can make a contribution to breaking the vicious cycle of inequality and violence. To avoid having parts of the country trapped in an environment of inequality, underutilization of productive resources, poverty, and violence, a multipronged strategy will be needed. Under such a strategy, the government should (a) take direct measures to reduce violence and its consequences; (b) draw on markets to improve competitiveness and correct deep-rooted structural inequalities; and (c) take measures to either complement markets or make them function better in cases where there is scope for better utilization of highly underutilized land in a way that benefits small producers as a means to foster diversification and rural growth, something that is now increasingly recognized (UNDP 2003). In fact, Colombia's experiences with pilots of market-assisted land reform (Höllinger 1999) and projects aiming to put land reform within the context of broader entrepreneurial development (Rojas and Urbina 1999) provide important lessons to be drawn upon.

The Role of Land Policy in Dealing with Involuntary Displacement

Displacement has serious consequences for land policy. Colombia ranks alongside Angola, Sudan, Afghanistan, and Iraq as one of the countries with the highest number of internally displaced people in the world. Estimates by CODHES put the amount of land abandoned by internally displaced populations (IDPs) at about 4 million hectares, almost three times as much as was redistributed through government land reform efforts since 1961 (Global IDP Project 2003). Displacement has thus set in motion an agrarian counterreform of massive proportions, and is also likely to contribute to significant and unproductive concentration of land in some areas. Econometric evidence implies that higher land inequality is one of a number of factors (in addition to presence of mineral wealth, lower endowments with publicly provided infrastructure, and targeted acts of violence) that significantly increase the number of displaced people. This causes not only untold human suffering, but, because often the land abandoned by IDPs is not effectively utilized by those taking over, will significantly reduce productivity of land use.

Landowners are more likely to be involuntarily displaced and suffer more from it. The high share (60 percent) of displaced households that relied on land as a primary source of livelihood in their place of origin illustrates that landownership increases the probability of a household being involuntarily displaced, something confirmed by other studies. It suggests that the desire to establish territorial control is a key element in the war strategy of guerrillas and paramilitaries who use violence to "empty" territory by forcing the population to leave. Displaced people who previously made their living from agriculture suffer more and longer from the shock of having to leave their place of origin than those in other sectors because their agricultural skills are of little use in the urban or peri-urban areas to which they are driven. The negative impact of displacement on former landowners is confirmed by this group's significantly greater desire to return to their place of origin, and their much greater difficulty of finding employment once displaced.

Internal displacement has become more prevalent and serious. Comparison of households that were displaced during 1999/2000 and 2001/2002 points toward an increase in the number of displaced. Assistance to the displaced population, through government, church, nongovernmental organizations (NGOs), and others, now covers more than two-thirds of the sampled households, compared to less than half earlier. Displacement has become more reactive and more concentrated among vulnerable parts of the population. At the same time, the number of displaced has increased significantly, with a greater share leaving their homes in response to a specific threat. Together with a marked increase in the share of displaced households that were female headed or originally employed in the agricultural sector, and a clear reduction in the share of those who were able to find jobs at their destination, this suggests that the "severity" of displacement has increased and that economic motives play at best a minor role in displacement decisions.

Policies to prevent displacement are an urgent priority. Compared to an almost exclusive emphasis on providing assistance to those who have already been displaced, the government's policy now recognizes that measures to prevent displacement are equally needed. To be effective, they will need to

- *Address the structural factors underlying displacement:* Our analysis points toward three main factors that increase the level of displacement: (a) land inequality, (b) low public spending, and (c) insecurity and targeted acts of violence. The government has made commendable progress in addressing the issue of security, (such as through the *Sistema de Alertas Tempranas* [Early Warning System]), which should be further expanded. At the same time, to deal with displacement in the longer term, it will be necessary to have mechanisms addressing these three factors equally.
- *Strengthen the local population's ability to resist:* Government policy recognizes that mechanisms to strengthen household tenure security in a participatory way can be effective at reducing the probability of being displaced or, if this is not possible, at least improving the chances of return or the ability to later dispose of their assets rather than just losing them. Implementation has, however, been limited to pilot activities that have not been systematically evaluated. Doing so and subsequently providing financial support for more widespread implementation will be critical, particularly in view of the fact that the decree seems to have had some effect on desire to return.

Assistance to the displaced population has a positive impact. Even though the share of households that want to return under current conditions is low (11 percent), those that want to return share specific characteristics that would allow better targeting of assistance.

- *Assistance increases the propensity to return:* Contrary to what some might fear, assistance to displaced people will not cause economically motivated "displacement" to surge. To the contrary, receipt of prompt assistance increases households' propensity to return. Mechanisms to ensure that such assistance is provided quickly and effectively, such as a fund that would partly compensate *municipios* that effectively deal with large inflows of displaced, can provide significant benefits.
- *Integration of those who are unlikely to return:* Some segments of the population, such as households headed by widows, are unlikely to return under any circumstances. It may be better to recognize that fact and help them integrate into labor markets at their destination, while at the same time providing them legal assistance to facilitate the transfer of their assets to others.
- *Facilitate return where desired:* Other groups, especially those that owned land or were in agriculture, will have a high propensity to return. Improving physical security to allow voluntary and group-based return, together with assistance to maintain agricultural skills and property rights and to start up production, can help them do so.

Utilizing Land Markets to Facilitate Productivity-Enhancing Land Transfers to Small Producers

Land markets have helped to provide land access to the poor and more productive. Studies show that, before adjustment in the early 1990s, land markets were driven by speculative land acquisition that reduced productivity and the ability of the poor to gain access to land. Our results show that this is no longer the case, and that both rental and sales facilitate access to land by smaller and often more productive producers. However, such greater land access may not translate into a decrease in the overall land concentration for three reasons. First, land market transactions rarely shift land from large to small farmers, but mostly occur within the same size class. Second, given the different sizes involved, one purchase by a large farmer can affect overall land concentration more than a large number of transactions involving small farmers. Finally, displacement and the associated abandonment of land that is subsequently often incorporated into larger units create a dynamic of land accumulation that can easily outweigh the impact of market-mediated deconcentration of landownership or access. Key results from our analysis are the following:

- *Land rental markets:* Rental markets helped to increase productivity and equity, providing an opportunity for small but productive producers to gain access to land and improve their welfare, even after rent payments are accounted for. The potential productivity impact of land rental is limited by (a) the predominance of short-term (annual) contracts which encourage neither investment nor diversification of the production structure; (b) the limited incidence of transfers from large-scale to small or landless producers; and (c) high transaction costs (partly because of restrictions) which imply that large productivity differences continue to persist. This implies that, even though progress has been made, barriers to the operation of rental markets continue to persist and efforts to eliminate them will be of great importance.
- *Land sales markets:* Although operation of land sales markets no longer facilitates land concentration, as it once did, the scope for participation by small producers or the landless is restricted by their inability to access capital markets (and the lack of financial instruments that would allow such acquisition). While landownership makes an important contribution to household welfare, education and agricultural ability are equally important, and returns to landownership are greatly enhanced by availability of complementary assets. In fact, working capital constraints make many small owners, especially those that benefited from past land reform, unable to make the most productive use of the land they own.

The government's land reform program has been less effective than markets. Despite high levels of spending on government-sponsored land redistribution programs in the past, markets have been more effective at transferring land to productive, small, or landless producers. Case studies support this finding, identifying high levels of indebtedness, inability to access credit, and large-scale desertion as reasons that underlie the limited productivity impact of the traditional land reform program. In addition to taking into account the lessons from this experience, any potential program to improve access to land by the poor or landless needs to complement, rather than substitute for, what can be achieved through land markets.

Further actions are necessary to facilitate better-functioning land markets. While our analysis shows that markets work significantly better than before, their performance can further be enhanced by:

- *Effective collection of land taxes:* Land taxes are desirable in terms of fiscal decentralization that can, if properly designed, provide incentives for more intensive land use. Colombia's progress in increasing the share of taxes on land and real property from less than 0.3 percent to more than 0.7 percent over the last decade is thus very encouraging. In rural areas, however, large amounts of potential revenues are foregone because of limited coverage, *avaluos* (valuations) that are not updated and decline rapidly with farm size, and shortcomings in collection. Remedying this would be a priority, especially if the revenue thus generated (and possibly even matched by a national contribution) could be used to provide local public goods, such as security or roads, which increase land values.
- *Public goods and capital access:* A key factor limiting markets' ability to transfer land from large to small producers is that lack of infrastructure or high levels of violence often limit the ability to make productive use of this land. Initiating negotiations with all sectors to remedy this situation and, through a program that combines public investment with private support (which might involve donations) to improve productivity (and often land access by small producers) is a key task for local governments attempting to catalyze markets. Some support from the Central Government is likely to be needed for these.
- *Providing the regulatory environment for markets:* The contribution of land rental markets to investment and structural change is restricted by high transaction costs of short-term (annual) contracts. These constraints can be alleviated by measures aiming to increase availability of land price information; reduce transaction costs (for example, through model contracts); actively promote long-term contracts; and improve the functioning of financial markets. In cases where land concentration is due to noneconomic factors (for example, violence and laundering of illicitly

acquired monies), other elements from the repertoire available to the government will have to be added. Application of such measures will have to be based on an accurate inventory of actual and potential land use, and be implemented with participation by the major stakeholders, within a framework that allows for negotiated solutions. The fact that, in most of the country, neither of these two is currently available at the local level constitutes an obstacle to the development of land markets that should be remedied.

- *Dealing with unproductive National Colombian Institute of Agrarian Reform* (Instituto Nacional Colombiano de la Reforma Agraria, INCORA) *lands:* Large amounts of land distributed in past reforms suffer from restricted property rights, default on (often collective) debts, and restrictions on transferability that limit investment and effective land use. To unlock this potential and increase the welfare of many poor households, guidelines are needed on (a) the transferability of different types of such land through rental or sales; (b) low-cost ways to substitute original land reform beneficiaries; and (c) ways to settle debts, especially those incurred by members who have left or those related to the fact that the payments made for the land clearly exceed the reasonable value of the land. Once agreed, these guidelines should be implemented rapidly, combined with individualization of land tenure by those affected wherever this is the desired course of action.

Improving Land Access and Productivity through Redistributive Land Reform

Redistributive land reform has suffered from a number of shortcomings. The large amounts of resources spent on redistributive land reform, especially after the passage of Law 160 in 1994 when land reform occupied a significant share of Central Government spending in the agricultural sector, illustrates the broad social consensus on the importance of redistributive land reform to deal with structural inequality and large-scale underutilization of land. The principle of this law—to give a grant that would supplement beneficiaries' efforts and thus allow them to acquire land without intervention of a government agency—is sound in principle. As a large literature on this topic demonstrates, success has, however, been less than expected, for a number of reasons:

- *Lack of continuity:* High variability of funding and the use of implementation figures as indicator of success led INCORA to rely on "quick fixes," which ignored the fact that, without establishing the need for and scope of land reform at the local level and participation by beneficiaries, productivity increases from transferring land will be limited. This was exacerbated by the imposition of inappropriate collective landownership structures, often against the will of beneficiaries.

- *Legal issues and design flaws:* The fact that the grant could by law be used for land acquisition only, and not for complementary investments, focused attention on already developed land, instead of underutilized land with high potential. Having the grant size proportional to land values (up to a maximum value) encouraged overpayment and collusion. Together with a poorly defined *Unidad Agricola Familiare* (UAF), this led beneficiaries to acquire more land than they could farm, establishing units that were, because of working capital constraints and rental restrictions, only partly cultivated. No thought was given to exit options for unsuccessful beneficiaries.

- *Centralized implementation:* Instead of trying to move in concert with local development plans, INCORA pursued a punctual approach, which redistributed specific properties with scant regard for the broader environment. This limited ownership by local governments and the private sector restricted beneficiaries' ability to gain access to productive and social infrastructure, markets, and technical assistance. Participation of the private sector in financing was never achieved. De facto exclusion of civil society and NGOs also reduced transparency and independent monitoring and evaluation.

Any program that aims to improve utilization of land and access by the poor needs to incorporate the lessons from this experience and be firmly linked to local government initiative and activities, together with participation by civil society and the private sector.

***Planes de Ordenamiento Territorial* (POTs) can help address the shortcomings of past reform.** POTs have been introduced to provide a technical basis for long-term spatial planning in the context of the government's decentralization policies. They offer a number of advantages:

- *Integration of the territorial element:* One of the key weaknesses of past land policy has been the lack of a link to local initiatives and a focus on the short term that may be inconsistent with requirements for sustainability in the longer run. POTs need to be oriented toward the long term, comprehensive, and based on a minimum amount of technical analysis. Before they can be given final approval at the local level, their technical quality has to be vetted by the *Corporación Autonomas Regional* (CAR). They therefore provide an almost ideal link to local policies that transcends sectoral interests, thus ensuring that whatever interventions are proposed will be integrated into a more comprehensive local development strategy.
- *Minimum technical standards:* Analysis of implementation of POTs in a sample of *municipios* illustrates that serious analysis of land tenure issues emerges as something close to a precondition for having a rural POT that is at least of acceptable quality. Not all POTs have lived up to their potential, and the treatment of land issues is uneven, often characterized by a bias toward urban and environmental issues, and lacking follow-up. At the same time, legal mechanisms for revisions of POTs exist and, especially if combined with guidelines and technical support to assist implementation, can be utilized to improve the quality of these documents.
- *Integration with national policies:* While POTs cannot substitute for a national policy to improve land utilization, they can provide the informational basis needed to implement such policies in a coherent manner. They can also open up spaces for negotiation to develop joint strategies to improve utilization of underutilized lands that are supported by main stakeholders at the local level and that can possibly avoid the imposition of more drastic but highly conflictive measures (for example, *extinción del dominio* [expropriation proceedings]) which the State has available as a measure of last resort. Because such plans are likely to contain many public good elements, support for their implementation from different levels of government (including the national one) would be justified. In addition, and especially if it is combined with the establishment of minimum standards of technical quality, it can provide a strong incentive for local governments to devote sufficient attention and effort to their formulation and implementation.

Transfer of land from large farmers to small producers is economically viable. Case studies that explore the scope for bringing underutilized land into production by transferring it to small producers reveal that such transfer can have high economic returns. In fact, successful projects can be implemented under a wide variety of organizational arrangements, from cooperatives to profit-sharing joint ventures, and do not always involve transfer of landownership. Three characteristics common to successful cases are worth noting.

- *Private sector and beneficiary participation:* The most important difference between successful and unsuccessful projects was that the successful projects involved participation by the private sector, and the beneficiaries decided on the land to be used and the operational structure to be adopted.
- *Economic viability:* Inappropriate arrangements in the form of land prices that were not in line with productive capacity, collective land tenure, severe shortages of working capital, and inability to access credit, were associated with failure. This implies that, without economic viability in the long term (and rigorous analysis ex ante), it will be very difficult to achieve sustained success.
- *Integration into the broader context:* Isolated efforts without access to technology, markets, and transport were significantly more likely to fail than efforts where these elements were taken into account from the beginning.

Improving agricultural competitiveness in a way that benefits the poor. While there are considerable opportunities to improve land utilization and thus local economic development and agricultural competitiveness in Colombia, doing so cannot be the responsibility of only one agency at the national level, as it has been in the past. Instead, it will require the coordinated action of various levels of government, within an incentive-compatible framework, and drawing on civil society and the private sector. Main responsibilities at the different levels are as follows:

- *Local government responsibilities:* Experience illustrates that programs to improve utilization of land reform are unlikely to be successful unless they are agreed by the main stakeholders and fit into a broader strategy of local economic development. This requires that local governments need to decide, on the basis of clear technical criteria (POTs), where such efforts make sense, follow up with policy (for example, on collection of taxes), and technical assistance, and establish a representative institutional structure (using, for example, the *Consejo Municipal de Desarrollo Rural* [CMDR]) that allows civil society and the private sector to interact on a technical basis.
- *National responsibilities:* The national level has to establish the policy framework in order to provide consistency between efforts to improve access to land through negotiated settlement and market mechanisms to others (for example, those aiming to secure rights by the displaced population and those related to *extinción del dominio*). It also has to ensure that participating *municipios* meet essential preconditions (or help them to achieve them if not), and to monitor implementation.
- *Regional responsibilities:* The regional level provides the operational link to take account of externalities (for example, in accessing markets and technology) that transcend the *municipio* and would therefore not be realized in a purely *municipio*-driven model. This puts regional representatives in a good position to provide technical assistance, and to make decisions on the approval of individual projects based on technical criteria of economic viability.

A possible shortcoming of such an approach, that it may initially be limited to localities that offer better opportunities to implement land reform, may, in fact, be an advantage because it offers the possibility of leading to a domino effect that is lead by successful examples, rather than the other way around. Even though the problem is of high political and social importance, Colombia has already seen its fair share of failures in this area and, especially given its current fiscal situation, can ill afford another one.

Three immediate actions. While the Policy Matrix at the end of this report provides a more detailed list of recommendations, there are three areas where the government can and should follow up in the short term:

- *Take measures to stop unproductive accumulation and speculative holding of land:* This would include improving the coverage and updating of *avaluos,* and raising incentives for effective land tax collection at the local level, but also a serious effort to link land with displacement and to put to work the different elements of a policy to improve utilization of land. Such an effort should be concentrated on areas where, as this report has shown, land markets do not work well, and should build on active collaboration with local government entities, initially on a demand-driven basis.
- *Provide systematic assistance to local governments to improve the treatment of land tenure in revision of their* POTs in a way that would draw in the major parties involved at the local level, and use this exercise to improve the availability of information and to open up a forum for negotiation at the local level. The goal would be to come up with concrete proposals on how to improve utilization of severely underutilized land, and to follow up on such proposals with specific action.
- *Explore mechanisms for implementation, and funding sources that could be used for a fund that would provide support to the establishment of productive enterprises* in a way that integrates the land policy elements available to governments at different levels, and thus provides not only incentives for participation, but also a basis for putting land policy into the broader context of negotiated solutions to the issues of conflict, low productivity, and unequal access to assets that have bedeviled Colombia's rural areas for so long.

CHAPTER 1: EXTENT AND CONSEQUENCES OF LAND INEQUALITY

High inequality in land ownership and the resulting inefficient land use and environmentally unsustainable patterns of cultivation have long been identified as a key reason for high levels of poverty in Colombia (Currie 1950).[2] This chapter provides an empirical assessment of the extent of rural landownership inequality in Colombia, and an analysis of some of the undesirable consequences of this phenomenon, both in terms of land use and economic productivity, and the incidence of violence and low levels of public good provision.

1.1 Colombia's Land Distribution Is Highly Unequal by International Standards

One of the major criticisms leveled at earlier studies of a systematic relationship between farm size and productivity has been that very few of these attempted to adjust for differences in land quality across farms (Binswanger, Deininger, and Feder 1995). Because large farms normally own land of lower quality, measures of land inequality that are based on unadjusted area may seriously overstate the extent of land inequality, giving rise to erroneous policy conclusions.

There is, in fact, evidence that in the case of Colombia, failure to adjust for land quality may have led to a serious overestimation of the level of land inequality. Based on summary statistics from the *Instituto Geográfico Augustin Codazzi* (IGAC) for 1996 at the departmental level, the Gini coefficient for the land distribution, 0.84, decreases to 0.60 if the more appropriate land valuation (*avaluo*) used by IGAC is employed (Castano-Mesa 1999). This parallels an earlier result using the productive capacity of land as measured by the UAF as a means to adjust for quality differences (Rincon 1997). In this case, an area-based Gini coefficient of 0.88 decreased to 0.64 once the more accurate quality-adjusted measure was used. While this suggests that the level of land inequality in Colombia may be overstated, the only way to assess the issue is by obtaining disaggregated data which, by aggregating or disaggregating as appropriate, would allow the computation of coefficients of land inequality at different levels.

To do so, this study obtained access to data for about 2.8 million rural parcels from the registry maintained by IGAC for all of the country's departments with the exception of Antioquía (Offstein, Hillon, and Caballero 2003). To make these useful for obtaining an estimate of the inequality of agricultural land, a number of adjustments had to be undertaken. The 2.68 million properties included in the database by IGAC were successively reduced to 2.3 million by excluding (a) 348,000 rural properties not dedicated to agricultural pursuits; (b) 47,000 government-owned properties; (c) 8,400 properties belonging to indigenous reserves and black communities; and (d) 1,824 outliers the value of which is either less than 1 centavo per hectare or greater than 10 million pesos per square meter. Out of these, 359,484 properties could be matched to physical land characteristics. Finally, Gini coefficients were computed based on raw area and the *avaluo*.

Results, presented in Table 1.1, display a number of interesting features. First, the Gini coefficient for landownership is quite high—0.81—though slightly lower than estimates based on aggregate data. At the same time, considering the *avaluo* instead of the land area reduces the Gini coefficient only slightly—to 0.78—much less than was obtained in earlier studies. By whatever measure, land inequality in Colombia is estimated to be high. Below we will explore the extent to which such inequality can affect a number of economic outcomes.

Before doing so, it is worth noting that aggregate data hide considerable variation across departments, where in some cases larger differences between area- and valuation-based measures emerge.[3] Based on the figures available, the estimated Gini coefficient is lowest, below 0.65, in Caqueta, La Guajira, Magdalena, and

[2] "...the cattle fatten on the plains while the people often have to struggle for a bare existence in the hills. ... As a result, they exploit the land very severely, adding to erosion and other problems, and even so are not able to make a decent living. This pattern of land use is one of the most important causes of low labor productivity in agriculture and of resulting widespread poverty in rural areas" (Currie 1950:63).

[3] In interpreting these figures, it is necessary to account for the possibility of limited coverage in some departments.

Cesar, and highest, above 0.80, in Cauca, Quindio, Meta, Boyaca, and Valle de Cauca. Even though there may be some shortcomings in the data, the Gini coefficient based on *avaluos* is likely to be the least biased, and is therefore used throughout in the *municipio*-level (municipal-level) analysis reported below. Some of the policy implications regarding coverage of the registry and potential biases in *avaluos* are discussed in more detail in the section on land taxation.

Table 1.1: Gini Coefficient for Ownership of Land Based on Area and Value, Colombia 2002

Department	Original data		Clean data	
	Land	Value	Land	Value
Atlántico	74.54	79.09	72.25	79.33
Bolivar	77.99	76.68	70.21	75.48
Boyaca	81.33	74.32	77.94	73.10
Caldas	81.97	79.38	80.44	78.84
Caqueta	89.62	76.37	50.32	69.52
Cauca	87.85	87.03	80.86	83.07
Cesar	71.47	75.99	65.25	74.42
Cordoba	78.90	77.98	74.79	75.48
Cundinamarca	79.78	81.90	76.38	79.56
Choco	96.35	96.12	75.03	76.02
Huila	79.69	74.79	76.39	72.20
La Guajira	87.79	78.08	67.14	73.58
Magdalena	74.42	72.27	68.74	70.84
Meta	88.79	80.17	86.13	78.22
Narino	86.28	78.77	77.36	73.46
Norte de Santander	77.83	72.84	69.73	69.97
Quindio	81.59	69.60	78.92	67.52
Risaralda	83.13	79.99	77.15	79.61
Santander	79.62	76.03	77.38	74.99
Sucre	79.96	77.91	77.34	76.64
Tolima	79.88	78.19	76.78	77.02
Valle Del Cauca	90.94	85.72	83.06	84.57
Arauca	84.82	71.70	78.22	67.86
Casanare	85.54	79.86	80.95	75.93
Putumayo	90.33	81.97	73.97	69.86
San Andres	71.39	70.31	65.60	65.55
Amazonas	97.13	72.25		
Guainia	86.21	81.62	24.64	40.90
Guaviare	95.93	95.94	43.12	59.67
Vaupes	77.69	56.06		
Vichada	53.53	66.77	40.85	52.77
Nacional	92.69	82.99	85.38	81.63

Source: Computation from registry data based on Offstein, Hillon, and Caballero (2003).

1.2 Land in Colombia Is Highly Underutilized

As a direct consequence of the lack of a national land policy, much of the land in Colombia is highly underutilized. Even though the high inequality of landownership implies that there is significant demand from landless people to gain access to land, available evidence points toward high levels of underutilization of land, which, according to the IGAC, affects 30 percent of the total land. The quantitatively large extent of such resource misallocation is illustrated in Table 1.2, which compares actual and potential land use in Colombia in 1999. A 1985 assessment of the land use potential by IGAC implies that, out of a total area of 114.2 million hectares, 12.6 percent is suitable for agriculture, 16.8 percent is suitable for pasture, and the remainder is suitable only for forest and nonagricultural uses. Comparing this to actual land use at about the same time indicates heavy under use of the agricultural potential and heavy overuse of livestock. Only 4.6 percent of the area (or 37 percent of the land suitable for agricultural crops) was, in 1987, used for this

purpose, and this share further decreased to 3.9 percent (or 30 percent of the potential) in 1999. At the same time, there was a huge overexploitation of pastureland; as illustrated in the table, although only 36 percent of the total land is suitable as pastureland, more than double this amount is actually used for that purpose.

Regional disaggregation of these figures illustrates that, while relative underutilization is highest in the Pacific, the inter-Andean depressions, and the Caribbean, in absolute terms, the largest share of underutilized land relative to the potential land available can be found in the Andean region (25.8 percent of the national total), the Caribbean (24.4 percent), and Orinoquía (22.5 percent), followed by Amazonía (10.4 percent), the Pacífico (6.7 percent), the inter-Andean depressions (9.1 percent), and mountainous areas (1.1 percent). This suggests that there are indeed large tracts of unutilized or underutilized land that could be more productively used. Given the country's agricultural potential and the high demand for land by small producers, any mechanism that would bring them under more intensive production could have significant economic and social benefits. In fact, the high levels of underutilization of productive land have profound implications for land access, factor use, employment generation, and household welfare in rural areas.

Table 1.2: Actual and Potential Land Use in Colombia, 1985 and 1999

	Potential (1985)		Actual Use (1987)			Actual Use (1999)		
	Mn Hectares	%	Mn Hectares	%	Of Potential	Mn Hectares	%	Of Potential
Agricultural Crops	14.0	12.6	5.3	4.64	36.8	4.4	3.9	30.6
Pasture	19.2	16.8	40.1	35.1	209	41.2	36	215
Forest	78.3	68.6	58.9	51.6	75.2	65.4	57	83.5
Nonagricultural			8.5	7.44				
Urban and water	2.3	2.01	1.4	1.23	60.9	3.2	2.8	139
Total	114.2	100	114.2	100		114.2	100	

Sources: IGAC–ICA (1987); "Anuario Estadístico del Ministerio de Agricultura" (1999).

Crosschecking with figures about land distribution based on the UAF, a concept that is supposed to measure the potential income-earning capacity of a certain farm, yields very similar conclusions, as illustrated in Table 1.3.[4] The results presented there show that adjusting for land quality, the number of "small" farm units (comprising less than two UAFs) increased slightly, from 89.9 percent to 91.1 percent of all farms, whereas the share of area cultivated by these shows a slight decrease, from 23.1 percent in 1984 to 21.4 percent in 1997 (Machado 1999; Mondragon 1999). A more significant reduction in area, from 30.5 percent to 24.8 percent, is observed for medium-sized farms. Large farms increased their share of area from 46.3 percent to 53.8 percent. The lower panel illustrates that this conclusion is even more pronounced if physical area is taken as the basis for the assessment.

Table 1.3: Structure of Landownership and Use in Colombia, 1984 and 1997

	By Productive Capacity			
	Area (%)		Units (#)	
	1984	1997	1984	1997
Small (0–2 UAF)	23.15	21.40	89.92	91.11
Medium (2–10 UAF)	30.50	24.80	8.68	7.81
Large (>10 UAF)	46.35	53.80	1.40	1.08
	By Physical Extension			
	Area		Units	
	1984	1997	1984	1997
<100 hectares	40.00	34.50	96.90	97.40
100–500 hectares	27.50	20.50	2.70	2.30
>500 hectares	32.50	45.00	0.40	0.30

Sources: Top panel from Machado (1999); bottom panel from Mondragon (1999).

Traditionally, the phenomenon of land concentration has been attributed to three factors:

[4] The UAF is the area of land which, for given agroecological conditions, can generate an income of three minimum salaries. Because it is defined at the level of municipalities and natural regions within them, it provides, in principle, a better way of accounting for the potentially vast differences in land quality that are difficult to account for in an analysis that is based only on physical area. For a more in-depth discussion of the UAF concept and the difficulties it implies, see Jaramillo (1998); and Grusczynski and Jaramillo (2002).

- *Money laundering by drug lords:* Colombia has a long history of speculative investment by drug lords and paramilitary and guerrilla forces that acquire land for nonagricultural purposes as a means to launder money. A 1995 survey in about 300 *municipios* illustrates that drug lords often buy the best land but often do not use this land productively, thereby significantly contributing to driving up land prices and the expansion of cattle ranching, or *ganaderización* (Reyes 1997). Even though acquisition of land using drug money is illegal and can be the basis for initiation for expropriation proceedings (*extinción del dominio*), proving this in any specific case is difficult, and the amount of land that has been acquired this way is minuscule.
- *Violence:* In some of Colombia's rural areas, the presence of guerrilla forces and physical violence prevents landowners from accessing and/or optimally using their plots. Both the magnitude of this phenomenon and the implications are difficult to quantify. Instead of paying taxes to local governments, landowners pay paramilitary forces and guerrillas for protection, thus undermining the capacity and financial base of the State and perpetuating a parallel system.
- *Macroeconomic and sectoral policies:* Until the *apertura* (the economic and trade liberalization of the early 1990s), large-farm agriculture was heavily protected, both indirectly through credit subsidies and directly through price support for crops that were grown almost exclusively by large farmers. This made it economically rational to accumulate large areas of land even if the owner was unable to make productive use of them. Macroeconomic reforms that eliminate these policies would reduce the incentives for market-based land concentration (Jaramillo 1999). At the same time, some of the government's policies (for example, capitalization subsidies) continue to favor large farmers.

There are two main consequences of such land concentration. First, it implies environmental hazard because inability to gain access to land (either through rental or through sales markets) in the well-watered valleys drives the poor into marginal areas where they cause environmental destruction (Heath and Binswanger 1996). Of Colombia's 1,028 municipalities, 39 percent report that between 35 percent and 70 percent of the area is affected by environmental problems, while 7 percent report that more than 70 percent of their area is affected by environmental problems (Rojas 2001).

A second consequence is that concentration of land together with widespread underutilization tends to deprive the rural economy of its growth potential, thereby precluding Colombia from realizing its comparative advantage in labor-intensive crops with high value added. This reduces rural incomes and thus investment in the nonagricultural economy, implying that even if there is growth at the aggregate level, such growth does not benefit the poor. Indeed, recent figures illustrate that growth did not trickle down to the poor; a 1 percent increase in the overall growth rate implied only a 0.7 to 0.8 percentage point increase in the incomes of the poor (World Bank 2003). This implies that, unless measures are taken either to address the structural inequalities prevalent in Colombia or to redistribute income, promoting economic growth would actually widen disparities among income groups and increase overall inequality.

1.3 High Landownership Inequality Is Associated with Environmentally Unsustainable Land Use

While it is often implied that inequality in land access is associated with higher levels of environmentally damaging livestock ranching (or less intensive use of land that is suitable for crop production), this relationship has never been actually subjected to empirical tests. To illustrate that there is indeed a positive association at the municipal level, we combine the data on land inequality at the *municipio* level discussed above with data on actual land use from the University of Los Andes, and the suitability of land for different types of cultivation from the Department of National Planning (*Departamento Nacional de Planeación*, DNP) to run reduced-form regressions that relate a dummy for overgrazing (*ganaderización*) and low land use intensity, respectively, to a vector of *municipio*-level characteristics that include the inequality of the landownership distribution, as described above.

To assess underutilization, the most critical issue is to get an estimate of the agroecological potential of any given piece of land that can then be compared to actual use in crop or livestock production. We obtain an estimate of the total area per *municipio* that is suitable for either crop production or pasture based on a classification of areas and soils into eight classes of agricultural suitability that was developed by the *Centro de Estudios sobre Desarrollo Económico, Facultad de Economía* (CEDE) at the University of Los Andes (CEDE 1999).[5]

Dividing the amount of land used for either of these two purposes by the amount of area suitable gives a coefficient of land utilization that can be regressed on a set of exogenous factors in a standard reduced-form regression.[6] As there are a number of zeros in the areas devoted to crop production and livestock, respectively, we first define an indicator of overgrazing or low land use intensity, the means of which are 45 percent and 15 percent, respectively. We then use these variables to conduct probit and tobit regressions.[7] In interpreting the results from these regressions, two caveats must be noted. First, in view of the inability to look at changes over time and the absence of a true structural model,[8] the regressions should be interpreted as demonstrating association rather than strict causality. Second, the limited resolution of the underlying Geographic Information System (GIS) data is likely to imply some loss of accuracy, although the ability to go down to the *municipio* level more than compensates for that handicap.

Table 1.4: Determinants of Overgrazing and Agricultural Underuse of Land

	Overgrazing		Low Land Use Intensity	
	Probit	**Tobit**	**Probit**	**Tobit**
Gini of Land Distribution	0.478**	0.753**	2.056**	3.335**
	(2.16)	(1.97)	(2.41)	(2.35)
Distance to Market (100kms)	0.130***	0.232***	-0.142*	-0.220*
	(3.27)	(3.22)	(1.94)	(1.83)
Population Density (1,000s/km2)	6.185	-0.140	-21.196	-37.604
	(0.24)	(0.01)	(0.32)	(0.34)
Road Density (km/km^2)	-0.366*	-0.704*	-1.213	-1.996
	(1.79)	(1.79)	(1.18)	(1.19)
Observations	819	819	644	644
Pseudo R-squared	0.14	0.10	0.13	0.10
Log Likelihood	-483.60	-771.91	-161.54	-210.22

* Significant at 10%; ** significant at 5%; *** significant at 1%.
Note: Absolute value of z-statistics in parentheses. Departmental/regional dummies and constant included but not reported.

Results of the reduced-form regressions, as illustrated in Table 1.4 for probit and tobit regressions, illustrate that there is a strong positive association between landownership inequality and environmentally harmful overgrazing. In fact, the reported marginal probabilities from the probit regression suggest that a 10-

[5] The eight classes are, with the share of total national area in parentheses, (a) lands with very few limitations that are suitable for the large majority of crops in any region and require only regular management (0.15 percent); (b) lands with limited limitations associated with soil, topography, drainage, or climate. As a consequence, they require some attention in terms of erosion control, water, or soil fertility management (0.85 percent); (c) lands with moderate limitations because of soil depth, erosion, fertility, inclination, climate, and drainage with potential for cultivation based on soil management (4.7 percent); (d) lands with very heavy limitations due to low soil depth, moderate-to-severe erosion, poor drainage and accumulation of salt, frequent inundation, or climatic factors that require intensive management of soil and water management and erosion control to be suitable for agricultural production (5.6 percent); (e) flat lands which, because of rocks, topography, or inundations are suitable only for pasture or forest but do not pose problems of erosion (7.5 percent); (f) lands with permanent limitations such as erosion, limited moisture retention, stones, pH, and climate, and which are therefore suitable only for pasture or forest, although a very limited share may be suitable for agroforest crops such as coffee, cocoa, or plantain under shade, provided that special management practices are adopted (25.1 percent); (g) lands which, because of severe limitations, are suitable only for forest and in some circumstance for other uses (45.6 percent); and (h) lands that are limited to conservational uses (10.5 percent). Based on this classification, the total area under each class in each *municipio* was then multiplied with weights for agricultural use (1, 0.7, 0.7, 0.5, 0, 0.05, 0, 0) and pasture (0, 0.3, 0.3, 0.5, 0.7, 0.6, 0.3, 0), respectively, to obtain the area suitable for crop production and pasture, respectively.

[6] It would, of course, be quite interesting to implement a dynamic model that would analyze the advancement and possible recession of the frontier and changes in the intensity of land use over time, but the data to do so are not available.

[7] The results from ordinary least squares (OLS) regressions do not differ significantly from those reported, but are not reported because the tobit is conceptually more appropriate.

[8] The only other variables included in the regression are population and road density, and distance to market, in line with the standard von Thuenen model according to which distance to markets should make livestock ranching more competitive, while population and road density should increase the incentives for more appropriate use.

percentage point increase in the Gini coefficient of landownership inequality will lead to an increase in the incidence of the probability of overgrazing by almost 5 percent. Coefficients on the other variables included suggest that the incidence of overgrazing increases slowly with distance to markets, and that increased availability of infrastructure in the form of road density is associated with lower levels of overgrazing (though the coefficient is significant only at 10 percent). For the regression of land use intensity, land inequality is the one variable that is significant for both the probit and the tobit regressions, which also suggests that distance to markets is not a major factor associated with underuse of land.

The regression results thus support the hypothesis that, across *municipios*, high land concentration is associated with a failure to make effective and sustainable use of Colombia's resource endowments. At the same time, they do not identify the channels through which such an impact may come about, or suggest specific solutions. To explore these issues in more detail, we explore possible broader impacts of unequal land distribution that extend beyond the narrow realm of agricultural production.

1.4 Unequal Land Distribution Has Repercussions Far Beyond the Agricultural Sector

The literature has long emphasized that in a world where credit markets are imperfect, a highly unequal distribution of assets and economic opportunities will reduce both household ability to invest and social cohesion, and thus ultimately economic growth (Deininger and Olinto 2000). The dependence of landless households on the continued goodwill of landlords to provide them with land for their sustenance rather than ownership reduces their shadow wage, thus reducing the cost of hired labor, but also reducing the incentives for the landless to acquire human capital (Binswanger, Deininger, and Feder 1995; Conning 2002). This will also reduce the scope for establishing independent institutions, with potentially far-reaching and very harmful consequences for economic and social development (Nugent and Robinson 2002).

Colombia has been at the forefront of efforts in Latin America to decentralize power to local governments. However, in the presence of large differences in access to assets and economic opportunities that have undermined the evolution of accountable structures of local governance, decentralization without appropriate structures of control and monitoring may overempower local elites. One indicator of such elite dominance, and associated weakness of local institutions, would be that a higher share of the resources available to local government (many of which originate in transfers from the Central Government) be spent on administration rather than for productive investment. This provides not only a hypothesis that can be tested with available data but, in view of the fact that greater public investment is one of the few instruments available to the State to narrow the gap between more and less advanced *municipios*, is also of considerable interest for policy.

To do so, we combine the data on land inequality for the majority of Colombia's municipalities with information on the composition of municipal spending by the *contraloria pública*. Specifically, we regress the share of local income from 1991 to 1999, including that which is spent on investment rather than operational expenditure and salaries on the level of land inequality and a number of other conditioning factors.

Results from the empirical analysis, as illustrated in Table 1.5, provide clear evidence that higher land inequality is associated with higher levels of public spending on wages and operational expenses rather than investment, thus supporting our hypothesis that in *municipios* with highly unequal distribution of land, local institutions are weaker and less likely to ensure that available resources will be spent on investment in future productivity rather than the short-term needs of a few powerful individuals. The estimates suggest that the magnitude of this effect can be significant. According to specifications (1) and (2), a 10-point decrease in the Gini of the landownership distribution would imply a drop of 2.3 percent or 1.8 percent, respectively, in the level of investment. To illustrate this, we note that moving from the *municipio* that ranks at the 25th percentile to the one at the 75th percentile would imply a reduction of investment by almost 6 percent, that is, from 45 percent to 39 percent.

At the same time, the regressions suggest that the negative impact of land inequality has been reduced over time.[9] It would be of great interest and policy relevance to explore whether the observed increase in the investment share is due to more effective central control that has effectively reduced local discretion over spending decisions or to empowerment of local actors that has led to a more participatory decisionmaking process at the local level. Unfortunately, available data do not allow us to distinguish between or test these two hypotheses. Irrespective of which one is true, however, the fact that inequality does seem to affect local decisionmaking on a critical variable such as the investment share illustrates that the structural inequality that underlies Colombia's highly unequal land distribution can have far-reaching effects beyond the narrow realm of agricultural production.

Table 1.5: Determinants of Municipal-Level Investment

	Specification		
	(1)	(2)	(3)
Inequality of Land Distribution	-0.229***	-0.186***	-0.389***
	(9.62)	(7.31)	(17.49)
Road Density		-0.211***	-0.211***
		(4.32)	(5.20)
Population Density		0.802	0.802
		(0.40)	(0.48)
Inequality x 1992 Dummy			0.052***
			(5.14)
Inequality x 1993 Dummy			0.124***
			(12.14)
Inequality x 1994 Dummy			0.157***
			(15.42)
Inequality x 1995 Dummy			0.196***
			(19.26)
Inequality x 1996 Dummy			0.306***
			(30.09)
Inequality x 1997 Dummy			0.357***
			(35.10)
Inequality x 1998 dummy			0.284***
			(27.91)
Inequality x 1999 dummy			0.345***
			(33.92)
Constant	0.638***	0.590***	0.590***
	(12.10)	(11.30)	(13.62)
Observations	6012	5733	5733
R-squared	0.10	0.10	0.38

*** Significant at 1%.

Note: Absolute value of t-statistics in parentheses.

To interpret this result and its implications, note that, to the extent that *municipios* with high levels of land inequality are also among the most backward, they would require above-average rates of public investment to catch up with the rest. If, however, high land inequality and the weakness of representative institutions which it represents allow narrow special interests to capture local councils and divert resources to short-term ends rather than long-term investments, the gap between more advanced and backward *municipios* may actually widen, rather than narrow, over time, trapping such localities in a downward spiral of low growth, higher levels of violence, and increased social polarization that can feed on and reinforce each other.

Studies show that asset inequality will affect the pattern of public good provision (Foster and Rosenzweig 2001). Also, land inequality is likely to increase social polarization, and thus make it more difficult to reach consensus on policy changes required in response to modifications in the external environment (Rodrik 1999). Both of these factors will affect the level of economic opportunities open to the poor and, through

[9] As illustrated in specification (3), we make use of the time variation in the data, and interacting the landownership Gini with a dummy for the year from which the observation is taken indicates that the investment-reducing impact of high land inequality is being reduced over time.

their willingness to join the warring factions, the level of violence. In cases such as Colombia, where military control will allow certain groups to capture an economically valuable prize such as the rents arising from illegal trade in drugs or from control over the extraction of minerals, the incentives for warlords to establish independent armies and thus ultimately challenge the authority of the State will be high. Because high inequality in the distribution of economic opportunities (that is, land in the case of rural areas) and absence of public infrastructure reduce the guerrillas' or paramilitaries' cost of recruiting fighters (given the lack of alternative employment), one would expect such recruitment to be particularly high in areas with high inequality and low levels of public infrastructure (Collier and Hoeffler 2000; Deininger 2003a).

To test this hypothesis for Colombia, we repeat the reduced-form regression reported above using as the dependent variable a number of violent outcomes, in particular kidnappings, massacres, and guerrilla attacks at the *municipio* level, which were obtained from the University of Los Andes. Other control variables include population density, remoteness as measured by the distance to the district capital, and road density as a proxy for physical infrastructure.

Table 1.6: Reduced-Form Regressions of Different Forms of Violence

	Kidnappings		Massacres		Guerrilla Attacks	
	2000	Average	2000	Average	2000	Average
Land Gini	0.795***	0.374**	0.372***	0.479**	0.483**	-0.229
	(3.61)	(2.25)	(3.66)	(2.29)	(2.42)	(1.01)
Population Density	39.746*	154.474	9.361	215.592***	307.086***	62.389***
	(1.88)	(1.51)	(1.34)	(2.81)	(3.59)	(2.93)
Distance to Capital	-0.000*	-0.000	-0.000**	-0.000**	-0.001***	-0.000
	(1.70)	(0.80)	(2.44)	(2.19)	(3.22)	(0.66)
Road Density	-2.224	-3.552*	4.871	-5.461*	-3.860	-1.055***
	(0.80)	(1.74)	(0.46)	(1.90)	(1.64)	(2.99)
Observations	840	728	815	840	829	819
Pseudo R-squared	0.11	0.14	0.18	0.18	0.15	0.12
Log Likelihood	-510.42	-316.67	-216.96	-432.09	-404.02	-499.92

* Significant at 10%; ** significant at 5%; *** significant at 1%.
Note: Absolute value of z-statistics in parentheses. District dummies included throughout but not reported.

Results, from the analysis of the levels of violence in one particular year and the average over the years where data are available, point toward a strong positive association between land inequality and violent outcomes (see Table 1.6). The only exception is the long-term average of guerrilla attacks (column 6). Distance to the capital and road density have the expected signs in most of the regressions.

We lack the data to establish a more detailed causal link or to explore the channels through which such an effect might come about. Results provide support for the hypothesis that high levels of land inequality and the lack of economic opportunities and representative social institutions that are associated with them are key factors that underlie higher levels of violence at the local level.

1.5 Conclusion and Policy Implications

We have shown that even after controlling for land quality (as approximated by *avaluos*) and multiple landownership, the high level of land inequality that has been a key reason for the concern of policymakers about land policy is indeed more than an aberration that is produced by the failure to adjust for land quality. In fact, using registry data for the 2.8 million parcels in the country reveals not only that inequality of landownership is high by international comparison, but also that the Gini coefficient based on raw area is little different from the one based on the *avaluo*.

Such high levels of inequality will have negative consequences for the rural economy, in terms of foregone growth potential in rural areas, lack of sustainable management of natural resources, and failure to diversify.

More important, they seem to be one of the key factors contributing to the fact that recent growth in Colombia has not been pro-poor. Also, high inequality may make it more difficult to establish representative institutions at the local level and, because they lack other opportunities, may drive the poor to support armed movements, thereby giving rise to a vicious cycle. To test these hypotheses empirically with respect to environmentally unsustainable land use, the share of spending by local governments, and overall level of violence, we use *municipio*-level data on land inequality. Doing so leads to three key results.

First, we construct an index of land suitability for livestock or crop production. Doing so allows us to demonstrate a clear association between high land inequality and underutilization of land. Second, over and above the association of high landownership inequality with environmentally unsustainable overuse of land for grazing and livestock ranching, high land inequality at the *municipio* level is also associated with a lower investment share, implying that in highly unequal *municipios*, the share of public money that is spent on provision of public goods such as education, health, infrastructure, technology, and other services is significantly lower than in those where land is distributed in a more egalitarian fashion. While the impact of land inequality on the investment share is narrowing over time, it is not clear whether this is due to more stringent imposition of central controls (in which case one would still expect local elites to affect other decisions that are less easy to control from Bogotá) or to the fact that institutions at the local level have become less prone to manipulation by powerful landlord interests.

Finally, *municipios* with more unequal land distribution are also characterized by higher levels of violence in a number of forms (kidnappings, massacres, and to a more limited extent guerrilla action). While measures of deterrence and heightened security can reduce violence in the short term, the results suggest that, in order to achieve a sustainable reduction of this phenomenon, they will need to be combined with attention to the structural inequalities that are key elements contributing to such violence. Unless this is done, it is unlikely Colombia can make the transition to sustained peace.

Although the purpose of presenting these regressions is not to provide policy recommendations, they illustrate the complexity of the problem at hand. In particular, if high levels of inequality are indeed associated with undesirable economic and social outcomes as demonstrated above, policies that aim to address these problems in a way that is sustainable in the long term will, in addition to taking measures that are indispensable in the short term, have to incorporate Colombia's structural inequalities in a more sustained fashion.

CHAPTER 2: THE ROLE OF LAND IN INVOLUNTARY DISPLACEMENT

There is increasing recognition of the intimate connection between land issues and involuntary displacement in Colombia. A key reason for such a linkage is that, because territorial control is a key element in the war strategies of guerrillas and paramilitary forces, expulsion of land users becomes a tactical element in the armed struggle, with far-reaching consequences for household welfare and livelihood opportunities.

World Bank estimates for 1999/2000 put the number of displaced people in Colombia at 1.8 million, the highest in the world in absolute terms, followed by Afghanistan, Angola, and Iraq (*World Development Report* 2000/01). The International Organization for Migration, drawing on more recent figures, highlights that together with Sudan and Uganda, Colombia had the highest number of internally displaced people internationally. Thus, the sheer magnitude of displacement makes it difficult to ignore the issue (Arboleda and Correa 2003).

In fact, displacement may be driving what is often described as an agrarian counterreform and land reconcentration of massive proportions. Recent estimates put the aggregate amount of land abandoned by internally displaced people in recent years at 4 million hectares (Global IDP Project 2003), almost three times more than has been redistributed during more than three decades of land reform. Of course, because the land abandoned by IDPs is unlikely to be effectively utilized by their successors, this will result in significant reductions in productivity, as well. At the individual level, users or owners of land are particularly likely to become displaced, implying that agricultural households and former land users are hugely overrepresented in the displaced population (Kirchhoff and Ibanez 2001). More important, because their agricultural skills are normally of little use in the urban or peri-urban areas to which they are driven, the welfare of those displaced who previously made their living from agriculture is likely to be more severely affected than that of other groups who suffer from displacement.

While all of this implies that it would be irresponsible to ignore displacement in this report, the complexity of the problem also makes it impossible to provide an exhaustive treatment. Therefore, we focus on three areas, in addition to drawing a number of policy recommendations from the evidence. First, we use descriptive evidence to characterize the displaced population and show how the nature of displacement and the government's response to it, has changed. Second, we show that, in addition to violence and low levels of public good provision, land concentration is a key structural factor that underlies the phenomenon of displacement. Finally, we use evidence on the determinants of the desire to return to show that there is a need to differentiate among different groups of the displaced population, but that the much higher tendency to return by those who relied on land-based livelihoods before displacement is likely to pose significant challenges in the future.

2.1 Characteristics of the Displaced Population

There are three main sources of information on the displaced population in Colombia—the government-maintained *Red de Seguridad Social* (RSS), the Colombian Bishops Conference's Information System on Displaced Population (RUT), and a database maintained by the Bureau on Human Rights and Displacement (*Consultoría para los Derechos Humanos y el Desplazamiento*, CODHES), an NGO.

- The RSS database, initiated in the late 1990s, is the main mechanism for displaced people to get access to government support. To do so, households have to register their status with a government institution and subsequently undergo a more detailed survey that is administered by an NGO providing them with assistance. About 223,000 households, corresponding to about 1 million individuals, have been registered in this way. These data have two key limitations. First, because a number of factors, including fear of stigmatization or the nonavailability of government assistance at a particular place, may reduce household incentive to register, the data reported are a conservative

estimate for the number of displaced. Second, because the purpose of registration is to receive government assistance, which by law is provided only for a limited time directly following displacement, households that were displaced earlier are unlikely to register.

- The system maintained by CODHES is designed to provide better estimates of the overall magnitude of displacement. To this end, locations where displacement is happening are identified based on secondary sources of information, including newspaper reports. A sample is generated on that basis, and local NGOs administer a short household questionnaire to the selected households.
- RUT's results are derived from administering a relatively detailed questionnaire to displaced households that request assistance from any of the 3,764 parishes of the Catholic Church. Initiated in 1997, the questionnaire is administered by employees of the Church who received some training to do this, with the main purpose being to identify ways to assist the displaced population. Even though the outreach is more limited than that of RUT—the system currently covers about 32,000 households—the large number of parishes suggests that there should be no serious regional bias (Ibanez and Querubin 2003). Also, the credibility of the Church may reduce the scope for misreporting.

Table 2.1: Number of Displaced People in Colombia by Department, Various Years

	Population	Number of Displaced Households			Ratio
	(Million)	2000	2001	2002	Hh/1,000 Pop
Antioquía	5.455	23,912	27,506	15,738	4.10
Arauca	0.248	590	371	1,668	3.53
Atlántico	2.175	2,972	3,140	2,926	1.39
Bolivar	2.044	15,324	15,434	9,295	6.53
Boyaca	1.375	289	677	629	0.39
Caldas	1.121	343	1,310	5,521	2.13
Caqueta	0.428	3,065	2,729	6,390	9.49
Casanare	0.293	487	1,988	1,061	4.02
Cauca	1.277	853	4,628	4,733	2.67
Cesar	0.979	4,571	5,507	7,087	5.84
Choco	0.392	6,171	5,608	7,087	16.04
Córdoba	1.338	3,544	5,024	7,164	3.92
Cundinamarca	2.185	887	1,987	3,980	1.05
Guajira	0.492	894	1,315	2,738	3.35
Huila	0.939	456	1,146	2,924	1.61
Magdalena	1.290	7,575	7,315	6,355	5.49
Meta	0.715	2,824	2,228	3,067	3.79
Nariño	1.655	644	3,493	4,981	1.84
Norte de Santander	1.375	2,151	2,773	6,017	2.65
Putumayo	0.342	2,256	5,529	6,240	13.69
Quindío	0.573	114	398	1,140	0.96
Risaralda	0.961	973	1,103	1,400	1.21
Santafe de Bogotá	6.573	1,077	3,126	4,714	0.45
Santander	1.990	3,331	5,432	4,634	2.24
Sucre	0.810	8,137	9,529	6,381	9.90
Tolima	1.301	2,100	3,617	4,024	2.50
Valle	4.247	6,340	7,884	4,157	1.44
Others	0.419	618	1,074	1,788	2.77
Total	42.990	102,498	131,871	133,839	2.85

Source: Authors' computation based on RSS data.

To illustrate the magnitude of displacement and its regional distribution, Table 2.1 provides aggregate figures from RSS, by department. In addition to the absolute figure, we computed the rate, in terms of households per 1,000 inhabitants, which have on average been displaced during the last three years in each of the different departments.

The table illustrates that there was some increase in involuntary displacement between 2000 and 2002, from about 102,000 households to almost 134,000. While the absolute number of displaced was highest in Antioquía, Bolivar, and Sucre, the highest shares of displaced population are observed in Choco, Putumayo, Sucre, and Caqueta. The data also point toward large fluctuations in the number of displaced over time within individual departments. There were significant reductions in the number of displaced between 2000 and 2002 in Antioquía, Bolivar, and Valle. At the same time, a much larger number of departments (including Caqueta, Casanare, Huila, and Norte de Santander) saw the number of displaced more than double over the same period.

Because we did not have access to the household-level data from the RSS, we used RUT data to provide basic information on the nature of displacement and actors involved, and characteristics of the households covered. Table 2.2 presents household-level characteristics for the total RUT sample of 32,030 households in column 1, and for those who were displaced in 1999 and 2000 (9,338) and in 2001 and 2002 (14,712) in columns 2 and 3, respectively. This is complemented by evidence for those who did and did not receive assistance in columns 4 and 5, and for those who want and do not want to return in columns 6 and 7.

For the overall sample, we note that in about half of the cases, displacement occurred in reaction to a specific event, either a threat (36 percent), an assassination (7 percent), armed conflict in the immediate surroundings (5.6 percent), or disappearance and sequestration of individuals and abduction of child soldiers (4 percent). We note that, with about 60 percent, the large majority of those who have been involuntarily displaced remain in the same department and that 26 percent even stay in the same municipality. This contradicts the widespread view that the entire displaced population moves to Bogotá and other large towns.

Household characteristics for the displaced population indicate that the mean household size is 4.9 and that 38 percent of displaced households are female headed. This high percentage is likely due to the fact that in many cases of displacement the male head of household is killed or abducted. While only 3 percent belong to ethnic minorities, 24 percent participated in some form of organization at their place of origin, suggesting that as a part of their war strategy, guerrilla and paramilitary leaders may target those whose departure would do the most damage to the web of social relations in a given locality. The far-reaching impact of displacement is illustrated by the fact that 25 percent of the displaced households that had at least one child of primary school age indicated that, as a result of displacement, one or more of their children dropped out of school.

Even though not all of the households report on their current or past employment status, of those that do, 51 percent were unemployed at the time of registration, while about 19 percent and 20 percent had been able to obtain self- or agricultural employment, respectively, and 10 percent had wage employment. Compared to their original employment status, we note that, in the aggregate, displacement was associated with some increase in unemployment (from 42 percent to 51 percent). Also, the share of households in agricultural employment dropped significantly (from 36 percent to about 20 percent), suggesting that those employed in the primary sector will find it particularly difficult to obtain employment in agriculture at their destination, and thus make use of and preserve their skills.

Columns 2 and 3 indicate how the nature of displacement has changed between the two periods. We first note the increase in the number of households registered as being displaced, which is consistent with the evidence from the RSS data, although the magnitude of the increase is, at 57 percent (from 9,338 to 14,712) higher than the 30 percent emerging from the RSS data.[10] There was a marked increase in reactive displacement, the incidence of which increased from 38 percent in the first period (that is, in 1999 and 2000) to 72 percent in the second. The largest part of this increase is accounted for by the more than doubling of households (from 24 percent to 53 percent) that left their place of origin in response to a specific threat. There was also a significant increase in displacement due to armed conflict (from 4.7 percent to 7.8 percent)

[10] For the RSS data, we compare 2000 and 2002.

and disappearance (from 3.3 percent to 5.7 percent). The implication, that in the second period, economic reasons have become less of a motivation, is supported by the steep decline in intramunicipal (from 39 percent to 24 percent) and, to a lesser extent, intradepartmental (from 65 percent to 59 percent) displacement. It is confirmed by the significant increase in the share of households that were expelled by guerrillas (from 32 percent to almost 50 percent) and paramilitaries (from 35 percent to 43 percent). The sharp increase in female-headed households that were displaced (from 32 percent to 41 percent), and the fact that the incidence of primary school dropouts more than doubled over time, as well, are all consistent with this interpretation. At the same time, displacement of those belonging to ethnic groups appears to have declined significantly.

Table 2.2: Characteristics of the Displaced Population

	Total Sample	Date of Displacement		Received Assistance		Want to Return	
		1999, 2000	After 2000	Yes	No	Yes	No
Nature of Displacement							
Reactive displacement	51.40	38.39	71.76	65.08	35.43	51.04	51.44
Due to direct threat	36.46	24.46	53.38	47.59	23.48	34.69	36.69
Due to assassination	7.08	6.94	7.84	7.46	6.64	2.82	7.63
Due to armed conflict	5.63	4.68	7.81	7.79	3.11	11.40	4.89
Due to disappearance	3.96	3.32	5.70	4.63	3.18	3.06	4.07
Intradepartmental	60.07	65.27	58.98	62.45	57.29	83.93	56.99
Intramunicipal	25.57	38.97	23.67	26.82	24.12	49.75	22.46
Expelled by guerrillas	36.99	32.24	49.22	44.10	28.69	35.57	37.17
Expelled by paramilitaries	36.18	35.16	42.79	43.18	28.00	53.83	33.90
Duration (days)	327.63	249.58	92.68	317.16	341.21	158.78	350.05
Household Characteristics							
Household size	4.91	5.13	4.75	4.95	4.85	4.94	4.90
Children <14 years	2.14	2.25	2.08	2.18	2.10	2.04	2.16
Persons 14–60 years	2.54	2.65	2.46	2.56	2.52	2.61	2.53
At least 1 kid dropped out	25.62	15.15	36.42	29.97	17.81	35.58	24.15
Female head	37.96	31.96	41.44	38.90	36.86	28.87	39.13
Ethnic minority	3.08	4.59	0.01	1.17	5.32	2.13	3.20
Part. in organization	23.90	19.61	31.04	34.37	11.68	36.14	22.32
Current Sector of Employment							
Wage employed	9.99	5.42	5.18	6.53	13.65	4.68	10.70
Self-employed	18.97	17.89	22.73	25.78	11.76	12.41	19.84
Agriculture	19.87	34.28	11.09	17.77	22.09	29.03	18.65
Unemployed	51.18	42.41	61.00	49.92	52.50	53.88	50.82
Original Sector of Employment							
Wage employed	7.81	5.39	12.40	10.62	4.84	7.10	7.90
Self-employed	13.31	10.12	21.41	17.54	8.83	11.07	13.60
Agriculture	36.77	32.94	55.26	50.60	22.15	46.56	35.47
Unemployed	42.11	51.55	10.93	21.24	64.19	35.27	43.02
No. of observations	32,030	9,338	14,712	17,250	14,780	3,658	28,372

Source: Authors' computations based on RUT data.

Those affected by displacement in the second period were more likely to have belonged to social organizations (31 percent compared to 20 percent), and we note a significant decline in the share of unemployed among those who were displaced, together with an increase of the share of those employed in agriculture. All of these support the hypothesis that, after 2000, involuntary displacement was increasingly used as a war strategy to drive people off the land. In fact, in the second period, only 11 percent, had been unemployed, compared to 52 percent during 1999–2000, whereas 55 percent (compared to 33 percent earlier) had their primary job in agriculture. The much higher rate of unemployment among the displaced in the second period (61 percent compared to 42 percent in the first) highlights the fact that it is difficult for the latter to apply their skills in nonagricultural pursuits. Compared to 55 percent who were originally employed in the agricultural sector, only 11 percent, that is, only one in every five, were able to find employment in the

agricultural sector, something that could well be a key reason underlying the high rate of unemployment among these groups in the second period.

Disaggregation of the figures depending on whether or not the household received assistance supports the hypothesis that the system to attend to the needs of the displaced population has improved significantly over time: 71 percent of those displaced during 2001–02 received assistance, compared to 44 percent during 1999–2000. The system of public attention continues to be focused on large-scale reactive displacement. Columns 4 and 5 illustrate that a much higher share of those who received assistance were displaced reactively (65 percent compared to 35 percent whose displacement was not reactive), in reaction to action by guerrillas (44 percent compared to 29 percent) and paramilitaries. While it is more likely for those receiving assistance to have belonged to some form of organized group, the fact that the share of female-headed households among those receiving assistance is not significantly higher than among those who did not implies that improvements in targeting are still possible. More important, the share of dropouts from school is significantly higher for those who received assistance than for those who did not. While this could imply that state-sponsored help was geared toward households most in need, it may also mean that, because it was not provided at the time when it really mattered, for example, because of complex processes, such assistance was much less effective than it might have been if timed better. Some targeting may indeed belie the fact that those who were originally unemployed are less likely to have received assistance.

Columns 6 and 7 illustrate that the share of those in the sample who want to return is, at 11 to 12 percent, quite low. Not surprisingly, a higher share of those who want to return is still located within the same department (84 percent) or *municipio* (50 percent). Households that left in response to specific events, such as an assassination, are more unlikely to return. While the share of female-headed households among those that want to return is much lower than among those that do not (29 percent compared to 39 percent), the propensity to return is higher among those who participated in organizations before being displaced, and among those who had at least one child drop out of school. Consistent with the hypothesis of low portability of agricultural skills—or the difficulty of acquiring the means of production that are needed to usefully apply these skills—in the destination, the share of households originally employed in agriculture among those wanting to return is much higher than among those who are unwilling to do so. More interestingly, the share of those who have obtained an agricultural job among those who want to return is higher than among those who do not, in marked contrast to what is observed for wage jobs or self-employment. This suggests that it is more difficult to effectively respond to the needs of the displaced who have been employed in agriculture than those who had other jobs.

Table 2.3 provides information on land access and land tenure before displacement, and access of the displaced population to government assistance and their self-assessed needs. The notion that landownership increases the likelihood of being displaced is supported by the fact that about 60 percent of displaced households had access to land before having had to leave their place of origin, a percentage that is much higher than the share of landowners in a nationally representative sample. At 22 hectares on average, the area abandoned was relatively large, although the median abandoned area was, at 7 hectares per household, much smaller.

The lower panel of Table 2.3 illustrates that about 54 percent of households had received assistance, with government and the Church being the most frequent sources of such assistance (about 28 percent each), followed by the Red Cross (26 percent), and family or friends (15 percent). Regarding their subjective needs, one notes that, with about 75 percent, food ranks first, followed by work (54 percent), health (49 percent), and education (35 percent). It is noteworthy that those who had access to land were more likely to have received assistance and that they are clearly more likely to want to return. While about two-thirds of the abandoned land was held under individual ownership, 17 percent had been accessed under rental arrangements, 11 percent under collective ownership, and 5 percent under *colonato*.[11] It is of interest that those who held land collectively were both more likely to have received assistance and to want to return,

[11] A kind of sharecropping practiced at the agricultural frontier.

whereas those who had individual tenure are significantly less likely to want to return. Renters seem indifferent.

Looking at changes in these indicators over time, we note that after 2001, the share of households that had access to land was, at 60 percent, lower than in the earlier period (68 percent). This high incidence of previous land access among the displaced population is consistent with the literature that points toward land as a key factor that increases the risk of involuntary displacement (Reyes Bjarano 1998; Erazo and others 2000).[12] The disaggregation by tenure type points toward a drop in the share of those who had rented land (who made up 24 percent of landowners who gave such information during 1999–2000 compared to 10 percent during 2001–02). In addition to a much higher share of displaced people who received support in the second period, the figures also point toward a marked shift in the source of such support. Consistent with the notion that the government has become more effective in providing assistance, the share of those who received help from government sources increased from 20 percent to 41 percent. This was matched by an equally marked expansion in the share of households that received assistance from the church and NGOs (from 23 percent to 38 percent) and family and friends (from 8 percent to 26 percent), and a decline in the share of Red Cross activity (from 33 percent to 19 percent). Concerning subjective needs, we note that the share of those who need assistance with respect to work and health is somewhat lower in the second compared to the first period (46 percent compared to 62 percent, and 46 percent compared to 55 percent, respectively). We note that the mean area lost was 20 hectares, even though the median of 7 hectares suggests that this figure is affected by a number of outliers.

Table 2.3: Land Access, Assistance, and Self-Assessed Needs of the Displaced Population

	Total Sample	Date of Displacement		Received Assistance		Want to Return	
		1999, 2000	After 2001	Yes	No	Yes	No
Land Access and Tenure							
Had access to land before	60.01	68.19	59.78	66.20	52.79	79.69	57.47
Mean area abandoned	22.15	21.87	19.44	21.95	22.47	16.29	23.36
Individual ownership	67.18	65.95	69.10	67.34	66.91	58.71	68.88
Collective ownership	11.10	4.50	18.10	15.47	4.10	22.37	8.83
Rental	16.77	23.52	10.14	13.28	22.36	15.29	17.07
Colonato	4.96	6.03	2.65	3.91	6.63	3.64	5.22
Assistance and Needs							
Received outside support	53.81	44.35	71.15	100.00	0.00	69.08	51.89
From government	28.37	19.67	41.05	52.73	0.00	41.22	26.77
From Red Cross	25.57	33.39	19.33	33.04	16.86	46.53	22.91
From church/NGOs	28.74	22.50	38.44	53.42	0.00	43.90	26.80
From family/friends	15.34	7.95	25.96	28.52	0.00	22.20	14.48
Need food	74.64	75.93	77.02	78.75	69.85	78.84	74.08
Need work	54.13	62.19	45.46	54.91	53.22	53.75	54.13
Need education	34.80	38.86	28.14	35.96	33.45	36.99	34.47
Health needs	49.41	55.44	45.69	52.63	45.65	54.95	48.64
Want to return	11.42	12.33	15.01	14.65	7.65	100	0.00

Source: Authors' computations based on RUT data.

Disaggregation by whether or not assistance was received and the desire to return illustrates that, due to a higher propensity of those who had access to land to receive assistance, the share of those with access to land among those receiving assistance was higher. Similarly, the share of those who had access to land earlier is significantly higher among those who want to return compared to those who do not, an observation that is again driven largely by households that had collective landownership. Also, the fact that the share of those who had received assistance is significantly higher among those who do want to return compared to those who do not implies that receipt of assistance does not reduce, and may even increase, household propensity to return, something that needs to be explored in more detail using econometric analysis.

[12] In the latter study, it was found that about 50 percent of the displaced population had access to land at their place of origin, and of these more than 80 percent depended on land for their main livelihood, but did not receive compensation for the land they lost (Erazo and others 2000).

2.2 Causes of Displacement

It would be desirable to complement the descriptive evidence presented above which points toward land as a key factor that increases the probability of displacement with more rigorous exploration at the household level. While the availability of data on displaced people only prevents us from performing such analysis with the sample discussed above, such a causal link has indeed been demonstrated in the literature, albeit for a small sample. For a sample of 336 displaced and nondisplaced households, the main determinants of receiving a threat were ownership of assets (land and animals) and participation in social organizations.[13] This is consistent with the descriptive evidence provided above and the hypothesis that territorial control is a critical element in the strategy of guerrillas or paramilitaries, who often target community leaders or influential people in the community to set in motion a chain reaction of displacement (Kirchhoff and Ibanez 2001). The predicted probability of having received a threat is a key determinant of actual displacement, together with economic factors (having a job, availability of public services, access to media and information, and access to land—but not other immobile assets—all of which reduce the probability of displacement).[14] This points toward the important role of landownership as a key policy variable in the dynamics of displacement at the individual level.

Of course, consideration of household-level variables only is unlikely to provide an explanation for the broader dynamics of speculative land accumulation and money laundering which, according to the literature, are key to fully understanding the phenomenon of displacement (Reyes 1997). Availability of an extremely rich set of information at the *municipio* level allows us to explore in more detail the structural factors that tend to contribute to higher levels of displacement. To do so, we rely on the literature (Collier and Gunning 1999; Deininger 2003a) to formulate hypotheses on the general factors that cause displacement (inequality and access to resource rents that can be captured by exercising territorial control) and the factors that tend to mitigate it (public goods such as infrastructure). Contrary to the literature, which often relies on data of doubtful quality to run cross-sectional regressions across countries that may be affected by huge structural differences (Durlauf and Quah 1998), availability of data for a large number of *municipios* and different years allows us to get at some of the time-variant relationships. To do so, we estimate the following equation:

$$D_{it} = \alpha_1 + \alpha_2 \mathbf{Z}_i + \alpha_3 \mathbf{E}_{it} + \varepsilon_{it}$$

where D_{it} denotes the number of households that have been displaced from location i in year t, $\mathbf{Z}_i$ is a vector of time-invariant structural characteristics of the locality, and $\mathbf{E}_{it}$ refers to time-varying events that occurred in the location at time t. Concerning structural factors, theory predicts that presence of productive infrastructure will increase the payoff from remunerative economic activity, which will make it less likely for households to be displaced. Mineral wealth, on the other hand, will increase the payoffs from control through warring factions, thus making it more likely that guerrillas or paramilitary forces will find it worth spending resources in order to gain control of a territory. Similarly, high levels of landownership inequality will make it easier to evict people, and will also decrease social cohesion, which would reduce the cost of policing and make it easier to establish government control, in addition to making it easier to uproot a population of precarious landowners or tenants.

The vector $\mathbf{Z}$ thus includes road density as a measure of the availability of infrastructure, the sign of which is expected to be negative. As a proxy for the presence of significant mineral wealth, proxied, we include a variable indicating that *regalias* (royalties) made up more than 10 percent of *municipio* tax revenues at least once, a variable that is expected to be positive. Finally, the inequality in the distribution of landownership, expected to be negative, is included as well, together with population density, which serves as a control variable.

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[13] Note that presence of the military had a strong negative impact on the probability of receiving a direct threat, suggesting that higher levels of security at the local level can, via the impact on lowering the incidence of threats, contribute to reducing the incidence of displacement.

[14] Interestingly, presence of the military did not have any impact on the probability of displacement per se, implying that the main impact of increased presence of the State will come through the reduction of direct threats.

If the warring factions in the civil war use control of land as a strategic objective, they will use the threat of violent action, and such action itself, as key elements of a war strategy to depopulate certain areas in which they can subsequently exert a measure of economic or political control. Such strategic use of violence is in fact supported by the irregularity of violent events in the data, which in any given location points toward peaks of violent activity, which are followed by a subsequent lack of activity. To capture this relationship, we use lagged values for a wide range of violent activity that include guerrilla attacks, the number of victims from massacres, the number of explosive attacks, the number of kidnappings (*sequestros*), the number of deaths from violence, and the number of homicides and bank robberies as key elements of E_{it}. Our prediction is that all the former have a significant impact on increasing the rate of displacement, but that homicides and bank robberies, which are more an indication of generalized violence that is much less volatile over time, may be less insignificant.

In addition to acts of violence, a key variable that should reduce household propensity for involuntary displacement is government spending. To capture this effect, we include lagged values for per capita spending on education, health, infrastructure, and police and justice. While spending on education and health is expected to have an immediate impact on lowering the probability of displacement, spending on infrastructure has a much longer gestation period and may therefore not show up as significant in the regressions.

Table 2.4: Determinants of Displacement at the Municipio Level

	RSS Data		RUT data	
			From 1999	Whole Sample
Guerrilla Action	0.194***	0.199***	0.046***	0.032**
	(8.78)	(7.39)	(2.60)	(2.36)
Bank Robberies	0.029	0.025	0.064***	0.064***
	(1.55)	(1.38)	(5.40)	(6.90)
Massacres (no. of victims)	0.057***	0.049***	0.013***	0.015***
	(8.94)	(6.67)	(2.83)	(3.77)
Kidnappings	0.062***	0.058***	0.037***	0.037***
	(17.55)	(15.21)	(14.71)	(18.04)
Gini of Landownership	0.478**	0.546**	1.375***	1.016***
	(2.31)	(2.24)	(8.63)	(9.04)
Population Density (1,000s/km^2)	0.494***	0.502***	0.199***	0.117***
	(7.86)	(8.26)	(5.01)	(4.17)
Road Density (km/km^2)	-1.182***	-1.136***	-0.125	-0.085
	(6.43)	(5.49)	(0.92)	(0.89)
No. of Homicides	0.001	0.001	0.002***	0.001***
	(1.10)	(0.96)	(4.22)	(3.33)
Deaths from Violence	0.057***	0.064***	0.050***	0.058***
	(5.44)	(6.21)	(7.37)	(10.22)
No. of Explosive Attacks	0.025***	0.027***	0.015***	0.019***
	(3.05)	(3.30)	(2.70)	(4.54)
Spending on Education Per Capita		-0.008***	-0.006***	-0.007***
		(3.08)	(3.66)	(4.99)
Spending on Health Per Capita		-0.009***	0.002	0.002
		(3.72)	(1.27)	(1.40)
Mineral Wealth (>10% of income)		0.201***	-0.060	-0.033
		(2.84)	(1.30)	(0.94)
Spending on Infrastructure Per Capita		0.001	0.000	0.001
		(0.78)	(0.41)	(1.34)
Spending on Police and Justice Per Capita		0.048	0.040	0.067***
		(1.24)	(1.58)	(3.27)
Constant	0.799***	1.341***	-0.856***	-1.772***
	(2.87)	(2.71)	(2.65)	(7.16)
Observations	5022	3822	3822	5733
R-squared	0.59	0.62	0.36	0.33

** Significant at 5%; *** significant at 1%.

Note: Year and departmental dummies included throughout but not reported.

Estimates of the number of households that were involuntarily displaced in a given year, the dependent variable D_{it}, in the above regression, can be obtained either directly from the RSS or from RUT by adding up the number of households. In fact, one of the advantages of having two sources of data that differ widely from each other is the ability to check the robustness of the results obtained from the two sources against each other. However, to control for the fact that both have expanded over time and have stronger presence in some departments than in others, it is important to include year and department dummies. Right-hand side data on violence are from the CEDE database and data on public spending from DNP.

Table 2.4 presents results for RUT and RSS data. Although the magnitude of the coefficients differs across the samples, there is a surprising level of consistency in the sense that all the signs and in most cases the levels of significance for the different variables are identical.[15] Key results relate to the impact of structural factors, the strategic use of acts of violence, and the impact of public spending at the local level.

- *Impact of structural factors:* In line with earlier evidence, we find that higher levels of landownership inequality have a strong and highly significant impact on displacement. In line with theory, the presence of mineral wealth makes displacement more likely, presumably because it increases the payoff from the ability to control a given territory for any group. Finally, road density, which is used as a proxy for general infrastructure and presence of the State, has a very strong and negative impact on displacement, suggesting that, by improving the economic benefits from remaining in a given location, provision of public goods can help reduce the incentive for displacement.
- *Strategic use of violence:* The high level of significance of specific violent action confirms that people who leave their place of origin do so in reaction to specific acts of violence and threats thereof. This supports the hypothesis that displacement constituting a means to gain territorial control is a clear element in the strategy of the warring factions in Colombia's ongoing war. Compared to the high significance of specific actions by violent groups, the number of murder cases, representing a more generalized type of violence that is separate from specific actions aimed to gain territorial control, is not significant. Higher levels of population density tend to increase displacement, suggesting that the war is no longer confined to outlying and marginal areas, but that systematic displacement of the land-owning or land-using population may be used as a war strategy.
- *Short-term measures:* A third conclusion of policy relevance that emerges from the analysis is that spending on social services, in particular, education, has a significant displacement-reducing impact. This suggests that by increasing spending (or the effectiveness with which existing spending is used), the Government can help to directly make staying more attractive, while at the same time reducing the incentive for parts of the population to join the warring forces. Spending on infrastructure, which has a longer gestation period and will have a less immediate impact on individual households, does not have such an impact.

2.3 Land-Related Policies To Assist the Displaced

The above regressions and analysis suggest that government can aim to reduce the incidence of displacement through a two-pronged strategy that would on one hand address structural factors such as unproductive accumulation of large tracts of land that have been shown to underlie displacement, and on the other hand take specific measures that could reduce the propensity to leave, for example, by strengthening physical security and reducing the incidence of violence that leads households to leave their place of origin. Although a detailed treatment of government policies to help the displaced population transcends the scope of this study and can be found elsewhere (Ibanez and Velez 2003), the key role of land in the process warrants a

[15] The only variables where signs are different across regressions are mineral wealth and health spending. In addition, there are differences in significance across the two data sets in road density (negative and significant for the RSS data but insignificant for RUT), bank robberies, and hominicides (positive and insignificant for RSS but significant for RUT).

brief discussion of two land-related programs, the *Sistema de Alertas Tempranas* (Early Warning System, SAT) and Decree 2007, which provides the basis for registering immobile properties of the population under threat of displacement.

Before doing so, we note that the budget to deal with displacement has increased significantly in recent years. During 1997–98, the amount allocated by the national government was less than US$60 million, compared to US$360 million over 2000–02 (Ibanez and Querubin 2003). In addition, international and UN organizations and bilateral donors provide assistance to the displaced. Initially, such assistance was, somewhat naturally, almost exclusively focused on socioeconomic stabilization of the displaced, something that consumed more than 80 percent of the budget. Gradually, this emphasis was complemented with a more proactive policy that aims to deal with the causes, including the SAT and Decree 2007.

The main policy related to land is Decree 2007, signed in 2001, which requires that the National Colombian Institute of Agrarian Reform (*Instituto Nacional Colombiano de la Reforma Agraria*, INCORA) or its successor organization(s) (a) put in place a registry of the lands abandoned by displaced population; (b) establish mechanisms to freeze mobility of assets in zones where the danger of displacement is high; and (c) implement and regulate a program that would allow the displaced population to exchange the land they lost with other land, possibly land that has been acquired by the State through *extinción del dominio*. In addition to such provision of alternative properties, INCORA is charged with facilitating access of the displaced population to temporary properties (*predios de paso*), possibly under some kind of rental arrangement, until the situation in their place of origin has stabilized and return is possible.

In practice, application of Decree 2007 and other initiatives has been extremely limited, partly due to funding constraints. One pilot application in Landazuri, Santander, however, provides the following lessons. First, given that the registry was out of date, systematic, massive, and quick establishment of an updated registry with participation by a large section of the population, and possibly the supervision of recognized public bodies to quickly resolve possible disputes, is likely to have a very positive impact. These processes will need to be able to use oral evidence in cases where legal documents are not available, and need to have some possibility for distinguishing between land and investments made by tenants. Once mechanisms have been developed, more funding to facilitate implementation would be desirable to help protect the immobile assets of the population threatened by displacement.

Recognition of the desirability of a more proactive approach to help prevent displacement is also at the foundation of the SAT, which was established as a means to flexibly and quickly respond to threats of physical violence by dispatching additional forces. Initially, the effectiveness of this mechanism was limited; of 20 cases where an early warning was issued in 2001, 11 ended up with actual violence (Global IDP Project 2003). As the importance of guaranteeing basic physical security is recognized, and a number of innovative experiences relying on participatory processes involving communities become available, the ability to deal with this issue is likely to be greatly enhanced.

2.4 Determinants of the Desire To Return

Facilitating return of households that were displaced to their place of origin is an essential element in the government's strategy. At present, the outreach of such programs is rather limited; RSS statistics indicate that only 11 percent of the displaced population returned in 2001 (Ibanez and Querubin 2003).[16] Descriptive evidence from above suggests that, under current conditions, few households are actually willing to return. Although the response to this variable in our sample may be affected by the timing of the survey,[17] the rather limited desire to return is confirmed by other studies. For example, a CODHES study in Uraba and Medellin

[16] The fact that, according to the same study, 37 percent of displaced households reportedly returned to their place of origin in 2000 illustrates not only the fact that one may see large changes in relatively short periods of time, but also is consistent with the descriptive evidence presented earlier which points to a significant shift in the nature of displacement.

[17] People were interviewed at the time they applied to RUT, which is likely to be the point when they most need assistance.

found that 68 percent of displaced households do not want to return to their original place of residence. This would mean that, unless circumstances change radically, the scope for (and success of) policies to facilitate reintegration may be limited by household unwillingness to participate. At the same time, the fact that 45 percent of displaced households point toward insecurity and fear as the principal motivation for their unwillingness to return implies that, if conditions change, demands for such a program could easily increase.

In this context, analyzing the determinants of household willingness to return can provide insights that will be relevant to policy in three respects. First, by highlighting characteristics that increases household propensity to return, it can help identify those that are likely to respond to programs that aim to facilitate the voluntary return of the displaced population, thus helping in the design and targeting of such programs. A second issue of interest is that we can use the data to assess the likely impact of existing programs of land titling at least through a titling dummy. Finally, by identifying characteristics of households that would like to return, it may be possible to design programs that would help similar households avoid displacement in the first place.

Let households be denoted by j, and let R_j be a dummy that is 1 if the household wants to return, and zero otherwise. This variable is likely to be affected by current household characteristics X^t_j (for example, whether the household has a job), and past household characteristics (for example, the sector of employment before displacement or whether the household had access to land). Also, treating the choice of community as exogenously given, the desire to return will be affected by characteristics of community of origin Z^O_i (for example, the level of security) as well as the destination Z^D_i (for example, the difference in level of security and social spending). We can then estimate a probit regression to identify and assess quantitatively the impact of past and present household characteristics and community characteristics on the desire to return. Formally, we estimate an equation of the form

$$R_j = \alpha_1 + \alpha_2 X^t_j + \alpha_3 X^{t-1}_j + \alpha_4 Z^O_i + \alpha_4 Z^D_i + \varepsilon_{it}.$$

Important right-hand side variables and the expected signs on their coefficients are discussed below.

- *Household characteristics:* Regarding family composition, we expect those households that are headed by females, possibly widows and those who have a large number of dependents, to be less likely to want to return because for them their cost and risk associated with return is higher than for others. We also expect that higher endowments with human capital (education), proxied by whether the household head had completed primary or secondary education, will make it easier for households to adapt to their new location, thereby reducing the propensity to return. Participation in a *campesino* organization and being from an ethnic minority are expected to provide access to social networks and mechanisms for consumption smoothing that can not only help reduce the risk of return, but also improve the benefits from such a move, and are therefore expected to have a positive impact. We also expect that households that managed to obtain employment in their present location will be less likely to want to return because doing so would force them to exchange relative security in the destination for a significant uncertainty in the location of origin. Finally, while having had employment in the place of origin (compared to having been unemployed) is expected to increase the desire to return for everybody, we expect that the effect will be particularly large for those who were originally employed in agriculture, due to the fact that they are much less likely to be able to put their job-specific skills to good use in the place of destination than they were in the location of origin.

- *Process of displacement:* Households that left their place of origin in response to a specific threat or event, as captured in the "reactive displacement" dummy, are expected to be significantly less likely to want to return. We expect a similar negative sign on the coefficients for displacement by guerrillas and paramilitaries. Because the costs of return are significantly lower for those who still reside in the same department, we expect that a dummy for intradepartmental displacement will have a positive sign We also expect that the desire to return will decrease with the duration of displacement, though at a decreasing rate (something that is to be captured by including a quadratic term).

Table 2.5: Determinants of Households' Desire To Return

	(1)	(2)	(3)
Intradepartmental Displacement	0.072***	0.072***	0.071***
	(20.41)	(20.52)	(20.21)
Duration of Displacement	-0.000***	-0.000***	-0.000***
	(20.37)	(19.11)	(19.27)
Duration Squared	0.000***	0.000***	0.000***
	(17.19)	(16.24)	(16.36)
Reactive Displacement	-0.014***	-0.013***	-0.014***
	(4.36)	(3.87)	(4.18)
Persons <14 Years Old	-0.002***	-0.002***	-0.002***
	(2.70)	(2.70)	(2.73)
Persons >60 Years Old	-0.001	-0.002	-0.002
	(0.48)	(0.55)	(0.64)
Female-Headed Household	-0.020***	-0.020***	-0.020***
	(5.98)	(6.02)	(6.02)
Head Has Primary Education	0.016***	0.016***	0.016***
	(4.89)	(4.84)	(4.64)
Head Has Secondary Education	0.031***	0.031***	0.029***
	(6.20)	(6.11)	(5.83)
Age of Head	0.001***	0.001***	0.001***
	(6.21)	(6.31)	(6.18)
Ethnic Minority	-0.030***	-0.028***	-0.026***
	(3.90)	(3.53)	(3.27)
Belongs to Campesino Organization	0.036***	0.037***	0.032***
	(7.54)	(7.70)	(6.60)
Wage-Employed Now	-0.034***	-0.033***	-0.032***
	(6.60)	(6.28)	(6.16)
Self-Employed Now	-0.024***	-0.022***	-0.021***
	(5.79)	(5.25)	(5.02)
In Agriculture Now	0.020***	0.023***	0.025***
	(4.73)	(5.42)	(5.80)
Wage-Employed Originally	0.002	0.002	0.001
	(0.30)	(0.32)	(0.17)
Self-Employed Originally	0.006	0.005	0.004
	(1.11)	(0.88)	(0.68)
In Agriculture Originally	0.009**	0.008**	0.006*
	(2.41)	(2.16)	(1.67)
Displaced by Guerrilla	0.009***	0.004	0.005
	(2.66)	(1.06)	(1.49)
Displaced by Paramilitaries	0.040***	0.036***	0.036***
	(11.25)	(10.20)	(9.96)
Received Assistance after Displacement	0.027***	0.025***	0.025***
	(8.20)	(7.72)	(7.47)
Access to Land before Displacement	0.041***	0.036***	0.028***
	(12.59)	(10.55)	(7.01)
Decree* Land access		0.020***	
		(3.75)	
Collective* Decree		0.041***	
		(4.64)	
Land Individually Held			0.013***
			(3.14)
Land Collectively Held			0.078***
			(7.36)
Individual* Decree			0.017***
			(3.00)
Collective* Decree			-0.011
			(1.17)
Observations	32028	32028	32028
Pseudo R-Squared	0.20	0.20	0.20
Log Likelihood	-9161.46	-9146.47	-9118.67

* Significant at 10%; ** significant at 5%; *** significant at 1%.

Note: Absolute value of z-statistics in parentheses. Department and year dummies included throughout but not reported.

Finally, it is of considerable interest for policy to assess empirically the impact of receiving assistance on the desire to return: A negative sign would lend some credence to the "revisionist" hypothesis that, because of the inability to target assistance to those who are displaced rather than economic migrants, more effective assistance may in fact end up creating perverse incentives for higher levels of migrants to pretend that they were displaced through violence. On the other hand, a positive coefficient would imply that no such effect is present and that, to the contrary, providing prompt and effective assistance will, by helping households to better preserve their endowments, increase their desire to return.

- *Asset ownership:* A large amount of empirical evidence highlights that, under threat of imminent displacement, it will be neither possible nor desirable for households to liquidate their holdings of immobile assets. This implies that those who held land before being displaced can have some expectation of being able to once again take possession of this asset, which leads us to expect that it will increase household desire to return. Holding land under collective tenure is likely to make it easier to reclaim such land because the costs of making ownership claims can be defrayed among many owners. This suggests that collective land tenure arrangements may make it easier to return.
- *Policy variables:* As described earlier, recognition of the importance of securing land tenure of the displaced led the government to pass, in 2001, Decree 2007. In addition to strengthening tenure security of the displaced (making it easier to reclaim land that has been abandoned), the decree also mandates that government institutions establish an inventory of land in cases of imminent threat of displacement. While implementation of this decree has been limited to a few pilots, we can perform a very crude measure of its effectiveness; for example, by changing the perception of tenure security, this decree had an impact on the desire to return. To do so, we add a dummy indicating whether the household was displaced before or after the decree was passed and interacting this dummy with landownership. While lack of significance of the coefficient on this variable would imply that the decree has not been effective, a positive sign would suggest that there may be an effect and that further exploration of the issue would be of interest.

Key results, as displayed in Table 2.5 are explained below. To interpret these, note that the coefficients are the marginal effects of a one-unit change in the variable of interest at the mean of all other variables and that, in order to control for unobserved effects at the department level or for other systematic but unobserved changes over time, we include department and year dummies throughout.

- *Household characteristics:* As expected, female-headed households with a large number of children under age 14 are less likely to be willing to return. However, it is surprising to find that higher levels of education increase the desire to return rather than decrease it, as expected. Also, while membership in an organization makes return more likely, belonging to an ethnic minority does not. It is of considerable interest, and consistent with expectations, that those who were able to obtain wage or self-employment in their destination are significantly less likely to want to return, consistent with expectations. The big exception to this is agriculture: Even those who are able to pursue agricultural activities in their destination are significantly more inclined to return to their place of origin than those who are unemployed, over and above the positive impact of having been in agriculture originally (which is much smaller in magnitude). In terms of policy, this implies that the large number of households that undertook agricultural activities before being displaced are always more likely to want to return, and that temporary arrangements (for example, using rental arrangements) will be better suited than attempts to induce them to become permanent residents in their destination.
- *Type of displacement:* Not surprisingly, households that remained in the same department are significantly (7 percent) more likely to want to return than those that had changed to another department, while those that suffered reactive displacement are less likely to want to return. Because all of those replaced by guerrilla or paramilitary activity suffered from reactive displacement, the net effect of the latter is obtained by adding the two coefficients. This suggests that, somewhat

surprisingly, those displaced by paramilitaries are still more likely to want to return. A similarly surprising finding relates to the duration of displacement, a finding that is due to the fact that this variable is not exogenous but depends on when the household registered. The main finding of interest is the positive and highly significant sign of the coefficient on having received assistance, which suggests that assistance is relatively targeted toward those in need and that helping them to cope with the immediate impact of the shock of displacement enhances their ability and desire to return to their place of origin.

- *Land access and policy:* As expected, we find that land access is very significant and positive. More interestingly, the positive coefficient on the interaction between land access and the dummy indicating whether, at the time when the household was displaced, Decree 2007 was in place or not in specification (2), suggests that this decree may indeed have had an effect. To explore potential mechanisms for such an effect in more detail, we interact the "decree dummy" with two different dummies for landownership, depending on whether land was owned individually or collectively (specification 3). Results suggest that the passage of the decree did not enhance the tenure security on collectively held land (which was very high already before the passage of the decree), but did help to increase the impact of individually held land on the desire to return.

2.5 Policy Implications

In view of the complexity of the problem and its different facets across regions, together with the limited amount of research and data available, any policy recommendations will need to be adapted to local conditions. Nevertheless, the evidence presented clearly suggests that, overall, greater emphasis should be placed on preventive measures compared to reactive ones that kick in only once households have already abandoned their original place of residence. In both categories, land-related policies are of great relevance. We discuss policies relating to prevention of displacement, and return and stabilization of those affected in turn.

Concerning measures that can help to *prevent displacement*, our analysis points to a number of areas for structural policies that are not specifically related to land. A key issue is to improve physical security in a flexible manner by drawing on national policies and security forces in addition to existing forces. Consider the establishment of a rapid reaction force that could be dispatched in response to the activation of the *Sistema de Alertas Tempranas*. In fact, this system should be expanded and systematized by (a) conducting a systematic assessment of risks in different zones, (b) improving communication between local authorities and the population, and (c) designing strategies that would allow implementation of the necessary actions. Restitution of security in affected areas should be combined with strengthening of processes of social control and participation that increases the ability of local communities to resist tendencies toward displacement. This could include improving the effectiveness of public spending, which the econometric analysis has identified as a critical factor that tends to reduce the incidence of involuntary displacement.

Preventive mechanisms in the area of land tenure would include putting in place a program to actualize the land registry that puts priority on zones with a high risk of displacement. To do so, establishment of mobile registries with strong local and community participation that have validity beyond the declaration of imminent risk to reduce transaction costs, and thus ensure participation by the poor, should be considered as a means to provide at least some measure of protection of their assets. Remaining problems and inconsistencies (for example, with respect to treatment of debts, improvements, and usufruct rights) with Decree 2007 should be ironed out. Once that has been done, there should be increased attention (and funding) given to the program to make it effective on the ground. Similarly, mechanisms (for example, rental of properties) to improve access to privately or publicly held land by the displaced population with agricultural skills might be important to help them maintain their skills and livelihood.

Policies for the *return of displaced populations* should be voluntary, with short-term assistance targeted to the needs of households that are likely to return, and built on preexisting links and mechanisms of social control and cohesion. Security should be restored, and community participation and social links strengthened before returning people. In addition, a focus on those with preexisting social links is likely to be beneficial. In cases where large-scale return is possible, an independent body or commission that enjoys broad legitimacy and recognition can help reduce transaction costs and solve disputes on the spot before they develop into bigger issues.

Programs of return should constitute one of a number of options for displaced people. They should be targeted to areas where return is likely to be feasible, and to people for whom this is likely to offer a sustainable option—that is, those who have specific agricultural skills and have little alternative economic opportunities in their current situation. Programs should be based on dissemination of information on the legal rights of displaced people, and implemented based on negotiation and consensus rather than imposed from outside on households that have very little in common and who therefore may desert their land at the first opportunity. Depending on the nature of assets lost and the length of absence, it may be necessary to complement return of the land with technical assistance, credit, and acquisition of land through rental with the option to buy. Doing so will not only make it less likely that households will leave again, but could also have advantages to the extent that, in addition to facilitating access to land, groups can also facilitate transfer of technology and access to markets, which are essential if the immobile assets owned by households are to be used productively.

Concerning the *short-term stabilization* of the displaced population, our results imply that making such assistance more effective will not only have immediate benefits, but is also likely to increase the desire of those affected to eventually return. Any measures that would improve the effectiveness of such assistance, and the ability of local governments to provide it, would therefore be welcome. In this context, one general issue is related to the fact that many of the recipient *municipios* have no financial or other incentives to provide assistance to the displaced or to try and integrate households that are unlikely to return (that is, female-headed ones) under most reasonable circumstances.

Providing local governments that receive disproportionate inflows of displaced population with the means and incentives to provide effective services to this part of the population, with the goal of facilitating their eventual integration into society, is likely to have a far-reaching effect. It may be useful to combine this with more effective and systematic monitoring. Integration of displaced households into the labor market can be promoted by easing access to information, by providing (tax) incentives to the private sector for employing those registered in the *Sistema Unico de Registro* (SUR), and supporting access to childcare for female-headed displaced households.

CHAPTER 3: ASSESSING AND IMPROVING THE PERFORMANCE OF LAND MARKETS

Earlier chapters suggest that Colombia is characterized by a number of structural problems and policy distortions that may make it more difficult for markets to bring about efficiency-enhancing transfers of land that would help equalize the distribution of operational landholdings in an environment where few other distortions are present. Furthermore, in conditions of violence and speculative land accumulation, land markets may actually lead to outcomes that are not productivity enhancing at all. However, over recent years, the Government has undertaken a number of measures and reforms that aimed to improve the extent to which land markets improved productivity, and at the same time enhanced land access by the poor.

In this chapter, we use household-level data to explore two critical issues. First, we are interested in finding out whether land markets have transferred land to more productive and poor producers, and how such activity compares to government-led land reform initiatives. Second, we want to use the evidence from individual transactions (including the motivations that prompted parties to undertake them), complemented by evidence on the impact of land access on household welfare, to assess the extent to which land markets can help address the problem of unequal landownership and access identified earlier, and what measures might be taken to assist them in doing so.

3.1 Determinants of Land Market Participation

We first explore determinants of participation in land rental and sales markets, aiming to identify the extent to which markets have enabled productive and relatively poor producers to gain access to land, thereby leading to an improvement in overall output and equity. This analysis highlights not only that, due to entry barriers to sales markets, rental is likely to be more equity-enhancing than sale, but also that both land rental and sales have historically performed better than state-sponsored agrarian reform. This implies that greater reliance of public land reform on market mechanisms may help improve their performance.

3.1.1 Data and Descriptive Statistics

To assess the performance of land markets in Colombia we use panel data on about 1,270 farm units[18] from a survey undertaken by the Colombian Government in collaboration with *Instituto Interamericano de Cooperación Agricola* (IICA) and the World Bank (*Primera Encuesta de Calidad de Vida y Eficiencia de los Productores Agropecuarios* [PECVE] and *Segunda Encuesta de Calidad de Vida y Eficiencia de los Productores Agropecuarios* [SECVE]). Data were collected from 55 clusters in Colombia's 11 main agroecological regions in 1997 and 1999. To obtain maximum variation of farm sizes, large operations, drawn from lists of sugar, banana, coffee, and oil palm enterprises in the selected clusters, were over sampled.[19] A multipurpose survey instrument was used to obtain detailed information on agricultural production, land market participation, and tenure status. In the roughly 1,000 cases of household-based enterprises the household associated with the production unit was canvassed using a standard household questionnaire. To account for differences between arable, permanent, pasture, and fallow land, we convert land into equivalent units by multiplying the different classes.[20]

Table 3.1 presents descriptive statistics, separately for all enterprises and the household sample for subgroups as defined by the nature of their land markets and land reform program participation. The top row demonstrates that about 14 percent of enterprises in the sample rented in, 4 percent rented out, 11 percent (or slightly above 2 percent per year) had, over the five-year period from 1994 to 1999, engaged in land

[18] The basic unit of observation was the farm, or *Unidad de Produción Agraria* (UPA), although a module on household characteristics was administered to all farms where such a household could be identified.
[19] That is, more were selected than would have been included in a random sample of farm units.
[20] The factors used are 2 for perennials, 0.5 for pasture, 0.3 for forest, and 0.1 for other nonproductive land.

purchases, and about 6 percent had sold land. The fact that 10 percent of sample households had benefited from the land reform program illustrates the importance of government-sponsored land market intervention compared to the operation of free markets. While it is not surprising to find significant differences in median endowments of capital in the form of livestock and machinery, which are about 75 percent higher for the whole sample compared to households only, the fact that levels of output per hectare do not follow this trend is of interest. Heads of household, with an average of 53 years, are quite old, the mean level of education is almost 7 years of schooling, and 18 percent of household heads were female.

Table 3.1: Descriptive Statistics for Total and Household Samples

	Total Sample						
	Total	**Not Renting**	**Renting In**	**Renting Out**	**Selling**	**Buying**	**Reform Benef.**
No. of Enterprises	1,275	81.96%	13.96%	4.24%	5.80%	10.59%	8.55%
Land Cultivated 1999 (mean)	29.12	31.21	8.62	55.97	56.62	24.66	15.09
Land Cultivated 1999 (median)	3.91	4.14	2.59	7.00	5.85	4.75	8.37
Land Owned 1997 (median)	3.15	4.01	0.00	8.97	5.03	3.76	9.70
Land Owned 1999 (median)	3.15	4.10	0.00	6.70	5.10	4.51	7.95
Mean Livestock Assets (US$)	6,984	7,797	1,468	9,228	12,132	8,216	4,018
Mean Machinery Assets (US$)	849	848	471	2,095	3,003	898	297
Total Value of Output 99 (median)	1,212.41	1,212.98	1,089.41	2,252.70	1,572.21	1,733.71	1,200.46
Value of Output per Ha 99 (median)	326.70	295.64	509.72	290.84	281.89	359.47	166.92
	Household Sample						
	Total	**Not Renting**	**Renting In**	**Renting Out**	**Selling**	**Buying**	**Reform Benef.**
No. of Households	1,011	83.68%	12.66%	3.86%	6.33%	10.19%	10.09%
Household Size	4.62	4.56	4.95	4.82	4.78	4.55	5.51
Head's Age	53.39	53.94	49.48	53.97	56.73	44.46	51.93
Head's Education	5.67	5.67	5.49	6.26	6.48	6.17	5.35
Female Headed	18.20%	18.91%	10.16%	28.21%	14.06%	8.74%	15.69%
No. of Persons <=14 Years	1.38	1.33	1.72	1.51	1.08	1.49	1.94
No. of Persons 14–55 Years	2.45	2.41	2.66	2.69	2.69	2.55	2.87
No. of Persons >55 Years	0.79	0.83	0.57	0.62	1.02	0.51	0.70
Mean Level of Education	6.55	6.54	6.49	6.86	7.15	6.76	6.42
Land Cultivated 1999 (mean)	14.47	15.84	5.68	13.77	23.43	11.24	13.89
Land Cultivated 1999 (median)	3.63	3.77	2.87	5.20	4.81	4.92	8.28
Land Owned 1997	2.75	3.48	0.01	8.29	4.29	4.12	9.76
Land Owned 1997 (median)	2.75	3.48	0.01	8.29	4.29	4.12	9.76
Mean Livestock Assets (US$)	4,021	4,530	1,112	2,428	4,553	3,924	4,045
Mean Machinery Assets (US$)	509	500	619	343	1064	275	266
Total Value of Output 99 (median)	1,168.79	1,161.73	1,166.00	1,849.46	1,151.54	1,742.77	1,210.99
Value of Output per Ha 99 (median)	337.39	310.86	452.79	370.34	291.38	369.47	165.47

Source: Authors' computations from PECVE/SECVE.

Comparing household characteristics across the different groups suggests that land markets perform an important function in terms of intergenerational transfer as evidenced by the fact that those who acquired land in the market, either through rental or sale, are significantly younger and, in the case of rental, also have larger households than the rest. Rental markets appear to contribute to equalization of the operational distribution of land; in fact, for both groups the median tenant in the sample owns no or hardly any land. Partial productivity, as approximated by both the gross value of output per hectare and this figure net of variable inputs excluding unpaid family labor, is significantly higher for those renting than for the rest of the sample. This relationship is less clear for land buyers where none of these differences is statistically significant. Concerning land reform beneficiaries, it is of interest to note that, even though total output is in line with that achieved by others, median land endowments for reform beneficiaries are quite large, suggesting that this group may not make the most effective use of the resources at their disposal, a hypothesis that is supported by the relatively low level of output per hectare.

3.1.2 Econometric Model and Results

Based on a household model that is discussed in more detail in Deininger and Jin (2002), we formulate three hypotheses. First, we expect that households with higher levels of agricultural ability and lower own-land endowments should obtain higher levels of land through the market and possibly also the sales market. This implies that these transfers of land to "poor but efficient" producers and land markets would lead to a gradual equalization of the landownership structure. Second, transaction costs will reduce the level of land market activity, thereby increasing the number of producers who remain in autarky rather than participating in rental activity. Reducing transaction costs will thus allow a greater extent of productivity enhancing land transactions, which will lead to an unambiguous increase in social welfare. Third, exogenous increases of off-farm employment will increase the amount of land transacted in rental markets, and thereby overall productivity—because it is producers with low ability who will take off-farm jobs and rent out to those with higher levels of ability—and welfare. This will be associated with a decrease in the equilibrium rental rate and, unless there is high risk of job loss in the off-farm sector, will make everybody better off. All of this implies that land rental markets will have a positive equity and efficiency impact, and can be a cause and a consequence of greater off-farm development.

To allow estimation of the above relationship, we need an estimate of the ability α_{ij} of farm i in village j. To do so, we use a Cobb-Douglas production function:

$$Q_{ijt} = exp(\alpha_i + \alpha_j)\, A_{ijt}^{\theta 1} L_{ijt}^{\theta 2} K_{ijt}^{\theta 3} \qquad (1)$$

where Q_{ijt} is agricultural output produced by household i in village j in year t; A_{ijt}, L_{ijt}, and K_{ijt} are land, labor, and capital inputs used, θ_1, θ_2, and θ_3 are technical coefficients to be estimated, and $exp(\alpha_i+\alpha_j)$, is the efficiency parameter of interest. Taking logs of both sides, adding a time trend T and an iid error term, we obtain an estimable equation for production by household as follows,[17]

$$log\,(Q_{jit}) = \alpha_{ij} + \lambda_1\, log(A_{jit}) + \lambda_2\, log(L_{jit}) + \lambda_3\, log(K_{jit}) + \lambda_4 T + \varepsilon_{jit}$$

where $\alpha_{ij} = \alpha_j + \alpha_i$ is the composite efficiency parameter, composed of a household-level idiosyncratic element (α_i), and a village-level effect (α_j), which reflects access to infrastructure and markets, soil quality, climate, and so forth. Agricultural land markets are location specific, with little scope for trading across *municipios* or departments, implying that the parameter of interest for land market participation *is* α_i, that is, each producer's ability relative to the village mean. Availability of multiple observations per household in the panel allows us to obtain this parameter in a two-step procedure where we first run a panel regression to recover α_{ij}, and, after subsequent application of the same procedure at the regional level that helps to recover α_j, we obtain the variable of interest, α_i, by simple subtraction. An additional advantage of this estimation is that it allows us to assess the extent to which the size of the land endowment is associated with higher levels of productivity. Doing so (results not reported) suggests that there are no economies of scale in agricultural production in Colombia.

To capture determinants of land rental market participation, we estimate an equation of the form

$$R_i = \beta_0 + \beta_1 \alpha + \beta_2 \boldsymbol{X}_i + \beta_3 \boldsymbol{Z}_i + \epsilon_{it}$$

where R_i is a dummy that equals 1 if the household is renting in or out and zero otherwise, and the parameter α_i is the household's level of agricultural ability constructed as explained above. The vector $\boldsymbol{Xi}$ contains household characteristics, in particular household size and composition, and the head's age and education, households' endowment with land and other agricultural and nonagricultural assets in value terms, and a dummy indicating whether or not a household member participated in non-farm employment. Finally, $\boldsymbol{Z}_i$ denotes community characteristics, including the share of producers excluding the producer under concern,[21] which are taken to reflect *municipio*-specific levels of transaction costs in land and credit markets.

[21] Let the number of producers in any given cluster be given by N, the number of those participating in rental (or credit) markets by M (or C), and let m or c be a dummy variable that equals 1 if the producer under concern participates in rental (or credit) markets, and 0 otherwise. Then the variable included in the regression is defined as $(M\text{-}m)/(N\text{-}1)$, or correspondingly, $(C\text{-}c)/(N\text{-}1)$.

The expectation that more productive individuals will be more likely to rent in land (or less likely to rent out) implies that $\beta_1>0$ in the rent-in and $\beta_1<0$ in the rent-out equation. Furthermore, the fact that we expect land rental markets to transfer land from large owners to small producers who will be able to make more productive use of this asset implies that the element of β_2 corresponding to the amount of land owned be positive in the rent-out equation and negative in the rent-in equation. If markets for other factors, especially capital, are functioning well, household composition and their ownership of other assets should not have a significant impact on decisions regarding production and participation in rental or sales markets. Finding a significant coefficient on capital would therefore point toward imperfections in markets for working capital that make it impossible to use, such as a future harvest as collateral to finance production inputs. Similarly, the hypothesis that increases of the wage for off-farm employment will increase the amount of land transacted in rental markets and thereby overall productivity leads us to expect that the element β_2 corresponding to availability of non-farm employment at the local level will be negative.

Finally, we use the level of rental activity in a given village as explained above to proxy for transaction costs in these markets. The justification for doing so is that for any producer the marginal costs associated with participation in land markets, such as inquiring about prices and supply, negotiating the terms of transfer, and enforcing contracts, will decrease with the village-wide level of market activity. A similarly constructed variable on the share of producers having access to formal credit is used as a proxy for credit supply, and is introduced to assess whether availability of infrastructure at the local level has an impact on land market outcomes. Other unobserved community-level characteristics, such as access to infrastructure and markets, are represented by regional dummies.

For participation in the sales market, we estimate a similar equation,

$$S_i = \beta_0 + \beta_1\alpha + \beta_2\boldsymbol{X}_i + \beta_3\boldsymbol{Z}_i + \epsilon_{it}$$

with S_i denoting participation in land sales or purchase markets. Definitions of most right-hand side variables are as above, with the exception that $\boldsymbol{Xi}$ now includes variables for initial endowments wherever available, and the transaction cost element in $\boldsymbol{Z}_i$ is approximated by the level of sales market activity excluding the producer under concern. The key difference between sales and rental markets is that imperfections in credit, other policy distortions, and noneconomic factors that affect the perceived value of land, will have a more profound impact on the outcomes observed in the latter. If the ability to overcome imperfections in markets for credit and insurance is more important than the ability to make productive use of the land, β_1 in (3b) may no longer be positive for purchases. Similarly, if land is held for speculation and other nonproductive purposes, even though doing so is not economically rational, the coefficient on ability will no longer be negative in the sales equation, and education, which will increase the ability to make productive use of land, may no longer be as relevant. The same rationale, in addition to the ability to overcome capital market imperfections, would imply that land may no longer be acquired by those with lower initial landownership, or sold by those with large endowments, and that initial access to assets (or off-farm income streams) may have an overriding impact on purchase or sales decisions.

Finally, to assess how the government's land reform program compares to the performance of decentralized markets, we specify equation (3c), where the dependent variable, B_i denotes a dummy that equals 1 if the biggest part of a household's land was received through INCORA, and 0 otherwise.

$$B_i = \beta_0 + \beta_1\alpha + \beta_2\boldsymbol{X}_i + \beta_3\boldsymbol{Z}_i + \epsilon_{it}$$

Rather than helping to draw inferences on the performance of decentralized markets as before, the coefficients in this equation will provide insights on the extent to which government intervention has been targeted toward poor but relatively productive producers—that is, those with high agricultural ability (β_1), low initial endowments of land and non-land assets, and possibly low levels of education. Even though a rigorous assessment of the productivity impact of land reform would require a comparison of the productivity of the same plot of land before and after being subjected to land reform, the ability to target reform toward more productive producers would obviously make it more likely to have a positive productivity impact. The

ability to provide land access to poor producers who presumably would not be able to access land through other means provides a key justification for such an intervention. Finding that it has not been well targeted would provide a strong argument to review either the justification for such an intervention or the specific mechanisms used to implement it.

It is important to note that, if landownership rights are secure, long-term rentals are possible, and lease income can be used as collateral, many of the results that can be achieved in land sales markets can also be brought about by long-term rentals. Below, we will use an estimate of producers' agricultural ability to test proposition 1; the level to which the information needed for rental markets to operate (and to enforce contracts) at the community level for proposition 2; and households' participation in off-farm employment for proposition 3.

Table 3.2: Probit Regression for Participation in Land Sales/Rental or Receipt of Land through Reform

	Rental Market (1998)		Sales Market (last 5 years)		INCORA
	Renting In	Renting Out	Sold Land	Bought Land	Received Land
Agric. Ability	0.005**	-0.001	-0.008**	-0.004	-0.007*
	(1.96)	(0.64)	(2.21)	(0.69)	(1.70)
Land Owned (equiv ha)[1]	-0.071***	0.012***	0.034***	-0.019**	0.025***
	(9.24)	(2.69)	(5.77)	(2.23)	(3.59)
Value of Agr. Assets (log)[1]	0.007***	-0.002	-0.003	-0.001	0.002
	(3.15)	(1.10)	(1.10)	(0.33)	(0.79)
Value of Consumer	0.006**	0.000	0.001	0.011***	-0.004
Goods (log)	(2.46)	(0.06)	(0.55)	(3.27)	(1.41)
Has Non-Farm Income	-0.018	0.012	0.033**	-0.014	0.024
	(1.54)	(1.34)	(2.17)	(0.76)	(1.50)
Village-Level Non-Farm Inc.	-0.019	0.072***	-0.010	-0.009	0.057
	(0.54)	(2.62)	(0.25)	(0.18)	(1.21)
Head's Education	-0.014***	0.009**	0.003	-0.013*	0.005
	(3.00)	(2.29)	(0.47)	(1.85)	(0.81)
Head's Education Squared	0.001***	-0.001**	0.000	0.001*	-0.001
	(2.63)	(2.02)	(0.12)	(1.74)	(1.52)
Head's Age	-0.001***	0.000	0.001**	-0.004***	-0.001
	(2.94)	(0.49)	(2.22)	(5.74)	(1.20)
Female Headed	-0.025**	0.023*	-0.019	-0.041*	-0.006
	(2.09)	(1.96)	(1.18)	(1.91)	(0.31)
Household Size	0.007***	0.000	-0.000	-0.005	0.011***
	(2.78)	(0.21)	(0.03)	(1.26)	(3.67)
Credit Access in Village	0.007	0.050	-0.006	0.085	
	(0.14)	(1.32)	(0.09)	(1.17)	
Rental in Village	0.220***	0.060**	0.096	0.151*	
	(6.81)	(2.44)	(0.98)	(1.66)	
No. of Observations	1009	1009	1009	1009	1009
Pseudo R-Squared	0.39	0.16	0.14	0.14	0.17
Log Likelihood	-235.87	-138.86	-204.46	-286.64	-272.61

* Significant at 10%; ** significant at 5%; *** significant at 1%.

[1] The variables for land owned and assets refer to 1999 for renters, and to 1994 for the rest.

Note: Absolute value of z-statistics in parentheses. Regional dummies included but not reported separately.

Results for *rental market* participation are illustrated in columns 1 and 2 of Table 3.2, with all coefficients being reported as marginal probabilities to facilitate interpretation. Note that agricultural ability is indeed highly significant for those who rent in land, but not for those who rent out land. At the same time, and as predicted, land rentals have a strongly redistributive impact, as indicated by the negative sign of the coefficient on landownership in the rent-in, and the positive one in the rent-out, equation. The fact that household endowments with agricultural assets and consumer goods increase their propensity to rent in points toward the presence of working capital constraints. Rental markets provide land access to the young and relatively uneducated; higher levels of education reduce the propensity to rent in up to a level of about 7 years of completed schooling, after which the propensity to rent in increases again. Large households are

more likely to rent in land, while female-headed households are less likely to do so, pointing to labor market imperfections that make it easier to use labor in home production. Finally, the high level of significance and the large size of the coefficient on the share of producers practicing land rental in the village suggests that the level of rental market activity varies considerably across localities. One interpretation of this is that factors associated with perceived security of tenure, the ease with which information on rental can be obtained and contracts enforced, continue to constitute an impediment to the unrestricted functioning of rental markets.

The coefficients for renting out are in many respects a mirror image of what had been obtained for renting in. In line with what was found earlier, characteristics of the local economy appear to be a key determinant of renting-out decisions; the share of households in the village that have members participating in the off-farm economy is highly positive and significant, as is the level of land rental in the village. In addition, the propensity to rent out increases up to a level of about 4.5 years of education, large owners are more likely to rent out, while female-headed households are slightly less likely to do so. Concerning the magnitude of the coefficients obtained, we note that the scope for renting in decreases rapidly with higher landownership. To illustrate, a household with 2 hectares of land will be 14 percentage points less likely to rent in than one that does not own land. Similarly, a male-headed household with 7 members and a head aged 30 is 8 percent more likely to rent land than one headed by a 50-year old female with only 2 members. Increasing the share of renters in the village by 10 points is predicted to increase everybody's propensity to rent in by 2 points. Slightly smaller orders of magnitude are found for renting out.

While the evidence of rental markets working in the "right" direction is clearly encouraging, the magnitude of the coefficient on productivity is relatively small, something that may imply that, even though land rental markets have started to work in the right direction, such markets may be thin. Also, imperfections in other markets may impose constraints on the ability of the "productive poor" to convert their latent ability into effective demand in the market. Compared to these relatively large effects, the impact of agricultural ability, while significant, remains minor; noting that the difference between the 10^{th} and the 90^{th} percentile in terms of ability is only about 3.5 points, one notes that shifting a producer from the lower end to the top of the ability distribution would increase her propensity to rent in by less than 2 percentage points. Mechanisms to activate land markets in a way that would allow poor but productive producers to translate latent into effective demand could be useful.

Results for *sales and purchase markets* as illustrated in columns 3 and 4 of Table 3.2 lead to two conclusions. First, the negative and significant coefficient on ability for those who sold land suggests that at least some inefficient producers are starting to get rid of some of their land. This is in line with the descriptive evidence that pointed to lack of profitability and the need to repay debts as a key reason for participation in land sales markets, and suggests that broader policies are starting to have an impact on observed outcomes in markets. Second, households with lower land endowments were more likely to have acquired land, while larger landowners were more likely to have sold land. This suggests that, contrary to what one might have expected in view of continuing concerns about land reconcentration, land sales markets have, in the sample considered here, performed a redistributive role.[22] In fact, comparing the size of the coefficients on land owned for buying/renting in and selling/renting out, respectively, suggests that it is easier for those without land to acquire land through the rental market, whereas those with high land endowments would prefer selling to renting. We also note that, compared to rental, the intergenerational dimension is more pronounced in the land sales markets because the propensity to buy land decreases rapidly with age, while the tendency to sell land increases with age, though at a slower rate. At the same time, the impact of education is almost identical in magnitude for buying and renting in, though less significant for renting out.

Turning to the magnitude of the coefficients, one notes that a key factor prompting households to purchase land is their nonagricultural wealth; increasing the value of household endowments with consumer goods

[22] This does not mean that in locations not covered by our sample, especially those characterized by high levels of violence and/or continuing inflows of drug money, tendencies toward speculative land accumulation may not persist.

from the 10th to the 90th percentile of the distribution would increase the propensity to buy land by about 6.5 percentage points. On the other hand, the two most important factors leading households to sell land are the level of initial landownership and their access to non-farm income. A one-hectare increase in landownership increases the propensity to sell by about 3 percentage points, similar to the increase observed through access to non-farm income. Taking these factors together, one notes that lack of profitability, together with large land sizes, does lead producers to sell off land, although it is not a major determinant. At the same time, capital constraints appear to be more important in sales than in rental markets, thus precluding efficient producers from acquiring land through this channel.

To compare the results of the government-led land reform process with those obtained through the operation of markets, we estimate equation (3c) for beneficiaries of land reform. Doing so yields a number of rather surprising findings. First, we find that the coefficient on the original land endowment is positive and highly significant at the 1-percent level. This, together with the lack of significance of the coefficients on other agricultural and consumer assets, suggests that the government's land reform efforts failed to target the land poor. This would be consistent with the hypothesis of a land reform process that is relatively centralized and not well attuned to local conditions and needs. A second surprising finding from this regression relates to the negative coefficient on agricultural ability (significant at the 10-percent level), which suggests that land reform beneficiaries are on average less productive than the rest of rural producers. To explore whether this is only a temporary effect, we interacted the farmer's ability with the time when the land was acquired (not reported). The fact that the coefficient of this variable is not significant leads us to conclude that land reform beneficiaries' level of ability failed to change over time.

The regression for reform beneficiaries also suggests that households that benefited from land reform are larger than the average, have slightly lower education (significant at 10 percent), and, despite having been awarded areas that are much larger than those owned by the median farmer, are more likely to engage in off-farm activities. This is consistent with the descriptive statistics on relatively low partial productivity per unit land area presented earlier (Table 3.1). In addition to suggesting that the model followed in earlier reforms was in line with neither goals of poverty reduction nor productivity enhancement, it implies that remaining restrictions on the ability of land reform beneficiaries to transfer their land to others may constitute an important impediment to increasing productivity on these lands, and the welfare of those holding them.

The fact that, contrary to what had been observed in earlier periods, we fail to find evidence for land concentration in either the sales or the rental market suggests that the policy reforms initiated in the early 1990s and implemented over the subsequent years had an impact on market outcomes. At the same time, the amount of land rental market activity remains, at about 12 percent, low by international comparison.[23] In addition, we saw that, even though the tendency toward speculative land accumulation has largely been stopped, transaction costs together with imperfections in other markets imply that it is not always the most productive who are able to access land through sales markets. To explore whether measures to improve the functioning of land markets, and the ability of poor producers to participate in these markets, may be justified, we turn to an analysis of the motivations underlying individual transactions and the impact of land access on household welfare.

3.1.3 Analysis by Type of Transaction

To assess whether the evidence on high levels of rental market participation by small farmers implies that transactions actually cross farm-size barriers and thus lead to true redistribution from large to small farmers, rather than just being evidence of "churning," whereby small farmers rent or buy from other small producers with little impact on the overall land distribution, information on characteristics of the other party in the transaction are required. While our sample is not ideal for this purpose, the fact that information on sellers

[23] In a number of European countries, more than half of the producers are engaged in land rental; in Vietnam, the share of renters has increased from less than 3 percent in 1993 to more than 16 percent in 1998; and in Uganda, more than one-third of households rent in land (Deininger 2003b).

and buyers and the main motivation for the transaction was included, allows one to provide some indications. Results from doing so are illustrated in Table 3.3 for rental markets and Table 3.4 for sales markets.

Consistent with the evidence from the regression, the biggest share of land rental is accounted for by tenants who own less than 15 hectares of land (89 percent of the total). With almost 70 percent of those renting out being small producers and only 19 percent being producers who own more than 50 hectares (Table 3.3), the contribution of those markets to overcoming the high levels of inequality in land access is clearly limited. Moreover, the fact that the large majority of transactions (59 percent) are undertaken in response to age- and health-related factors suggests that the desire to improve profitability as a motivation to engage in land market participation still plays only a minor role.

Table 3.3: Details on Performance of Land Rental Markets

		"Landlords" Renting Out		
Land Size Class (ha)	**Total**	**0–15**	**15–50**	**>50**
Rented out in 1999 (Obs.)	54	69%	13%	19%
Area rented out	1.57	0.19	1.16	12.53
Reason (percentages)				
Age	22.2	21.6	14.3	30.0
Widowhood or disability	37.0	35.1	57.1	30.0
Better job	24.1	27.0	14.3	20.0
Lack of credit	7.4	8.1	14.3	---
Other	9.3	8.1	---	20.0
		Tenants Renting In		
Land Size Class (ha)	**Total**	**0–15**	**15–50**	**>50**
Renting in 1999 (obs.)	178	89%	8%	2%
Area rented in (ha)	6.03	2.99	30.23	36.13
Composition of rent paid				
Sharecropping (non-cash)	37.97%	43.87%	---	---
Cash	62.03%	56.13%	100.00%	100.00%

--- = No observation.
Source: Authors' computations from PECVE/SECVE.

Evidence regarding the scope for markets to transfer land across different farm sizes for sales markets is also not very encouraging. As the top panel of Table 3.4 illustrates, almost two-thirds of land sales (62 percent) are undertaken by small producers with a farm size below 15 hectares. The main reason prompting those who sold land during 1994–99 to do so was to pay debts (47 percent), followed by "other," a category that includes violence and local security (23 percent), the need to generate liquidity for purchase of consumer goods (16 percent), and lack of profitability and the desire to buy land elsewhere (about 7 percent each). Lack of profitability and the need to pay debts together are slightly more prevalent among large producers (64 percent) compared to medium (57 percent) and small producers (50 percent), as is the selling of land for security reasons (28 percent compared to 14 percent for medium and 24 percent for small farms). There is some evidence for segmentation of markets in the sense that the majority of sales by small producers are concluded with other smallholders (87 percent), while 50 percent of large farmers sell to other large farmers or enterprises. This is consistent with earlier studies that found that, despite considerable activity in land markets, few sales or purchases were concluded across farm size strata (FAO 1994).

Evidence on land buyers displayed in the bottom panel of Table 3.4 provides additional support for the hypothesis that high transaction costs limit the extent of land sales across farm size groups. Note that almost all of the land purchased by small farmers (94 percent) originated from other smallholders rather than from large farmers. Large buyers obtained the land they bought about equally from small and large producers (46 percent each). It thus appears that there is still considerable scope to improve the functioning of land markets, both by increasing tenure security and by helping to reduce transactions costs, especially for transactions across farm-size strata.

Thus, while our analysis highlights that the functioning of land markets has improved significantly, significant barriers to participation remain, especially in land sales markets, and virtually all of the transactions occur within the same farm-size stratum rather than between strata. Measures to activate both land sales and rental markets would therefore be an obvious policy recommendation for government. However, before making such a recommendation, it is necessary to confront concerns that such markets do not really lead to an improvement in household welfare either because land is relatively unimportant or, more likely, because landlords are able to use their privileged position to appropriate most of the surplus from any rental contract, thus leaving tenants little better off than they would have been without accessing land through rental markets. We address these concerns in two ways.

Table 3.4: Details on Performance of Land Sales and Purchase Markets

		Land Sellers		
Land Size Class (ha)	**Total**	**0–15**	**15–50**	**>50**
Sold land last 5 years	74	62%	19%	19%
Area sold (ha)	3.3	0.2	1.5	29.0
Land Sold to (percentages)				
Small farmer	75.7	87.0	85.7	28.6
Big farmer	8.1	2.2		35.7
Enterprise	5.4	2.2	7.1	14.3
Other & not reported	10.8	8.7	7.1	21.4
Reason for Selling (percentages)				
Pay debts	47.3	45.7	57.1	42.9
Buy consumption goods	16.2	17.4	28.6	-
Lack of profitability	6.8	4.3	-	21.4
Buying land elsewhere	6.8	8.7	-	7.1
Other reasons (incl. security)	23.0	23.9	14.3	28.6
		Land Buyers		
Land size class (ha)	**Total**	**0–15**	**15–50**	**>50**
Bought land last 5 years	135	73%	18%	10%
Area bought (ha)	39.30	5.78	50.38	271.60
Land bought from (percentages)				
Small farmer	85.19	93.88	70.83	46.15
Big farmer	12.59	4.08	29.17	46.15
Other & not reported	2.22	2.04	-	7.69

Source: Authors' calculations based on PECVE/SECVE.

At a descriptive level, comparison of the net income per hectare between renters and owners below 30 hectares (in order to ensure comparability) reveals that even after subtracting all their expenses, including rent payment, renters have significantly higher net income than owners (US$311 compared to US$106 for the whole sample, and US$317 compared to US$82 in regions where a minimum level of rental market activity implies that it is actually legitimate to compare the two groups) (Suarez and Vinha 2003). Further analysis reveals that a key reason for the difference is that owners farm a much lower share of their land than renters, pointing to the possibility of capital constraints that could prevent owners from using their land in the most productive way, together with market imperfections that prevent them from renting it out.[24] It thus confirms the positive impact of renting land in on household welfare, and on overall productivity that has emerged from our econometric analysis. Even though a cross-section of data is not the most appropriate basis to test for this empirically, the fact that more than 15 percent of producers in the sample have negative profits, (and would therefore be much better off renting out their land than cultivating it themselves), illustrates that even in the sample considered here, some element of speculative landholding may be present.

[24] If the sample is restricted to farmers who utilize more than 75 percent of their land, the net income of renters is still higher (US$429 compared to US$349), although due to the much smaller sample, the difference is no longer significant at conventional levels of significance. It is noteworthy that in this sample, the value of land used by owners is more than double that used by renters, implying that in terms of land productivity, rental remains much preferable.

A rough back-of-the-envelope calculation suggests that the premium of speculative landholding may be around 30 percent (ibid.).

Even though the importance of asset ownership for Colombian households has been demonstrated in earlier literature (Deininger and Olinto 2001), no such evidence is available that would compare the impact of land access (for example, through rental) and ownership. Given that there has been some discussion in the literature concerning the impact of landownership on household welfare, relative to other factors (Lopez and Valdez 2000; Finan, Sadoulet, and de Janvry 2002), we use our data to test this relationship empirically for the case of Colombia. Compared to earlier literature, a number of additional features of this analysis are of interest: (a) instead of using expenditure, a variable that is subject to measurement error and that does not always reflect permanent income, we rely on a broader welfare index derived from asset ownership and other household characteristics the construction of which is explained in more detail in Deininger, Gonzalez, and Castagnini (2003); (b) we distinguish between landownership and access to land through land rental as discussed above, and allow in addition for non-linear effects of such a relationship; and (c) we include a measure of agricultural ability, and the interaction between landownership and non-land assets to account for possible complementarities between different types of assets.

Table 3.5: OLS Estimates of the Impact of Land on Household Welfare

	Specification					
	(1)	(2)	(3)	(4)	(5)	(6)
Land Owned[1]	0.010***	0.029***	0.018***	0.007***	0.024***	0.015**
	(6.15)	(5.02)	(2.76)	(3.75)	(4.19)	(2.32)
Land Owned Squared[1]		-0.088**	-0.086**		-0.077*	-0.078*
		(2.19)	(2.03)		(1.95)	(1.82)
Land Owned Cubed[1]		0.000	0.000		0.000	0.000
		(1.38)	(1.47)		(1.14)	(1.41)
Land Rented[1]	0.072***	0.166***	0.157**	0.061**	0.126**	0.118*
	(2.90)	(2.66)	(2.53)	(2.50)	(2.03)	(1.91)
Land Rented Squared[1]		-2.845	-2.551		-1.868	-1.629
		(1.53)	(1.38)		(1.01)	(0.89)
Ability				0.193***	0.187***	0.183***
				(5.45)	(5.27)	(4.72)
Land*[1] Assets			0.005***			0.005***
			(4.09)			(3.72)
Land*[1] Education			0.001**			0.001*
			(2.27)			(1.86)
Land*[1] Ability						-0.000
						(1.18)
Head's Age	0.014**	0.012**	0.011*	0.012**	0.010*	0.010*
	(2.40)	(2.12)	(1.95)	(2.09)	(1.80)	(1.69)
Head's Education (years)	0.228***	0.220***	0.199***	0.214***	0.207***	0.189***
	(11.53)	(11.17)	(9.27)	(10.91)	(10.61)	(8.61)
Female Head (dummy)	-0.246	-0.232	-0.217	-0.256	-0.244	-0.232
	(1.49)	(1.42)	(1.34)	(1.58)	(1.51)	(1.45)
Members <14 years old	-0.065	-0.058	-0.050	-0.075*	-0.067	-0.058
	(1.47)	(1.31)	(1.13)	(1.72)	(1.54)	(1.34)
Members 14–55 years old	0.157***	0.141***	0.139***	0.149***	0.134***	0.133***
	(3.90)	(3.50)	(3.48)	(3.76)	(3.38)	(3.38)
Members <55 years old	0.133	0.140	0.144*	0.130	0.136	0.141*
	(1.53)	(1.61)	(1.69)	(1.51)	(1.59)	(1.67)
Constant	-2.469***	-2.451***	-2.297***	-2.423***	-2.399***	-2.292***
	(5.80)	(5.80)	(5.41)	(5.78)	(5.76)	(5.46)
No. of Observations	934	934	934	934	934	934
Adj. R-squared	0.20	0.21	0.23	0.22	0.24	0.25

[1] All land is in equivalent units as explained in the text.
* Significant at 10%; ** significant at 5%; *** significant at 1%.
Source: Authors' computations based on the PECVE/SECVE database.

Results from this analysis for different specifications are illustrated in Table 3.5, allowing us to draw a number of conclusions. First, we find a highly significant impact of landownership on welfare. The fact that this impact is non-linear points toward the continued relevance of market imperfections in the areas under concern. Second, the welfare-enhancing impact of landownership is augmented by ownership of non-land assets and education. Agricultural ability is found to have a strong independent impact on household welfare on its own (but not if introduced in interaction with other variables). Finally, and most important, access to land through rental markets is of great importance, and quantitatively much larger than what has been estimated for landownership. All of this suggests that more detailed study of the relationship between land and household welfare that accounts for the characteristics prevailing in developing countries will be of great importance.

3.2 The Scope for Land Taxation To Improve Functioning of Land Markets

The theoretical literature suggests that land taxes have a number of desirable characteristics. In addition to the fact that they have only minimal distortionary effects and thus imply very low deadweight losses, appropriately designed land taxes will normally also encourage more productive land use and discourage speculative landholding, something that is likely to be of special importance in the Colombian context. This would be of interest not only because land taxes are one of the few sustainable sources of revenue available to local governments, but also because they have been shown to increase accountability by establishing a more direct link between the spending and the collection of revenue by government.

On the other hand, it has often been emphasized that land taxes are politically difficult to enforce and collect, especially in rural environments where local government may be controlled by large landlords who would be the ones to pay most of the taxes. Also, the administrative requirements associated with land taxation, that is, maintaining a cadastre, land valuation and assessment systems, and collection of taxes may be beyond the means of local governments in most developing countries (Bird and Slack 2002). Finally, since tax revenue will automatically be lower in marginal areas with lower land values, additional compensatory transfers will be required to ensure (horizontal) equity across local governments, although it is often noted that such equity can be made more incentive compatible by linking it to collection of local tax revenue, for example, in the form of a simple multiplier.

These two factors, political resistance and administrative complexity, appear to be key reasons why land taxes make up a significant share of GDP only in very selected cases, such as Canada (4.1 percent) and Australia (2.5 percent). Colombia is one of the few countries which has made considerable advances in terms of property tax collection over the last decade: the contribution of land and property taxes reached 0.70 percent of GDP in 1999 (0.45 percent without Bogotá), up from about 0.30 percent in the late 1980s, and higher than what is collected in, for example, Chile (0.61 percent) or Mexico (0.31 percent) (Leibovich and Nunez 2002).

Analysis of effective property tax rates for 74 *municipios* provides a number of additional interesting insights (Leibovich and Nunez 2002). First, it suggests that differences between rural and urban tax rates are less than one might expect. In fact, for the sample considered, the tax did not differ significantly between rural and urban areas, amounting to about 0.53 percent in both. While this does not, of course, imply that the same is true in the remainder of Colombia's municipalities, it implies that there are no inherent reasons why rural areas should be lagging behind urban areas in terms of tax effort. A second finding from this sample is that tax rates are fairly flat, rather than progressive in property value. Even for the most valuable properties, the rate was about 10 mil, significantly below the potential of 16 mil, a fact used to argue that there remains considerable scope for further tax rate increases. Finally, and not surprisingly, it is found that the similarity of averages notwithstanding, there are significant differences in the incidence of tax rates across *municipios*; local governments of smaller size, with higher living standards, and located in the Pacific region, are found to have higher tax rates than the others.

To explore determinants of rural property taxation in more detail and for a much greater number of municipalities, we use the data on rural *avaluos* from IGAC's registry that were described in the discussion of land inequality above. In addition to size, this database contains information on soil quality, access to infrastructure, and so forth, as well as assessed *avaluos* and when the *avaluo* was last updated. This allows us to obtain an estimate not only of the quality of existing *avaluos*, but also of the foregone revenue from failing to update them. To do so, we estimate a regression model of the form

$$A_i = \alpha_0 + \alpha_1 Q_i + \alpha_2 T_i + \alpha_1 O_i + \varepsilon_i$$

where A_i is the logarithm of the *avaluo* per hectare for plot i, Q_i denotes this plot's observable physical attributes, and T_i is the time when this value was last updated. This essentially constitutes a hedonic model that provides the marginal value of different plot characteristics.

Results are reported in Table 3.6. The first thing to note is the high level of the variation in the data that is explained by the attributes included in the regression (R^2 of 0.68 in the cross section), which suggests that the quality of *avaluos* is quite reasonable. To interpret the individual figures, note that, because the dependent variable is in logarithms, the coefficient for any dummy variable is the estimated percentage increase in land values from a given characteristic. For example, we note that valuations decrease rapidly in the size of the plot, implying that the effective taxation of large plots is much lower than that for small plots, and that older *avaluos* are indeed lower (by 2.6 percent per year). Better soil quality, presence of perennials, road access, and lower inclination, all increase land values in line with expectations.

Table 3.6: Details on Performance of Land Sales and Purchase Markets

	OLS	Municipio Level	
		Random Effects	Fixed Effects
Area (log)	-0.297***	-0.298***	-0.258***
	(339.01)	(339.73)	(314.66)
Age of Valuation	-0.026***		
	(31.12)		
Age of Valuation Squared	0.000***		
	(10.67)		
Buildings and Gardens	1.345***	1.359***	1.167***
	(132.11)	(133.22)	(99.18)
Covered with Perennial Crops	0.143***	0.139***	-0.036***
	(19.91)	(19.26)	(4.05)
Irrigated Land	0.347***	0.380***	0.344***
	(33.19)	(36.36)	(28.94)
Fallow Land	-0.223***	-0.231***	-0.355***
	(25.67)	(26.66)	(36.84)
Unproductive Land	-0.602***	-0.620***	-0.489***
	(38.48)	(39.57)	(29.34)
Pasture	-0.086***	-0.083***	-0.174***
	(15.67)	(15.13)	(26.85)
Improved Pasture	0.287***	0.307***	0.273***
	(25.60)	(27.35)	(19.02)
Forest	-0.407***	-0.376***	-0.465***
	(36.63)	(34.19)	(39.47)
Mixed use	-0.045***	-0.018*	0.058***
	(4.53)	(1.82)	(4.44)
Dual Lane Paved Road	0.758***	0.775***	0.579***
	(97.40)	(99.76)	(70.32)
Dual Lane Unpaved Road	0.329***	0.339***	0.449***
	(38.79)	(40.34)	(44.71)
Single Lane Road	0.430***	0.436***	0.327***
	(65.17)	(66.12)	(48.44)
Dry-Weather Road	0.168***	0.183***	-0.075***
	(16.51)	(18.18)	(6.81)
Footpath	0.101***	0.098***	-0.015**

	(14.73)	(14.33)	(2.17)
Abundant Water	-0.068***	-0.077***	0.097***
	(6.45)	(7.28)	(7.74)
Sufficient Water	0.054***	0.035***	0.211***
	(8.17)	(5.34)	(26.56)
Scarce Water	0.164***	0.158***	0.165***
	(27.31)	(26.18)	(24.28)
Altitude <1,000m	-0.703***	-0.656***	0.115***
	(32.84)	(30.58)	(4.42)
Altitude 1,000–2,000m	-0.449***	-0.411***	0.119***
	(21.14)	(19.32)	(4.68)
Altitude 2,000–3,200m	-0.277***	-0.251***	0.239***
	(13.12)	(11.83)	(9.60)
Dry Climate	0.453***	0.413***	0.168***
	(59.37)	(54.33)	(10.74)
Humid Climate	0.226***	0.194***	0.054***
	(30.90)	(26.62)	(3.56)
Soil Very Bad	0.122***	0.111***	0.189***
	(9.26)	(8.41)	(14.19)
Soil Bad to Very Bad	0.422***	0.405***	0.369***
	(29.80)	(28.53)	(25.59)
Soil Bad	0.660***	0.647***	0.601***
	(46.06)	(45.04)	(40.86)
Soil Regular to Bad	0.856***	0.840***	0.730***
	(59.20)	(57.99)	(48.66)
Soil Regular	1.022***	0.989***	0.931***
	(68.23)	(65.92)	(59.71)
Soil Medium to Regular	1.222***	1.200***	1.081***
	(78.96)	(77.39)	(66.54)
Soil Medium	1.413***	1.390***	1.225***
	(89.20)	(87.53)	(73.10)
Soil Reasonably Good/ Medium	1.428***	1.432***	1.184***
	(85.01)	(85.01)	(64.73)
Soil Reasonably Good	1.756***	1.760***	1.349***
	(102.05)	(101.98)	(68.98)
Soil Good	1.929***	1.875***	1.583***
	(41.53)	(40.26)	(31.13)
Soil Very Good	1.571***	1.601***	1.365***
	(55.85)	(56.76)	(45.55)
Slope 3'–7'	-0.023***	-0.002	-0.096***
	(3.31)	(0.26)	(13.23)
Slope 7'–12'	-0.010*	0.020***	-0.135***
	(1.65)	(3.19)	(19.22)
Slope 12'–25'	-0.173***	-0.163***	-0.256***
	(22.39)	(21.17)	(29.19)
Slope 25'–50'	-0.372***	-0.356***	-0.400***
	(45.62)	(43.65)	(43.55)
Slope 50'–75'	-0.382***	-0.376***	-0.682***
	(31.61)	(31.02)	(52.06)
Slope >75'	-1.011***	-0.992***	-1.162***
	(10.15)	(9.93)	(12.49)
Number of Owners	0.023***	0.023***	0.018***
	(20.55)	(20.38)	(17.85)
Constant	7.876***	7.749***	6.088***
	(181.25)	(178.45)	(214.26)
Observations	394417	395436	395436
R-Squared	0.68	0.67	0.49
Number of Municipios			577

* Significant at 10%; ** significant at 5%; *** significant at 1%.
Note: Absolute value of t statistics in parentheses.

To assess the possible impact of systematically updating the registry, we combine the above with information on actual collection of property taxes (both rural and urban), the share of rural property values in the total, and the share of property tax incomes in total current incomes for each *municipio*, based on DNP data. We consider the impact of three options: (a) systematic updating of the *avaluos*; (b) increasing the consistency in land valuation across *municipios*; and (c) uniformly increasing the mean tax rate for rural areas to 1 percent, something that is still significantly below the 1.6 percent that experts on the subject consider to be reasonable for Colombian conditions (Leibovich and Nunez 2002).

To obtain the possible increase from updating, we use the results of the regression reported earlier to predict for each plot a hypothetical *avaluo* based on the valuation being up-to-date and comparing it to the actual valuation. Aggregating over plots within each department allows us to derive an estimate of the increase that can be obtained through consistent updating. Similarly, consistency is imposed by estimating the above equation via fixed effects, subtracting *municipio* from departmental fixed effects, and assuming that all *municipios* that are below the departmental average will have to increase their valuation standard to correspond at least to this average. For the fourth hypothesis, we use the mean tax collection for each *municipio* and, under the conservative assumption that rural and urban collection rates are equal to each other,[25] estimate the increase in revenue that could be obtained from raising collection to a certain percentage of assessed land values.

Table 3.7: Potential for Increased Revenue from Updating of Rural Cadastre, Consistent Avaluos, and Changed Rates

	Pct. Increase in Land Tax Through			Pct. Increase in Spending Through		
Department	Updating	Update & Std	Incr. to 1%	Updating	Update & Std	Incr. to 1%
Atlántico	13.2	90.6	67.8	2.7	18.4	13.8
Bolivar	17.3	68.4	72.1	2.7	10.8	11.3
Boyaca	16.1	25.9	104.4	1.6	2.5	10.1
Caldas	19.0	49.1	7.5	3.2	8.3	1.3
Cauca	16.5	45.2	69.5	2.1	5.8	8.9
Cesar	19.5	64.5	45.4	4.0	13.1	9.2
Córdoba	13.5	144.9	50.4	3.5	37.0	12.9
Cundinamarca	16.5	28.8	36.6	3.1	5.4	6.8
Huila	21.5	42.8	93.6	2.5	4.9	10.8
Magdalena	20.6	49.9	22.0	8.0	19.5	8.6
Meta	22.3	95.5	32.5	5.6	23.8	8.1
Narino	23.8	28.5	109.8	1.6	1.9	7.2
Norte De Santander	21.5	86.2	38.6	3.5	13.8	6.2
Risaralda	21.6	44.5	21.0	4.4	9.0	4.2
Santander	19.9	38.7	11.3	3.8	7.3	2.1
Sucre	30.9	90.3	82.4	13.1	38.4	35.0
Tolima	22.5	79.1	25.4	2.7	9.4	3.0
Valle	10.3	33.3	-11.3	3.0	9.8	-3.3
National	16.1	34.6	40.9	2.8	5.9	7.0

Source: Authors' simulations based on registry data for 533 *municipios* and DNP data for 823 *municipios*.

Results from this exercise are illustrated in Table 3.7, in terms of percentages of property tax revenue (columns 1–3) and as an increase in local government spending (columns 4–6). The latter is derived based on data on the share of property tax revenues in total current income by the *municipio* and the share of rural compared to urban *avaluos* (again using the implicit assumption of equal tax rates) to translate into spending

[25] It is quite plausible for a variety of reasons, and indeed consistent with most evidence from developing countries, that the collection as a share of assessed valuations is higher in urban areas than it is in rural areas. In this case, any estimates of the increase in tax revenue that can be obtained from increasing rural collection to a certain percentage would be a conservative estimate on the actual gain in collection that could be achieved (and which might actually be much higher).

levels. While the resulting figures are smaller, they are nonetheless impressive. In interpreting the results, one also has to bear in mind that, given the limited coverage of the registry database, these estimates are conservative, and that they would increase considerably if, together with the proposed measures, coverage were increased. The mere fact that data were available from only 533 *municipios* suggests that there may be considerable gaps in the database. The 2.8 percent increase in municipal spending that could, based on our data, be achieved by systematic updating of *avaluos* in rural areas is by no means trivial. It appears, however, that exploring the issue of land taxes in rural areas may be well worth the effort.

3.3 Conclusion and Policy Implications

Main conclusions from the analysis for markets and other mechanisms that can help to overcome the huge inequality in landownership that characterizes Colombia can be summarized as follows:

- At least in the areas where the survey was conducted, land markets have not led to higher land concentration, but instead provided access to land by the poor and more productive. This suggests that, where land concentration has occurred, it was mainly due to non-market factors related to violence and forced displacement.
- Rental markets are more effective in enhancing productivity than land sales markets, which are characterized by significant barriers to entry. Effectiveness of rental markets is, however, limited by short duration of contracts that does not provide incentives for investment. Land reform efforts appear to have done worse than markets in transferring land to productive small or landless producers.
- Both rental and sales markets are still relatively thin and, more important, do not make a large contribution to overcoming the barrier that separates large landholders from small and landless producers. Only a minor share of transactions in rental and sales markets, respectively, were between different-size classes.
- Contrary to fears that access to landownership may no longer be relevant in Colombia, or that feudal landlords may appropriate a large share of or the entire surplus that can be obtained by entering into a rental transaction, land rental makes a very positive contribution to household income and welfare.
- Improved collection of property taxes in rural areas provides considerable scope to further activate the functioning of land markets. Colombia has already made considerable advances in this respect, and further increases will be possible by updating registries, increasing their coverage, adopting a more consistent treatment across *municipios* and farm-size classes, and by increasing tax rates.

While the fact that land markets no longer contribute to (speculative) land concentration is good news, the remaining limitations imply that a number of policy actions will be appropriate.

- Improve the functioning of *rental markets* by facilitating the adoption of longer-term contracts. This would provide greater incentives for investment through a number of mechanisms including but not limited to (a) measures to increase tenure security (for example, updating of registries that are out-of-date); (b) dissemination of information, including standard contracts, to enhance awareness of the available options and reduce transaction costs associated with land rental; and (c) exploring the possibility of making investment in land that is subject to long-term rental eligible for some of the incentives that the government is already offering.[26]
- Reduce the incentives for speculative accumulation of land by (a) greater consistency of valuations and effective collection of land taxes to increase incentives for productive utilization of land; (b) clearly defining the procedures that can be taken by the State at various levels to apply existing land reform policies (for example, *extinción del dominio* for lands that have been acquired illegally and

[26] This may be particularly easy for intergenerational transactions.

the swift implementation of such measures); and (c) providing a forum to negotiate on improved land use at the local level.

- Adopt policies that can improve the functioning of land *sales* markets by providing information, reducing transaction costs, and promoting the provision of long-term finance to facilitate land acquisition by a wider range of participants.
- Improve the productivity of lands that have been distributed under land reform in the past in order to establish credibility, and to test the legal and institutional arrangements that may help the government to use land reform as a tool for combating the far-reaching underutilization of a valuable national resource.
- Given that even improved markets are unlikely to be able to solve the problem of land concentration if left to themselves, complement the operation of land markets with a program to encourage better utilization of the large amount of underutilized land in Colombia through small producers or the landless. Such a program needs to involve local governments and the private sector, and be well-targeted and incentive compatible. Some of the issues that might be faced in establishing or implementing such a program are discussed in the next chapter.

CHAPTER 4: IMPROVING COMPETITIVENESS AND ACCESS TO LAND

The discussion thus far has highlighted three stylized facts. First, the presence of a large amount of unutilized or highly underutilized land in Colombia causes economic losses. In addition, however, by negatively affecting governance, and by preventing people who could make productive use of it from accessing this factor of production, it also increases the incidence and depth of rural poverty. Second, the level of underutilization of land is increased through a vicious cycle of violence and displacement, which, in addition to drawing attention to the underlying structural factors, also may pose considerable challenges for land policy. Third, while rental and to some extent sales markets no longer act in a "perverse" way that does little to improve productivity, their contribution to transferring land from large owners to small or landless producers remains limited. While complementary measures (such as greater land taxation) can improve on this, the fact that participation in sales markets requires access, and that there are many areas in Colombia where economic incentives are subordinated to the imperatives of political power and the dynamics of armed conflict, implies that markets will provide only part of the solution to Colombia's deep-rooted land problems.

This provides the justification for more direct government involvement to try and remedy some of the structural imbalances in the rural sector, something the government has aimed to address with the establishment, in 1961, of the National Colombian Institute of Agrarian Reform (*Instituto Nacional Colombiano de la Reforma Agraria*, INCORA).[27] While the analysis of the previous chapter demonstrated that the effort of INCORA has not been as successful as it might have been, it does not provide enough structure to be able to pinpoint the reasons for such failure or to identify possible alternatives. That is the goal of this chapter. To do so, we proceed in three steps.

First, we highlight characteristics of the land reform program in the past and, by drawing on a combination of literature and case studies undertaken in various contexts, identify possible reasons for such failure. Key elements emphasized are the lack of continuity in the land reform process, an incentive structure ill-suited to eliciting own effort by beneficiaries (rather, it encourages corruption), a centralized implementation structure that makes it difficult for local government to follow through, and lack of participation by civil society and the private sector. We then explore the extent to which *Planes de Ordenamiento Terriotrial* (POTs) could provide an institutional framework that might avoid some of the shortcomings identified earlier, put land reform into the context of territorial and spatial development, and ensure that land reform efforts enjoy the follow-up and support that is critical for their success. Case studies of 16 POTs in municipalities with a high incidence of land reform show that, even though their quality varies, building on lessons from successful examples and provision of technical assistance for revisions has the potential to increase the quality of these plans and make them useful to guide land policy at the local level.

To assess whether land reform makes sense economically, we draw on another set of case studies that explore in detail the characteristics of successful examples for breaking the barrier between large and small farmers, whether through the private or the public sector, and irrespective of whether it occurred through the rental or the sales market. We use this evidence to provide a number of economic parameters. Although this is not a substitute for more detailed economic analysis that would be required before specific interventions can be implemented, it at least indicates that land reform can be an economically viable option, and also puts together the possible dimensions and modalities of a program designed to deal with the legacy of underutilization of land in Colombia.

We summarize the evidence presented by putting forward a proposal for how to structure a fund that provides grants of a given size that could, in *municipios* that fulfill a number of preconditions, help finance the establishment of productive projects by qualified beneficiaries who, of course, would have to make some contribution of their own to complement the grant resources.

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[27] This institution was recently transformed into INCODER by merging *Desarrollo Rural Integral* (DRI), the *Instituto Nacional de Adecuacion de Tierras* (INAT), the *Instituto Nacional de Pesca y Agricultura* (INPA), and INCORA into one agency that would be responsible for an integrated rural development effort.

4.1 Incidence and Impact of Past Land Reform Programs

Colombia has no shortage of legal initiatives to provide the basis for land reform, starting with Law 135, which, in 1961, established INCORA, to Law 160 in 1994, which introduced the concept of voluntary negotiation.[28] From the very beginning, land reform has been understood as a key instrument to confront the causes of violence, to fight poverty and indigence in the rural sector, to modernize the agrarian structure, and to move ahead on administrative decentralization. Law 160 aims to address shortcomings of earlier processes by providing a grant of 70 percent of the land price to eligible beneficiaries (plus 5 to 7 percent of the land price for organization of cooperatives) under the assumption that the remaining 30 percent would be financed either through credit or from own savings. In addition, the Law aimed to address shortcomings of earlier land reform processes through (a) improved planning and coordination; (b) introduction of a more participatory process that would give a greater role to beneficiaries; (c) award of the grant based on competition among projects that is governed by the need for targeting the subsidy to poor land purchasers and to properties where the potential for productivity increases is highest in a transparent public process, subject to a maximum grant per beneficiary; and (d) establishment of a systematic process of monitoring and evaluation.

Table 4.1 illustrates that, especially following passage of Law 160, spending on land reform directly, and on the *Caja Agraria* that emerged as the main provider of the complementary credits to finance the 30 percent of the land value that was not covered by the grant, was considerable.

Table 4.1: Public Spending for Land Reform and Related Projects, Colombia Various Years (Billion 2000 Pesos)

	1985	1995	1996	1997	1998	1999
Total INCORA	3.12	88.24	130.78	124.26	89.34	69.00
of which technical assistance	19.4%	11.4%	3.0%	3.5%	9.7%	18.6%
of which grants	0.0%	5.7%	52.1%	55.2%	60.3%	20.1%
of which infrastructure	41.6%	12.3%	4.7%	16.6%	1.6%	1.1%
of which titling and cadastre (RA)	29.9%	56.4%	31.1%	16.2%	16.5%	25.7%
Caja Agraria (credit & vivienda)	4.95	32.10	237.27	197.29	81.59	132.61
INCORA + Caja Agraria	8.07	120.34	368.04	321.55	170.93	201.62
Total Central Spending	40.28	707.12	1039.15	931.23	891.42	791.32
Spending by municipalities	0.00	435.12	593.29	764.69	967.61	1253.71
Total Min. of Agriculture	40.28	1142.24	1632.44	1695.91	1859.03	2045.03
INCORA of central	7.8%	12.5%	12.6%	13.3%	10.0%	8.7%
INCORA of total	7.8%	7.7%	8.0%	7.3%	4.8%	3.4%
INCORA + Caja of central	20.0%	17.0%	35.4%	34.5%	19.2%	25.5%
INCORA + Caja of total	20.0%	10.5%	22.5%	19.0%	9.2%	9.9%

Source: FAO (2000).

The econometric analysis in the previous chapter already illustrates that, at least in the aggregate, the impact has not been in line with expectations. This lack of success is confirmed by case study evidence that points to desertion rates of about 50 percent, and a share of households that attain the target income of 3 minimum salaries of only 5 percent (Suarez and Vinha 2003).[29] The limited success has led to significant budget cuts in

[28] Rojas (2002) distinguishes six phases of agrarian reform in Colombia: (a) startup from 1961 to 1966 when the emphasis was on establishing the institutional infrastructure and on infrastructure while action was focused on *extinción del dominio* (expropriation proceedings); (b) considerable activity starting with the *Ley de Aparceria* of 1968, even though the majority of land is acquired through purchase and only 8 percent through *extinción del dominio*; (c) slowdown from 1973 to 1983, accompanied by emphasis on modernization of traditional haciendas and the introduction of the *Desarrollo Rural Integral* (DRI), which is seen as an alternative to land reform; (d) reactivation of the *Plan Nacional de Rehabilitación* 1983–87; (e) reactivation through establishment of the UAF based on the minimum income concept in 1988, and an aggressive policy of land purchases and titling of frontier land that benefited almost 34,000 households; and (f) the phase of voluntary negotiation from 1995 to 1997.

[29] The limited effectiveness of the way in which grant resources were spent is illustrated by the fact that, if one had put the money spent into a bank account, the interest alone would have been sufficient to pay the target income to quite a number of potential beneficiaries. Calculations reveal that, in 1999, doing so would have been sufficient to pay an amount equal to three minimum salaries to about 50 percent of the households that received land in the same year.

recent years. Because it does not make sense to spend large amounts of resources on programs without good and solid economic results, this cut is justified. However, to draw possible lessons for alternative programs, it is necessary to analyze the reasons for such failure in more detail and to draw upon the experience from pilot schemes that have been implemented in Colombia over the past years (Höllinger 1999; Rojas and Urbina 1999) as well as numerous case studies of land reform.

Lack of continuity: Decisions about land reform, at both the local and the central level, were often politically motivated. Implementation was subject to politically motivated swings in availability of funds that made long-term planning difficult. Once money was available, there was pressure to spend quickly to fulfill targets in terms of physical land transfer rather than long-term success and a more gradual development of beneficiary capacity. The desire to move quickly was a major factor underlying the award of collective rather than individual land rights to beneficiaries.

- Instead of going through the more arduous process of beneficiary training and investment in land improvements and establishment of other links to yield true productivity gains, a desire to show quick results on the ground encouraged the adoption of "quick" fixes. These included the transfer of relatively developed farms to beneficiaries who showed promise for making productive use of the farms, rather than to the truly deserving.
- Funding decisions were made on an annual basis, and often were not made available until late in the year. This, in addition to high variability in funding from year to year, undermined predictability of the budget and provided strong disincentives for designing a program that could appropriately tackle the issue of an efficiency-enhancing land reform, which requires commitment for the longer term to develop underutilized land. This also made it more difficult to establish and maintain the technical expertise necessary to mount a successful land reform effort.
- Partly to speed up the process and partly in order to conform to preconceived notions about the presence of economies of scale in agriculture, beneficiaries were put together in collective or cooperative structures even if they had a clear preference for individual landownership. While it was relatively easy to individualize production, the limitations in terms of collective responsibility for credit that was secured with a collective *proindiviso* (indivisible) land title have proven disastrous, and are identified as an important reason for desertion by beneficiaries.

Legal issues and design flaws: Neither Law 135 nor Law 160 provided adequate incentives to leverage rather than discourage beneficiary initiative.

- The fact that the subsidy was a percentage of the land value and could not be used for improvements to make underutilized land more productive, further biased purchasers toward developed land. It also encouraged beneficiaries to acquire more land than they needed, but left them without opportunities to obtain the necessary working capital. This resulted in much of the land transferred to small producers through land reform actually lying idle or being rented out to others. The net effect of this was the propping up of land prices, thus providing a direct transfer from society to landlords, rather than beneficiaries.
- No rigorous technical–economic evaluation of projects was required to assess whether the stream of benefits generated by the proposed projects would indeed generate a cash flow that would be sufficient to support cost of living and debt repayment over the life of the project. As a result, what was paid for the land was often significantly above the productive value of this resource, and beneficiaries felt "cheated" and do not see why they should be obligated to repay, something that manifests itself in high rates of desertion.
- Exit options were not sufficiently considered in Law 160. This implies that problems of desertion are more difficult to solve than they were in earlier land reform legislation. As a consequence, there are a lot of "substitute households" with very weak and insecure property rights on land reform properties. Regularization of these households may require a complex and costly judicial process. A similarly

convoluted process is needed for properties that were originally registered in *proindiviso*, and where it is not possible to obtain the consent of all the original assignees, and where, as a consequence of their joint responsibility for the credits taken out to purchase the property, even able households that remain on the property are cut off from sources of commercial (working capital) credit, which would be essential to facilitate productive use of their land.

Centralized implementation: The fact that implementation was centralized through INCORA (or its regional offices) made it very difficult to establish a link to local plans and development efforts, undermined incentives for local governments to collaborate, and thereby made it more difficult for newly established properties to gain access to markets, technical assistance, and other critical elements for success. At the same time, the failure to involve civil society and the private sector in providing scrutiny and technical follow up implied that it was often difficult to eliminate doubtful practices.

- It has long been recognized that, in order to be successful, agrarian reform will need to organize beneficiaries and build their capacity; provide basic services, infrastructure, housing, and social security; provide them with access to research and technical assistance; and link them to marketing, processing, and agroindustry and financing in a sustainable manner, in addition to providing land. Putting this insight into practice has, however, been difficult because efforts to achieve coordination between the institutions involved at the national level proved futile and had little impact on field realities.

- This also implied that local governments felt little responsibility for the land reform process and, accordingly, did not contribute to it. This was despite the fact that, without such participation of local institutions such as *Unidad Municipal de Asistencia Técnica Agropecuaria* (UMATA) and the private sector (for example, through infrastructure, education, training, and other services) in response to needs, it would be much more difficult for land reform to be effective in the long term—especially where, as in the case of INCORA, the land reform agency has neither capacity nor manpower to follow up and provide a substitute.

- There was limited consultation with different sectors of society (the private sector) to make them support the process either in-kind or through contribution. It is therefore not seen as a joint project that could really bring peace to the country and help draw on the comparative advantages of the *municipio* in a way that would benefit everybody. Rather, it is seen as an isolated intervention by one particular agency the reputation of which was not very good to start with. Lack of scrutiny by civil society and a lack of publicly available information also implied that it was not always possible to effectively counter political and other influence over sensitive processes such as beneficiary selection.

Lack of economic evaluation and follow-up: The above discussion implies that economic viability and sustainability of land reform enterprises ranked low on INCORA's scale of priorities. In addition, since there was no serious effort at monitoring and evaluation, it was impossible to put in place procedures that would allow the correction of the shortcomings, once identified.

- Instead of providing ways for beneficiaries to gradually build up the capital, knowledge, and experience that are necessary to manage a rather complex farming operation, for example through an initial period where they would lease a property rather than own it, the focus was on immediate transfer of a whole UAF. This was done despite the fact that in many cases the recipients of such land were seriously starved of working capital. Giving them less land but some working capital would have provided an opportunity to relieve their cash constraint.

- The failure and structural inability to account for the different needs by different groups (for example, single women) resulting from the above is particularly pronounced and visible in the case of projects established for the displaced population. Even though little systematic evidence is available, existing evaluations are consistent in highlighting that the success of such projects is even

more difficult to the extent that they mix people from different backgrounds. They are also problematic if the situation in the place of origin normalizes and the beneficiaries decide to return.

- Instead of focusing on underutilized land, the incentives system put in place by Law 160 made it more rewarding to transfer well-developed properties, reducing the scope for achieving increases in productivity. In fact, such increases materialized in less than half the cases of government transfers included in the case studies. High costs greatly reduced the fiscal sustainability of the process.

4.2 Integrating Land Reform into Local Development: The *Planes de Ordenamiento Territorial*

From the above, it is clear that for any land reform process with a prospect of redressing inappropriate land use, reforming rural social relations, modernizing the sector, and stopping the expansion of the agricultural frontier, better integration of reform efforts into local development planning is required. In fact, *ordenamiento territorial* (territorial ordering) attempts to achieve this goal in the context of existing decentralization policies. It requires local governments to establish *Planes de Ordenamiento Territorial* (POTs), which are closely linked to existing *Planes de Desarrollo Municipal* (PDMs), in order to provide the technical guidelines for their activities with respect to land use.

In the most general terms, territorial ordering is defined as a state effort to organize the political and administrative structure of the nation to facilitate implementation of social, economic, environmental, and social policies in spatially differentiated ways so as to improve living conditions and protection of the environment. To address the many shortcomings, especially with respect to the technical basis for doing so, Law 388/97 introduced the POT, or its equivalent,[30] to complement the PDMs and thus improve the planning process. It is meant to provide a territorial emphasis to policy implementation that would complement, and where necessary correct, traditional sectoral perspectives (such as health, education, and infrastructure) and better utilize the synergies among them. Especially for rural areas, this has a number of potential advantages.

4.2.1 Legal and Conceptual Basis and Potential Advantages

Use of the POTs as a basis for municipal planning has a number of potential advantages, all of which are relevant for land policy. From a substantive perspective, the requirement to establish and build on a comprehensive vision of local development reduces the scope for isolated solutions, which, because they are driven more by particular interests than the overarching development objectives, cannot be sustained. From a procedural point of view, the long duration and clear requirements in terms of approval can be used to establish minimum criteria of technical quality. Having a plan that is agreed upon by all the major sectors will also make it easier to move toward implementation by drawing on both government initiatives and the private sector.

Comprehensive focus: Since one of the key weaknesses that has been identified in traditional land reform approaches has been the missing link between local development goals and specific project objectives and the resulting difficulty to follow up in terms of technology, social service, and so forth, the comprehensive focus of the POT is particularly attractive.

- The POT replaces traditional sectoral perspectives with an emphasis on the territory, its potential, and measures needed to develop this potential (including the identification of intermediate urban centers that can serve as development poles). By doing so, it transcends the rural sector and incorporates markets, technology, education, and social services, providing a mechanism to avoid inconsistencies and ad hoc planning. This is relevant because all the evidence illustrates that, without

[30] Depending on their size, *municipos* or districts have to implement either *Planes de Ordenamiento Territorial* (POTs) if they have more than 100,000 inhabitants, *Planes Básicos de Ordenamiento Territorial* (PBOTs) if they have between 30,000 and 100,000 inhabitants, or *Esquemas de Ordenamiento Territorial* (EOTs), if they have fewer than 30,000.

strong links to markets, mechanisms to increase value added, and integration with the private sector, land reform efforts are unsustainable.

- Rather than proceeding in a piecemeal fashion, the POT provides a mechanism to coordinate the different decentralized entities of the government and the private sector. Because it is binding for a wide number of actors, it can, at least in principle, avoid misallocation of resources (or planning at cross-purposes). Concerning land reform, this can avoid the lack of communication and coordination with the social sectors that has been the hallmark of many past initiatives.
- The coordination of different policies whereby market- and non-market approaches complement each other is of particular relevance for land policy. Thus, the comprehensive approach taken by POTs should provide the technical basis to target intervention, both in terms of land areas that are highly underutilized, and with respect to segments of the population (whether displaced, marginal farmers, or landless workers) that would have the most to gain from access to these lands.

Continuity and legal and technical basis: The POT was explicitly designed as a long-term instrument that would be independent of political cycles, and with a two-stage approval process that helps to ensure technical quality. This provides a basis from which to clarify mechanisms for monitoring of progress, and to specify in more detail the circumstances under which revisions of the POT might be required (and the procedures to be followed in each of the cases).

- The fact that the POT is a legal requirement (Law 338 of 1997) and spans a period of nine years, that is, the tenure of three mayors, implies that it will be less vulnerable to short-term political considerations that are endemic at the local level and that have often wreaked havoc on land reform efforts. The long-term nature of the POT implies that it should pursue the long-term comparative advantage of a particular locality, rather than responding to short-term cycles.
- Procedures for elaboration and approval of POTs, and their revision, are clearly spelled out in the law.[31] In addition, the fact that the POT has to be approved by the *Corporación Autonomas Regional* (CAR) and the locality makes capture by special interests more difficult, limits the discretionary nature of planning, and forces adherence to minimum technical standards. Even though the legislation is not clear on how implementation of POTs will be monitored, or whether the results of such monitoring will have budgetary implications, the basis for monitoring is available.
- Mechanisms that allow for revisions of the POTs in the light of changing circumstances or to remedy shortcomings are available. In fact, Decree 932 of 2002 lays down procedures for exceptional revisions (*revisión extraordinarias*) and provides the option of partial revision (*revisión parcial*) of its contents with respect to urban or rural areas.

Relevance for implementation: As an element of an integrated strategy, POTs, together with PDMs, provide considerable potential for following through with justification, implementation, and monitoring of interventions that could help to address some of the issues identified.

- There is considerable scope for using municipal plans such as the POT as a precondition for implementation of follow-up projects in specific areas, in two respects. First, the fact that much of the technical background analysis has been undertaken in the POT is likely to reduce the cost of project preparation and prevent costly duplicative efforts without sacrificing quality. Having a minimum correspondence between a project and the POT as a precondition for support would also help to prevent dispersion of efforts in many uncoordinated and unrelated projects at the local level.
- The ability to impose some minimum technical standards and require basic economic analysis (possibly assisted by an outside institution) in the POT or any other municipal plan also allows for an

[31] This does not, of course, imply that there may not be scope for improvement, especially on the speed at which POTs are being approved by the CAR, something that has been the object of recurrent complaints at the local level.

increase in the technical quality of individual projects that can then draw on some of the justification in the POT. Linking the POT with the availability of support through public programs (including those promoted by the Ministry of Agriculture) would provide an added incentive for the formulation of high-quality documents.

- To the extent that individual projects correspond to a broader strategy, it will be possible to reduce project-based monitoring, and instead focus on the broader outcomes.

4.2.2 Lessons from Actual Implementation

To explore to what extent the potential of POTs has been realized in practice, 16 *municipios* in the departments of Córdoba, Magdalena, Meta, and Sucre were chosen to follow up on the quality of POTs through field visits. In order to maximize the potential usefulness for land policy, the departments and *municipios* comprising the sample were selected with a view toward including those that, during 1996–2001, had high levels of spending on land reform. Key areas to be analyzed were (a) the status and quality of the analysis of the rural sector in the POTs or their equivalent; (b) factors that were associated with a high-quality analysis of the rural sector; (c) the attention devoted to land reform issues and the extent to which they could serve as a basis for land reform implementation; and (d) whether the activities implemented by INCORA in the past were consistent with what was enunciated in the POT and, if not, reasons for deviation and the scope for amendment.

In merely administrative terms, implementation of POTs has been a great success: Of the 1,097 *municipios* in Colombia, 65 percent have completed the process and ratified the POT following its approval by the CAR, 29 percent (or 305) are in the process of either ratifying it following CAR approval or waiting for approval, and only 6 percent are still in the stage of formulating the plan at the local level. At the same time, there are doubts about the quality of the plans that have been put together; anecdotal evidence suggests that many POTs neglect rural areas and in addition may lack either the proper technical basis or a serious and participatory analysis of the issues. This makes them deficient in terms of the quality of the recommendations, and would imply that serious and far-reaching changes or amendments may be required before POTs can make a useful input into land reform planning and execution.

To assess their technical quality, the rural portion of POTs in the 16 chosen *municipios* were ranked according to six broad criteria: (a) the quality of the underlying maps; (b) the degree to which due diligence was followed; (c) whether a strategic development objective was articulated in the POT and substantiated by referring to the necessary elements; (d) whether problems related to land tenure were identified and discussed in the POT; and (e) the level of correspondence between the POT and the PMD, and the translation of the recommendations into specific zoning and land use planning. Results of the exercise are summarized in Table 4.2 and a more detailed description of the different indicators and subindicators (including their weights) is given below:

- Mapping (10 percent): Whether the basis, in terms of maps identifying the situation on the ground, is adequate to allow distinguishing different land use types and their economic potential.
- Process (10 percent): Whether the process prescribed in the law has been followed.
- Strategic development objective (25 percent): The extent to which the rural component advances productive development with the subindicators of (a) the identification and development of mechanisms to add value to agricultural products (*cadenzas productivas*); (b) promotion of programs to help diversify the structure of production (*diversif*); (c) technical assistance and capacity development for *campesinos*; and (d) programs to strengthen marketing (market).
- Land tenure (25 percent): Whether land tenure aspects are considered in strategies to improve productivity with the subindicators of (a) a description and analysis of the land tenure system; and (b) the identification of solutions to existing land use conflicts.

- Correspondence of the PMD with the POT (15 percent): Whether the land use planning promoted in the POT forms a basis for the PMD. This is defined as at least half of the rural productive projects identified in the PMD corresponding to the issues identified and the recommendations made in the POTs.
- Land use classification (15 percent): Whether there is a clear scheme that identifies land uses based on (a) description and analysis of soil classifications; (b) identification of potential land uses based on economic criteria; and (c) use of these to identify main, complementary, and prohibited types of land use.

Each of the subcriteria was ranked on a scale from 1 to 3 to derive first a measure for the achievement of each of the six main indictors based on equal weights for different subindicators (where applicable) and, subsequently, an aggregate ranking using the percentage weights given above. The overall score was then used to classify the POT as either satisfactory, acceptable, or deficient, as illustrated in Table 4.2.

This exercise provides a number of interesting insights: (a) not all of the POTs have managed to live up to their potential, (b) the treatment of land issues and especially the area of land reform is uneven and often characterized by a discrepancy between analysis and action, and (c) some of the issues identified require national policy guidelines for local governments to be able to become active. At the same time, a number of important lessons can be learned from the experience of *municipios* with adequate POTs.

Table 4.2: Ranking of Municipios' POTs

Municipio	Dept.	Maps	Process	Strat. Development Objective				Land Tenure		Link	Land Use Planning			Rank*
				Chains	Diversif	TA	Market	Descr.	Solut.	PMD	Soil cl	Potent.	Zonif.	
Weight		10%	10%	25%				25%		15%	15%			
Puerto Lopez	Meta	3	3	3	3	3	3	1.5	2.5	3	3	3	2.5	Sat.
S Benito Abad	Sucre	3	1	3	2.5	3	3	2.8	3	2.7	3	3	3	Sat.
Montelibano	Córdoba	2.8	3	0	1	2.8	3	3	2.8	2.3	2	3	2.5	Sat.
Pivijay	Magdalena	1.8	2	2.8	1	3	3	2.8	2.5	2	2.8	2.8	3	Acc.
San Marcos	Sucre	1	3	3	0	3	2.8	2.8	0	2.5	2	2.8	2.8	Acc.
Sucre	Sucre	2	3	0	2.8	2.8	1	1.5	3	1	2.8	2.8	2.2	Acc.
Monteria	Córdoba	2.5	3	0	3	0	2	0	0	1.5	1	2	1.5	Def.
S.J. de Arma	Meta	2	3	0	0	1.5	1.5	0	0	1	2	3	1.5	Def.
Valencia	Córdoba	0.5	3	0	0	0	0	3	0	1.5	0	1	0	Def.
Ovejas	Sucre	0.5	1.5	2	1	2	0	0	0	1.8	0	2	2	Def.
San Onofre	Sucre	1	3	0	1	2.5	0	0	0	1	0	1.5	0	Def.
Cienaga	Magdalena	2.8	3	1.5	0	0	2	0	0	0.88	3	3	3	Def.

* Sat. = Satisfactory; Acc. = Acceptable; Def. = Deficient.
Source: Zapata and Arismendy (2003).

Not all POTs have lived up to their potential: A first implication from Table 4.2 is that, despite the progress in terms of completing them and the fact that, in almost all of the cases, due diligence was followed, POTs in the sample *municipios* leave much to be desired. In fact, half of the plans are classified as deficient and only 3 are either satisfactory or acceptable. Key constraints are the lack of a good technical basis, a strong bias toward environmental and urban issues, and lack of consistency with the municipal development plan.

- A key commonality among the deficient POTs is that they fail to utilize the necessary technical and cartographic basis. This apparently makes it difficult to put together a land use plan that accounts for differences in soil quality and economic potential. As a consequence, the POTs in question failed to develop a clear vision for the rural sector. Lack of the cartographic basis made it nearly impossible to pinpoint the incidence and nature of land use conflicts, a necessary precondition for development of a strategic development objective that would link land to broader goals of local development. An appropriate basis of cartographic and tenure information appears to be a necessary, but not sufficient, condition for a satisfactory POT.

- Perhaps not surprisingly in view of the provenance of the legislation, all the POTs in the sample are characterized by a strong environmental and urban bias. The difference between satisfactory and unsatisfactory ones is that, based on the realization that it will be impossible to deal with the challenges of urban development and sustainable environmental development without having a sound rural development strategy, the former go further and also focus attention on rural issues.
- All of the POTs are better at analyzing problems than at proposing solutions. This leads to a marked lack of coherence and consistency, and implies considerable scope for follow-up to either narrow the discrepancy between identification of problems and their analysis or help to formulate proposals to contribute to the solution of these problems. For example, most of the acceptable and satisfactory POTs in the sample identified conflicts between potential and actual land use but failed to either prioritize them, develop solutions to deal with them, or put in place policies that would prevent the recurrence of problems that had been identified in the past. In all of these cases, the scope for amending existing POTs is considerable.

Treatment of land and land reform issues is uneven and lacks follow up: Not surprisingly in view of the fact that a detailed treatment of land tenure issues was not within the original purview of POTs, the level of attention devoted to these issues varies greatly. At the same time, the presence or lack thereof of a discussion of land issues appears to be one of the most immediate preconditions for developing a strategic vision for the rural sector and thus a high-quality POT. All POTs ranked as satisfactory contain a discussion of land tenure issues and at least some effort to find solutions, while none of the deficient ones do. This suggests that ensuring a minimum level of attention to land use and tenure will be important not only to realize the economic potential and develop a vision for the rural space, but also for local governments to appreciate the (possibly unused) possibilities of revenue generation associated with their land base.

- Insecure land tenure, in rural and peri-urban areas is recognized as an important land-related issue in a number of POTs. While this could provide a basis for launching programs that would enhance tenure security and resolve conflicts at the local level, data and analysis often remain incomplete, and further legal and administrative steps may be required for local governments to be able to implement the proposed solutions (for example, titling programs or other mechanisms for updating of the registry, and enhancing tenure security).
- Many POTs also recognize underutilization of productive land and unequal access to land as important issues for the development of the local economy. However, local governments lack technical expertise to transform this into action. Providing local governments with a menu of options (from more effective collection of land taxes to support for the transfer of use or ownership rights) and an incentive-compatible way to draw on the technical expertise that will be needed to transform analysis into actionable plans could significantly help local governments address an issue the importance of which has already been recognized.
- A number of POTs suggest that typical "INCORA problems" related to land reform implementation, such as acquisition of low-quality land, often from powerful landlords, and at high prices; beneficiary selection that was not in line with the productive needs; and settlement of beneficiaries on areas that are not suitable for agricultural cultivation have developed into considerable problems at the local level. While most of the projects were implemented before the ratification of POTs, this still implies that there is likely to be a need for developing a consistent policy at the national level that would enable local governments to deal with these issues.

Some of the land issues identified require policy guidelines and processes from the central level: To allow local activity and planning to effectively deal with some of the issues identified in the POTs, guidelines and procedures need to be developed at the central level, in particular on how to deal with the problems inherited from past reform efforts and the way in which the different mechanisms the government has at its disposal complement each other in helping local governments deal with long-standing structural problems, rather than working at cross-purposes.

- Substitution of beneficiaries who have left: A finding that emerges from a large number of case studies is that on average about half of the original assignees who had received land under the land reform program are no longer in possession of this land.[32] Inability to obtain individual landownership also has a negative impact on investment and equity.
- Dealing with bad credit and resettlement: Many land reform beneficiaries have paid too much for the land. A scheme of debt forgiveness and local productive restructuring, based on a clear and objective assessment of the prices paid and the productive potential, with support from the local government, should be possible.

Successful POTs provide important lessons: Even though the quality of many POTs has been low, the commonalities among the successful ones provide lessons to guide elaboration or improvement of these plans in other contexts in the future.

- The fact that all POTs in the sample that were ranked satisfactory received considerable outside support, either from international agencies (*Centro Internacional de Agricultura Tropical* [CIAT] in Puerto Lopez), the national government, NGOs, and the private sector,[33] suggests that technical support is critical to ensure the quality of the plans. Given that such support is required only for a certain amount of time, one could well think of a systematic program to help amend existing POTs that would be supported by a mobile team including representatives of the private sector, NGOs, and the government (the *Instituto Colombiano de Desarrollo Rural* [INCODER]).
- Almost all the plans found to be of high quality are based on more detailed analysis of opportunities and constraints at the lower administrative units such as the *vereda* or *coregimento* as a means to identify solutions at the local level. This has implications not only in terms of the technical basis for a good POT, but also in terms of the process of formulating one and its eventual approval that could provide the basis for better coordination with municipal development plans, identification of steps to implement the POTs' recommendations, and monitoring follow-up.
- A key incentive to establish good POTs that correspond closely to the PDM has been the ability to use POTs as a basis to orient public and private service providers, but also the ability to translate them into specific programs for which external support can be obtained. Given the large number of initiatives that provide support to local governments, there is considerable scope for public institutions, including the Ministry of Agriculture, to require that any funding proposal be consistent with a POT of acceptable quality, defined in easily verifiable ways. Especially if combined with the potential to obtain technical support, this could generate significant momentum for revision and improvement of POTs at the local level.
- POTs have considerable potential from a technical perspective. This potential can be enhanced if they are embedded within an incentive structure that provides the scope to obtain financial resources based on POTs that meet some minimum standards of technical quality. Combining this with

[32] While in the past, INCORA could just declare the *caducidad* (noncompliance in bad faith) of an individual beneficiary (that is, he did not comply with requirements) and substitute him or her, this is no longer possible without a legal process that first requires a minimum period of six months (and a defense in absentia and ex officio if the person cannot be found), followed by the auctioning off of the plot under concern. This is of relevance in a number of cases: (a) where beneficiaries have substituted other people for households that left, those may be highly vulnerable and not be able to get secure property rights; (b) in the many cases where joint and indivisible (*proindiviso*) property was given and some beneficiaries have left, the remainder is responsible for repaying all the credit contracted (which will normally preclude access to fresh credit and is particularly onerous in cases where the land was obviously overvalued). Also, the processes of individualization require signatures by all beneficiaries, which are impossible to get. At the same time, INCORA has little incentive the follow up because its credit is subordinated to that given through *Caja Agraria* (and the payment that can be obtained by auctioning off the land will hardly be enough for both). While for past incidences, a case-by-case solution will be required, continued monitoring through savings associations, and a gradual approach to land transfer, are proposed for new land acquisitions.

[33] Note that both Montelibano and San Benito Abad were part of the World Bank-sponsored land reform pilot that included an extensive and participatory exercise of local development planning, which resulted in the implementation of a local "land reform plan." With a classification of soil types and land-use patterns to identify demand for and supply of land, and marketing channels, identification of public and private institutions, and NGOs that would be able to lend technical support to land reform implementation, and an economic analysis of the main lines of production for which the *municipio* had a comparative advantage, this plan incorporated many of the elements that should constitute a successful POT (Deininger 1999; Rojas 2001). In all cases, there was strong support for the implementation of these plans by the private sector.

technical support to POT preparation provides a potential to greatly enhance the scope for making the POTs useful in practice.

- While the POTs provide a great opportunity to align local development with overall objectives (and thereby provide incentives and consistency as well as greater effectiveness in the way in which public funds are spent), there is a clear danger that, unless indicators to measure progress in implementation are developed and have some impact on access to funds, they will remain just another planning exercise with little impact on the ground. This requires both a mechanism to set goals and prioritize in a way that is linked to financing, and a way to translate recommendations into actions.

4.3 Success Factors for Transfers from Large to Small Producers

To explore empirically whether successful land transfer from large to small farmers is possible, and if yes, what factors can increase the chances for success of such transfer, a sample of 32 projects located in Córdoba, Antioquía, Santander, Cundinamarca, Tolima, Huila, and Meta of cases where land was transferred from large holdings to small farmers or landless with some success, but under very different arrangements (including both public intervention and private sector initiative), was selected for in-depth review (Suarez and Vinha 2003). The sample was designed to maximize variability, that is, including transfers involving rental and sales, displaced people, traditional land reform beneficiaries, joint ventures with the private sector, and pilot experiences from the market-assisted land reform pilot, as well as the Government's program of *alianzas productivas*. We first discuss determinants of success at the project level, and subsequently complement this with household-level evidence.

4.3.1 Project-Level Analysis

To be fully successful, projects aiming to transfer land from large to small producers need to (a) transfer to small and medium-sized producers property rights for large properties that are appropriate for agricultural use but are not or not fully utilized; (b) allow new users to make more productive use of the land, thereby increasing the intensity of land use; (c) improve their standard of living; (d) do so in a way that the costs and benefits of the transfer (including complementary investments) allows for a program that is fiscally sustainable and can be scaled up in response to need; and (e) do not reduce the overall mobility of land.

Project characteristics, production structure, and the contribution to beneficiary welfare of the 32 projects in the sample, overall and by the main actor (private, government, and pilot) are illustrated in Table 4.3. The figures illustrate that government-sponsored projects continue to suffer from a number of defects, in particular (a) a tendency to pay high prices for land, (b) limited ability to ensure beneficiaries' access to working capital, (c) imposition of collective ownership structures which, for a number of reasons (including collective liability for credits taken out by others) make it more difficult for recipients to access formal credit, and (d) neglect of marketing linkages and access to more advanced means of technical assistance.

While there are no major differences across projects in terms of the land area given per beneficiary, private projects are characterized by a significantly higher number of participants. They are also much more likely to have been initiated for reasons of competitiveness than in response to violence. In fact, in only 16 percent of the private projects in the sample was violence the main or a major motivation, compared to 88 percent of traditional land reform projects and 80 percent in the case of the pilot. Even though one would have expected that such conditions of violence and distress would have had some impact on land prices, the price paid in cases of land transfer that involved the government were either above or close to the market price (1.06 for government projects; 0.97 for pilot activities compared to only 0.36 in the case of land transfers involving the

private sector).[34] In fact, the observation of the government apparently consistently paying high prices for land has led some observers to suggest that, even in a future land reform program, the land should be part of the contribution of one of the parties to the deal rather than being acquired by government (Suarez and Vinha 2003).

Table 4.3: Key Indicators from Case Study Evidence, Overall and by Type of Project

			Type of project		
	Item	**Total**	**Private**	**Government**	**Pilot**
Project Characteristics	Length of experience in project	7.3	5.7	9.2	4.6
	No. of beneficiaries in project	62.6	94.1	50.2	33.2
	Area per beneficiary	10.4	9.2	11.4	9.4
	Competitiveness*	33.3	75.0	6.3	20.0
	Transfer affected by violence	60.6	16.7	87.5	80.0
	Purchase price/market price	87.69	35.63	105.68	92.57
	Yield comparative	66.7	83.3	56.3	60.0
	Percent of land fallow	23.7	16.4	24.9	36.2
	Have irrigation	45.5	41.7	62.5	0.0
	Produce perennials	33.3	41.7	18.8	60.0
	Made investment in crops	51.5	41.7	50.0	80.0
	Made investment in infrastructure	63.6	50.0	75.0	60.0
	Made working capital invest.	45.5	66.7	37.5	20.0
Contribution to Welfare	Live exclusively from agr.	36.4	33.3	43.8	20.0
	Complement with work	48.5	58.3	43.8	40.0
	Only minimal from agr.	15.2	8.3	12.5	40.0
Production Structure	Access to regular extension	61.3	80.0	62.5	20.0
	Access to research	25.8	70.0	0.0	20.0
	Marketing volume arranged	69.4	100.0	59.4	40.0
	Marketing minimum price agreed	64.5	80.0	62.5	40.0
	Collective landownership	45.5	0.0	75.0	60.0
	Enterprise is a joint venture	80.6	80.0	75.0	100.0
	Work conducted jointly	33.9	30.0	37.5	30.0
	Investment jointly	37.1	30.0	43.8	30.0
	Profit sharing	35.5	20.0	46.9	30.0
	Default on debt	42.4	8.3	62.5	60.0
	Access to trader credit	83.9	100.0	75.0	80.0
	Access to bank credit	61.3	80.0	50.0	60.0

*This variable is a dummy that is 1 if yields are at least comparable to those in the region, and zero if they are below.
Source: Authors' computations based on land transfer survey of 32 projects.

Even though the difference is not as large, private projects also have systematically higher yields that are comparable to or above the mean for the region (83 percent for private projects compared to 56 percent for public ones). In addition, private projects make more intensive use of their land as indicated by a lower percentage (16 percent compared to 25 percent in government projects and 36 percent in the pilot). Contrary to what one might expect, this does not seem to be due to more favorable endowments; in fact the share of private projects having access to irrigation (41 percent) is lower than for government-supported projects (63 percent). Also, while there are few differences in the extent to which investments in crops and infrastructure were undertaken, private projects made significantly higher working capital and other investments, providing support for the hypothesis that beneficiaries under government-initiated land reform are systematically short of working capital.

[34] In interpreting these figures one has to note that many of the private schemes do not involve land purchase, but rather rental, and that the average is affected by the very successful case of Luna Roja which, based on economic analysis, does not buy any land that costs more than P1 million and subsequently develops the land for production. At the same time, this case demonstrates that, in the current situation, acquisition of productive land at low prices is feasible. Also, note that even if this case is excluded, the average price paid for land compared to current market value is only 66 percent, still significantly lower than what is observed for the other transfer types.

Differences among the three project types are relatively minor insofar as the contribution of the project to beneficiaries' livelihood is concerned. In fact, we note that only 33 percent in private compared to 44 percent in government-supported ventures obtain all of their income from the land reform project, while 58 percent complement project income with wage work. However, marked differences appear concerning the access to technical assistance, especially applied research that, while not at all accessible to government projects, is available to 70 percent of beneficiaries in private sector projects. Clear differences also appear in terms of access to markets: All of the projects supported by private entrepreneurs have agreements in place to purchase all of their production, and 80 percent have an agreed minimum price. Both are the case for only about 60 percent of government-sponsored and 40 percent of pilot projects. Not having such arrangements in place considerably increases price risk and makes households more vulnerable to shocks.

Another key difference between private and government projects with potentially far-reaching consequences is the prevalence of joint landownership, which, while absent in the case of privately sponsored projects, reaches 75 percent in government-sponsored ones. The figures clearly illustrate that joint ownership is neither necessary nor sufficient for collective work. In fact, the share of joint ventures is, at 80 percent, compared to 75 percent, slightly higher in private compared to government projects, and the share of those that work the land jointly (30 percent in private and 38 percent in government projects) is not very different either. One area where the landownership structure does, however, make a significant difference is in terms of credit access and indebtedness: While less than 10 percent of private projects have overdue credit, this is the case for 63 percent of government-sponsored projects. Not surprisingly, this significantly reduces credit access for participants in government projects: only 50 percent compared to 80 percent in private projects report having access to bank credit. Although the slightly higher figure of 75 percent having access to supplier credit suggests that such loans in-kind can partly compensate for lack of formal credit access, neither the terms nor the range of possible applications for the latter are likely to be comparable to bank credit.

4.3.2 Household-Level Analysis

To assess the extent to which these differences translate into higher levels of success at the individual level, interviews were conducted with an average of three to four beneficiaries in each of the 32 projects visited (Suarez and Vinha 2003). In the analysis below, we define success as either an increase in the productivity of the farm compared to the situation before the transfer, a change in the income of beneficiaries compared to before the transfer, or the fact that beneficiary households are able to obtain an absolute income of at least two minimum salaries after the transfer.

Tables 4.4 and 4.5 present results for the total sample and the subgroups defined earlier. We note that of the 111 households interviewed, 64 (47 percent) managed to increase productivity compared to the pretransfer situation, and 71 (53 percent) experienced an increase in the income of beneficiaries. Only 32 households in the sample (24 percent) obtained an income of more than two minimum salaries—still short of the goal of three minimum salaries enunciated in the land reform legislation, which was achieved by only 13 percent of those in the sample. Because the sample is relatively small, it is important to focus only on the statistically significant differences among groups. To that end, pairwise t-tests were conducted with results reported in columns 4, 7, and 10 of the table.

Key factors for success appear to be that (a) the transfer was achieved based on private rather than government-assisted initiative, and there was no extralegal pressure to transfer the property; (b) beneficiaries participated actively in selecting the plot and the organizational structure of the operation to be established, and lived on the farm rather than elsewhere; and (c) they had access to improved technology, at least some working capital, bank credit, and marketing channels. We discuss these in more detail below.

Project characteristics: Compared to those that are based on private sector participation and initiative, projects sponsored by INCORA were significantly less likely to have been successful (Table 4.4). As the first line of Table 4.4 illustrates, only 28 percent of the projects that achieved an increase in productivity and 22

percent of those that achieved more than two minimum salaries were INCORA projects, compared to 56 percent and 50 percent, respectively, of those that did not. The situation is the exact opposite for market-based transfers, which make up 69 percent of those where beneficiaries receive more than two minimum salaries and 56 percent of those with a productivity increase.

Table 4.4: Project- and household level factors contributing to differences in land reform project performance

	Total	Productivity Change			Income Change			Absolute Income		
	Sample	No Incr.	Increase		No Incr.	Increase		<= 2 msal	> 2 msal	
Project Characteristics										
INCORA	42.96	50	28.81	**	48.93	31.25	**	45.57	21.88	***
Pilot	18.52	19.23	13.56		17.02	15.63		20.25	6.25	**
Market transfer	38.52	30.77	57.63	***	34.04	53.13	**	34.18	71.86	***
Violence was an issue	25.19	23.08	18.64		36.17	9.38	***	18.99	25	
Beneficiaries selected the plot	48.15	40.38	54.24	*	48.94	46.88		45.57	53.13	
Beneficiaries selected organ. form	24.44	17.65	49.15	***	19.57	45.31	***	27.85	51.61	***
Negotiation on price of farm	25.19	21.15	22.03		21.28	21.88		12.66	43.75	***
Negotiation on form of payment	20.74	11.54	25.42		14.89	21.88		7.6	46.88	***
Beneficiaries selection by INCORA	8.68	7.94	6.94		11.71	4.4	*	7.28	7.89	
Land transfer: professional evaluator	26.12	21.15	23.76		25.53	20.31		25.32	15.63	
Land transfer: technical visit	31.11	21.15	28.81		25.53	25		26.58	21.88	
Land transfer: evaluation of titles	37.78	23.08	33.9		25.53	31.25		27.85	31.25	
Capacitación administrativa	17.78	19.23	8.47	**	17.02	101.94		13.92	12.5	
Capacitación gestion comercial	9.63	13.46	5.09	*	10.64	7.81		7.59	12.5	
Household Characteristics										
Household size	4.21	5.21	4.76		5	4.95		5.04	4.81	
People <15 years	1.40	1.54	1.88		1.51	1.88		1.7	1.78	
Female head	4.44	1.92	8.47	*	8.51	3.13		6.33	3.12	
Head has primary education	35.56	38.46	47.46		40.43	45.31		51.9	21.88	***
Head has secondary education	28.15	30.77	38.9		27.65	40.63	*	27.84	53.13	***
Head has professional education	13.33	21.16	11.86	*	16.15	14.06		12.66	25	**
Displaced	15.56	21.15	8.47	**	34.04	0	***	17.72	6.25	*
Lives on farm	51.11	42.31	67.79	***	34.04	71.88	***	55.7	56.25	
Changes through Project										
Changes in productive activity	6.67	11.53	5.08		10.64	6.25		5.06	15.63	**
Changes in varieties	24.44	28.85	37.29		21.28	42.19	**	35.44	28.13	
Changes in use of technology	21.48	23.08	33.9		27.66	29.69		21.82	46.88	***
Changes in use of credit	19.26	13.46	22.03		14.89	20.32		17.72	18.75	
Changes in farm management	5.93	9.62	10.17		6.38	12.5		5.06	21.88	***
Changes in use of labor force	10.37	3.85	11.86	*	4.26	10.94		6.33	12.5	
Changes in use of tech. assistance	9.63	9.62	8.47		8.51	9.38		7.56	12.5	
Changes in producer organizations	12.69	11.76	11.86		15.22	9.38		11.39	12.9	
Changes in use of irrigation	10.37	7.69	11.86		6.38	12.5		10.12	9.38	
Changes in planning of production	7.41	7.69	6.78		8.51	6.25		3.8	15.63	**
Changes in negotiation	4.44	3.85	5.08		4.26	4.69		2.53	9.38	**
High-value crop dummy	25.93	44.23	33.9		36.17	40.63		43.04	28.13	*
Ganaderia dummy	14.81	17.31	13.56		25.53	7.81	***	10.13	28.13	***
Share of income from agriculture	55.02	54.71	65.93	*	46.28	71.25	***	62.85	55.31	
Share of income from ganaderia	10.94	12.88	8.9		2074	3.44	***	9.43	14.06	
No. of observations	111	52	59		47	64		79	32	

Statistical significance of differences: * significant at 10%; ** significant at 5%; *** significant at 1%.
Source: Authors' computations based on land transfer survey.

Another key variable that distinguishes successful from unsuccessful projects is the level of beneficiary participation. In the majority of projects that achieved an income above two minimum salaries and in a significantly higher share of projects where productivity or income increased, beneficiaries participated in selecting the organization of production and, in the case of absolute income, also negotiated the price of the farm and the form of payment. The fact that participation of INCORA in beneficiary selection does not have any negative impact can be interpreted as implying that, as long as the main initiative remains with beneficiaries and the private sector, government institutions can fulfill a support function.

One of the reasons for the limited success of INCORA projects appears to be that, in quite a number of cases, the institution was forced to undertake certain transactions due to political pressure or violence. As Table 4.4 illustrates, transactions that responded to violence were significantly less successful in increasing income (comprising only 9 percent of those that managed to improve income compared to 36 percent of those that did not).[35] Clearly, instead of responding to outside pressure in an ad hoc way, a program that aims to improve land access and land productivity in a sustainable manner will need to be based on systematic negotiation involving all parties at the local level, with the goal of opening opportunities for the private sector and beneficiaries to take the initiative.[36] Compared to the high level of significance of the factors described earlier, other project-level variables, such as the type of checks undertaken on the land before transfer, and the types of training undertaken, are much less significant determinants of success. Possible exceptions relate to participation in determining the form of payment, and having an outside evaluator.

Table 4.5: Differences in access to markets between Successful and Unsuccessful Projects

	Total	Productivity Change			Income Change			Absolute Income		
	Sample	No Incr.	Increase		No Incr.	Increase		<= 2 msal	> 2 msal	
Capital Market Access										
Working capital zero	46.67	61.54	30.51	***	57.45	35.94	**	51.9	28.13	**
Working capital less than 3 mn P	28.15	17.31	45.76	***	21.28	40.63	**	32.91	31.25	
Working capital more than 3 mn P	25.19	21.15	23.73		21.28	23.44		15.19	40.63	***
Made any investment	28.89	25	28.81		27.66	26.26		20.25	43.75	***
UPA has access to bank credit	38.52	38.46	54.24	**	31.91	57.81	***	40.51	62.5	**
Access to other Markets										
Distance to market	56.69	54.21	48.4		64.13	41.46	***	52.3	48.19	
UPA access to technical assistance	55.56	65.38	79.66	**	65.96	48.13	*	70.89	78.13	
UPA access to market information	42.22	50	59.32		42.55	64.06	**	45.57	78.13	***
UPA has access to capacity building	52.59	65.38	67.8		63.83	68.75		63.29	75	
UPA has access to machinery	47.41	55.77	62.71		61.7	57.81		56.96	65.63	
UPA has access to organization	39.26	50	50.85		57.45	45.31		46.84	59.38	
UPA has access to irrigation	14.81	13.35	13.56		14.89	12.5		16.46	6.25	*
UPA has access to transport	54.81	59.62	81.36	***	61.7	78.13	**	65.82	84.38	**
UPA has access to quality control	19.26	34.61	25.42		34.04	26.57		25.32	40.63	*

Source: Authors' computations based on land transfer survey.

Household characteristics: A key precondition for success appears to be that beneficiaries live on the farm. It is surprising to find that, even though their participation overall was, at 4.4 percent, extremely limited, female-headed households have not done worse than male-headed households; in fact they were slightly more likely to increase productivity. Higher levels of education are essential to increase income above a

[35] The question was, "Hubo presión extralegal para forzar la transacción del lote?"

[36] Surprisingly, case study interviews suggest that even large landlords understand that, in order to preserve social peace and reduce the scope for violence, negotiated solutions that provide greater land access for the productive poor will be needed. Apparently they would also be willing to make some contributions (including provision of land) to such a process as long as they have a possibility of affecting the selection of beneficiaries and, jointly with these, managing the production process (Suarez and Vinha 2003).

minimum level, but are apparently less relevant for the ability to increase income or productivity. Also, the significantly lower rate of success in the case of displaced people illustrates that careful effort will be required to provide incentives and thus establish programs that can deal with the particular needs of this group.

Project-induced changes: Table 4.5 identifies the changes initiated by the land project that are associated with higher levels of success in the various dimensions. It is quite surprising to find that, with the exception of technology and to some extent management and planning, the number of factors that are highly significant across the different success criteria is quite limited. This is consistent with the hypothesis that there is no patent recipe that applies to all the different target groups at the same time, but that solutions that respond to the specific need of any given location will be required. This is consistent with evidence from the case studies pointing toward a wide variety of arrangements that may or may not involve actual transfer of landownership and which can, for different crops, help to close the gap between large and small or landless farmers, and in doing so improve productivity and welfare, in addition to improving the distribution of land. This is also supported by the finding that high-value crops are not systematically associated with better success, and that access to livestock, while leading to higher incomes for those who know how to manage it well, is associated with a significantly lower probability of income increases overall.

Access to capital and other markets: In line with anecdotal evidence indicating that many settlements where the emphasis was only on the transfer of land are caught in a liquidity trap, with few opportunities for advancement, lack of working capital is indeed a critical determinant of project success. Its importance is matched by the relevance of credit access. While access to markets, transport, and organization are critical for the ability to achieve a minimum level of income, it is of interest to note that the share of projects achieving more than two minimum salaries has actually slightly less access to irrigation. One conclusion from evidence at project and household levels is that, in any future land reform program, there will be a need for greater and more substantive participation by beneficiaries and the private sector. At the same time, there is a need to integrate land reform policies into land use planning at the local level in a way that replaces political criteria with an impartial enforcement of minimum technical standards. Recent amendments to Law 160 have done little to change the institutional setup in a way that would help draw in local governments and the private sector.[37]

Thus, instead of using this law, efforts to improve productivity of land use by increasing land access by small producers and the landless should start with building spaces of negotiation at the local, regional, and national level, starting with efforts to establish more coherent land policy and land use planning at the local level, and drawing on the comparative advantages of different levels of government. In view of the public and private investments that will be required to make underutilized land more productive, and to create solutions that benefit the majority of the stakeholders involved, such initiatives will need to be accompanied by a funding mechanism that can help implement programs designed to improve effectiveness of land use and enhance agricultural competitiveness in a quick and incentive-compatible way.

4.4 Linking Land Access to Agricultural Competitiveness

Our earlier discussion highlights that, despite the fact that high inequality has a number of very negative consequences, both in the long term and the short term, and that there are economically viable ways of dealing with this problem, high transaction costs and the associated coordination failure prevents government and the private sector from effectively addressing the problem. As a way of summarizing the results from this chapter, we outline a possible institutional structure, in the form of a fund that would, in *municipios* that comply with a number of prerequisites, provide support to projects that (a) bring highly underutilized land

[37] While the amendments include a promising, though insufficiently operationalized, reference to rental with the option to buy as a means to acquire land, they establish a subsidy of 100 percent that is unrealistic given budgetary realities, and that would worsen the selection problem that has wreaked havoc with land reform efforts in the past.

into production; (b) are economically viable; and (c) include a significant ex ante contribution by landowners (such as in terms of previous savings by beneficiaries and rental at low rates or a discount on land prices).

Such a fund would provide a grant for the establishment of productive enterprises. Such a grant would be limited to a maximum per beneficiary household and would be contingent on the *municpio* meeting the necessary preconditions. Furthermore, the household would have to satisfy certain requirements—that may include previous experience and savings—as well. The purpose of presenting such a proposal for linking land access to agricultural competitiveness is not to provide a blueprint, but rather to stimulate discussion of the issue in the awareness that there are still many issues that need to be settled but that without making a start in tackling some of the problems underlying continuing violence in the country, it will be difficult to find a solution to the land-related problems that the country confronts. Even though putting this into practice will require more work and some creative thinking, the example of Brazil, where a similar model has been implemented with considerable success, illustrates that putting this into practice is not only possible, but also can have significant benefits for rural areas and the poor.

4.4.1 Local Responsibilities

Contrary to most of the recent land reform interventions in Colombia, an institutional structure designed to address land issues with any measure of success needs to start at the local level, where integration and cooperation between different actors and agencies has to be put into practice (Table 4.6). One key lesson from past experience is that support for land reform at the local level is probably one of the key elements for success and sustainability. INCORA's experience provides ample evidence to demonstrate that isolated intervention in a hostile environment is less likely to be successful in improving productivity or bridging the gap between large and small farms.

Table 4.6: Key Land Reform Institutions at the Local Level

Institution	Function	Remarks
Alcaldia	Policy framework (land taxation) and information (land prices) to	Does not manage resources
UMATA	reduce transaction costs in markets	
Planeación	Establish broad parameters (POTs/PDMs) to ensure consistency with local planning	
	Provision of technical assistance and complementary support to integrated projects (roads, land) and potential participants	
	Demonstrated success or at least a strategy to address the problems related to past land reform efforts	
NGOs and private	Project design and implementation	
sector	Dissemination of general guidelines	
CMDR	Identification of possible beneficiaries	Should have participation
	Identification of possible lands	from each vereda
	Identification of financing sources	Does not make decisions on
	Administration of resources	financing

Source: Authors' elaboration, building on Zapata and Arismendy (2003).

At the same time, in a locality where the necessary policies are in place and there is a coherent vision of the role of the rural and agricultural sector in the future, intervention by an outside agency to improve utilization of land in a way that increases land access by the poor can be an important catalyst in helping to activate the market.

To utilize this potential, local government will have to (a) the establish a policy framework (including land taxation) that encourages operation of land (rental and sales) markets based on private sector initiative; (b) identify the land use potential and conflicts between potential and actual land use in the POTs and, on that basis, formulate concrete strategies in the PDM; (c) identify the infrastructure and other investments needed to bring underutilized land into productive use and demonstrate a willingness to shoulder some of these; and (d) have made a credible effort to address the problems facing land reform settlement that were established under earlier laws. These elements, which are explained in more detail below, can then form the basis on which the eligibility of different *municipios* for funding is determined.

- Providing the framework for functioning markets is at least as important as implementing specific programs, and may be a more appropriate role for governments. Before contemplating specific interventions, local governments need to know the extent of land issues (underuse compared to potential) in their locality, and have a broad policy to address them. While well-designed efforts to facilitate access by the poor can be one element in such a strategy, it is a costly option that is unlikely to be effective unless complemented by other measures to improve the functioning of markets, such as the provision of information, land taxation, clarification of tenure arrangements, updating of registries, and so forth. In particular the ability to tax rural land at realistic rates will also be an indicator of the political readiness of a local government to make a serious effort at tackling land issues.
- While the POT and PDM can provide an appropriate framework for putting land issues into context (and many of the POTs studied contain elements), clear minimum standards, to be defined centrally, have to be set, and it is likely that technical assistance will be required for local governments to actually follow up and implement these locally.
- Even once a policy framework is in place, making more effective use of underutilized land will require a complementary infrastructure. Local governments can play an important role in providing such infrastructure, possibly combining this effort with the provision of technical assistance to potential participants and innovative mechanisms to improve access to land by the poor.
- Local commitment to improving land utilization will be indicated by the presence of a well-defined strategy in the POT. Provided that the legal issues surrounding this issue have been sorted out, success in making past land reform beneficiaries productive is one indicator of the ability to deliver on such commitment.

While these actions can deal with the supply side, the participation of civil society and the private sector is required to organize potential beneficiaries, provide capacity building and training, and identify opportunities to improve land utilization at low cost, in an effort to improve social relations and break out of a cycle of low productivity and violence. While the *Committee de Reforma Agraria* that was established under Law 160 may serve this function, the composition of that body may need to be changed to prevent domination by political interests and ensure representation of different *veredas* and *coregimentos*.

4.4.2 National Responsibilities

While our analysis highlights that, in the past, national-level institutions have not always been successful in their interventions, it is equally clear from the analysis reported in Chapter 2 that decentralization that is not guided by an appropriate regulatory framework and that includes effective mechanisms of control may well fail to achieve its objectives. This points toward at least three areas where national action and oversight would be required. First, it is necessary to conduct a prequalification of *municipios* that enables them to access support based on objective criteria, and to implement a methodologically rigorous ex post monitoring that provides continuing feedback to facilitate adjustment of the program and changes in funding to *municipios* based on their demonstrated performance. Second, a policy framework is needed that integrates the different policy initiatives available to the government in the area of land (for example, those aimed at securing the tenure of the population in danger of displacement, *extinción del dominio*, and land reform policies) with other initiatives. Finally, to operationalize the policy, an operational unit to provide technical assistance to local governments designed to improve their POT on a demand-driven basis and to deal with administrative issues and fund management, will be required. These functions are illustrated in Table 4.7.

While many earlier programs have paid lip service to the need for local participation, the proposed prequalification of local governments responds to the insight that it will be difficult to make good use of resources spent on land reform unless an appropriate framework at the local level is in place. This will have to be combined with rigorous ex post monitoring.

- As explained above, proposed criteria for *municipios* to be eligible for support are their level of own effort, the fact that their POT satisfies clear technical standards, that minimum equity criteria are satisfied, and, as the project evolves, the results from independent monitoring and evaluation.
- The monitoring and evaluation system will have to assess targeting of beneficiaries, include a participatory component that would quickly identify deviations from projected goals, and allow corrections. If consensus can be achieved on this, this could be expanded to include monitoring of a broader set of development outcomes related to the implementation of POTs and PDMs. Annual maximum allocations would then be made based on a transparent formula that takes into account past performance, although actual use of these allocations would depend on project proposals satisfying the criteria of economic viability, as explained below.

Table 4.7: Key Land Reform Institutions at the National Level

Institution	Function	Remarks
DNP	Qualification of *municipios* based on • Own effort and local support (taxes and contributions) • POT that satisfies minimum criteria and provides a framework for ex post monitoring • Social and technical criteria, e.g., land concentration, poverty, scope for productivity increases • "Old" land reform problems are attended to • Results from independent monitoring Design and operation of a monitoring system Making annual allocations	There needs to be a real selection; i.e., not all places can be eligible
MAGDR/DNP	Design of agrarian policy that integrates reform into a more comprehensive effort at rural development and effective/sustainable resource use Identification of project phases and technical criteria	Link between rehabilitation of past land reform lands, *extinción del dominio*, and new efforts at redistribution. Includes methodology to include *reforma agraria* in POTs
INCODER	Establishes fund Defines project phases and rules of applicability Acceptance and processing of projects (but not approval) Technical assistance to UMATAs and local governments for their POTs to satisfy minimum criteria	Similar to existing mechanisms of cofinancing

Source: Authors' elaboration, building on Zapata and Arismendy (2003).

The *Ministeria de Agricultura, Ganadería, y Desarrollo Rural* (MAGDR) and the DNP jointly have to develop the lines of a policy to deal with the rural economy in a productive way that does not lose sight of the structural inequalities, but rather includes ways and mechanisms to effectively address them and transform them into opportunities. Policy guidelines would be required, in particular, on the links between different sources of land that can be made available to poor people, and the modalities to provide land access. These need to be discussed with the relevant stakeholders and interest groups, and are likely to evolve over time. It is envisioned that, at least initially, main modalities of land access would not involve any purchase of land, but rather the provision of such land under different arrangements, either in a joint venture or under a lease.

Without an effective implementing agency that can actually help to transform principles into reality, (for example, by helping local governments improve their POTs), all of the above will remain empty rhetoric. In fact, INCODER is well placed to assume this function, and in addition take on the work associated with administration of the fund.

4.4.3 Departmental Responsibilities

Because many of the issues to be addressed have a regional dimension that goes beyond the purview of individual *municipios*, it is important to have the departmental institutions perform a linkage function between the two. On the technical side, departmental offices of INCODER would ensure that POTs do not suffer from tunnel vision, but draw on possible synergies to be had at a regional level, and that access to the needed technical assistance is available (for example, in the form of training courses or packages for UMATAs). At an administrative level, decisions on award of grants, at least initially, would be made at the departmental level by an independent panel to ensure the required neutrality and independence from short-term political interests that would likely be difficult to neutralize at the *municipio* level. An outline of the possible arrangements is provided in Table 4.8.

Table 4.8: Key Land Reform Institutions at the Departmental Level

Institution	Function	Remarks
INCODER	Acceptance and processing of projects (but not approval) Technical assistance to UMATAs	
Secretaria Agric.		Will have a low-key role
Approval committee	Approves projects based on technical criteria and economic viability Coordinates intermunicipal projects Supports links with marketing chains and agroindustry	Members: INCODER, experts, *Secretarias de Agric.*, University

Source: Authors' elaboration, building on Zapata and Arismendy (2003).

4.5 Conclusion and Policy Recommendations

Despite high levels of spending on land reform, the success of past land reform efforts has been reduced by a lack of continuity, a highly centralized implementation structure that lacked links to local governments, a lack of true participation by the private sector and civil society, and serious deficiencies in both ex ante and ex post economic evaluation. Any program that aims to reduce the widespread underutilization of land in Colombia will have to incorporate the lessons from this experience.

Though their actual implementation leaves much to be desired, POTs, together with municipal development plans, could provide an opportunity to put land issues (and thus the need for intervention in this area) into a broader context. In fact having an analysis of land tenure issues emerges as a sine qua non for POTs to be of an acceptable quality. Experience also illustrates that providing assistance to *municipios* in the implementation of POTs can help overcome environmental and urban biases. It can help develop a shared vision for the rural sector, and a strategy for moving toward it. Where applicable, this can be complemented with taking specific measures to improve the productivity of land use as a first step.

Analysis of successful efforts to link land access to greater agricultural competitiveness illustrates that effective private sector participation is not only a crucial precondition of success, but also that there is considerable willingness to support such efforts if this is combined with effective participation in their management. Having individual property rights and being able to draw on a continuous stream of income are two additional factors of great relevance.

Recent institutional restructuring and ongoing or planned interventions by multilateral and bilateral donors provide an opportunity to establish a fund that would provide grants to help individuals and local governments improve their agricultural competitiveness outside the restrictive legal environment of land reform. The key element would be a two-step procedure, which, by capitalizing and building upon the efforts undertaken by local governments in terms of establishing their POTs and PDMs, would also provide an incentive for them to proactively apply these instruments. Although more work on details of implementation is needed, moving ahead along these lines may provide an opportunity for Colombia to respond convincingly to the paradox of high unsatisfied demand for land in a country where so much of the productive land is utilized productively. It would also allow the country to start dealing with the highly unequal distribution of

landownership and access to economic opportunities, and all the negative social and environmental effects associated with this phenomenon.

COLOMBIA: LAND POLICY IN TRANSITION

POLICY MATRIX

1. Land Policy and its Link to other Policy Initiatives

	Issue	*Recommendation*	*Expected Impact*
1	As a result of the limited awareness of the importance of land access and ownership for a wide range of socio-economic outcomes, the topic does not receive the attention it deserves in the debate on rural policy and a sustainable solution to the conflict and in implementation.	Educate the public and officials on the importance of land in a wide number of aspects. Design policies to unlock the economic potential of land in a way that overcomes high levels of inequality, social polarization, resource use inefficiencies, and degradation, and enhances access to other economic opportunities.	Instead of a highly polarized discussion, guided by ideological prejudice more than empirical evidence, there will be an informed debate on the potential role of land in national development and the specific policies required to ensure that this potential is utilized.
2	The contribution of land policy to broader social and policy goals is not well articulated in national policy documents. As a consequence, the links between facilitating higher levels of investment and productivity, more sustainable and better use of land, greater land access, and the development of the rural non-farm economy are poorly understood and fail to guide design of specific interventions.	Highlight the critical role of land policy to: 1. Reduce violence and restore social peace in rural areas by improving access to economic opportunities to overcome high levels of inequality; 2. Secure property rights and facilitate investment; 3. Improve access to land and the functioning of markets; 4. Promote effective use and sustainable management of land; 5. Improve revenue collection and better integration of land issues into local planning and investment.	Interventions related to land are better linked to overall policy goals and each other. Institutions active in the land sector have a mandate to improve productivity and investment and reduce the underutilization of land, which has huge economic and social costs for the country.
3	National land policy is not well integrated with local knowledge and efforts. This discards existing information and results in duplication of efforts. At the departmental level, lack of coordination is at times exacerbated by creation of ad hoc regional entities. As a result, national policies cannot be implemented.	Ensure that national policy initiatives are in line with local needs by requiring that interventions in this area are well articulated with *Planes de Ordenamiento Territorial* (POTs) and *planes de desarrollo municpal* (PDMs) in the framework of decentralized governance. Strengthen the role of departmental authorities in rural planning and financing in a manner that is flexible enough to allow for different capacities, but provides departments with incentives to deal with land issues.	Greater role, participation, and ownership by lower levels of government in guiding land-related interventions improve the consistency between national policy and local needs and actions. Greater weight given to local plans (subject to minimum standards) provides incentives for improving the process of formulation and their content.
4	Policy instruments at the national level are not always consistent with each other. For example, specific policy interventions (e.g., *Incentivo a la Capitalización Rural* [ICR] and irrigation) and legal and institutional constraints disproportionately favor large farmers, thereby contradicting stated land policy objectives.	Focus government spending on public goods (information, infrastructure) and poverty reduction. Enhance the scope for public investment through equitable and efficient land taxation and registration systems, land tenure security, improved local planning, and the predictability of revenue collection. Review the consistency between the incentives provided by land policy and existing programs, eliminating inconsistencies where needed.	Greater consistency among policy instruments enhances the impact of public spending. Public spending does not crowd out private resources, but instead uses potential synergies between the two, thereby increasing the payoff from public spending. Cutting spending on areas where markets can do the job provides more resources to focus on true public goods and market failure.
5	Lack of the technical basis to adequately plan land use at the local level implies that interventions are often ad hoc, implemented by different (national and local) agencies, and inconsistent with each other.	Improve the technical basis by providing systematic technical assistance to the formulation of local land use plans on a demand-driven basis. Establish incentives that would reward the formulation of adequate POTs and the initiation of activities to implement them.	A process that will allow linking national policy goals with local needs is established. Examples of good POTs create a domino effect that increases competition among local governments.

2. Land Markets and Improved Land Access

	Issue	*Recommendation*	*Expected Impact*
1	While there has been a marked improvement in the extent to which land markets enable the productive poor to gain access, transfers between large and small farmers remain scarce. In many locations, speculative land acquisition, violence, and displacement dominate the dynamics of land accumulation.	Improve awareness of the fact that land markets without an appropriate regulatory framework can have negative consequences. Continue efforts to move ahead in implementing laws against money-laundering and tax evasion. Deal with unproductive *Instituto Nacional Colombiano de la Reforma Agraria* (INCORA) lands by identifying and improving mechanisms to facilitate (a) transferability of land through sales or rentals, (b) the substitution or replacement of original land reform beneficiaries where needed, and (c) the fair treatment of past overdue land-related debts.	The extent of speculative land acquisition and violent displacement, and the attendant negative social and economic consequences, are reduced.
2	Massive violent displacement aimed specifically at landowners has, in many areas, a much bigger effect on land distribution than decades of agrarian reform.	Design and implement mechanisms (incl. Decree 2007) allowing small producers threatened by displacement to hold on to land. Take concrete measures to provide secure land rights (e.g., build rapid mobile registration systems into the *Sistemas de Alertas Tempranas*) and preserve them even after displacement. Disseminate these mechanisms widely to increase awareness and reduce the loss of land.	The rate of displacement will decrease and the economic opportunities of displaced who return will be increased.
3	Actors in the private and public sector do not have access to information on land market trends (e.g., prices, changes in concentration, etc.) and, in many cases to up-to-date registry information, which will be a basis for decisions to participate in markets or to initiate regulatory action.	Establish a system to monitor land market trends, with clear responsibilities and performance criteria. Improve registry information. Link this to a more comprehensive system of survey- and census-based information on performance of the rural sector.	Transaction costs in land markets decrease. Public and private sector have a common basis of information on which to base their actions. This can also be used to monitor the impact of land market policies and determine need for intervention.
4	The contribution of sales markets to transferring land from large owners to small or landless producers remains limited, and higher barriers to entry implies that these markets are not always efficiency enhancing.	Establish a more effective land taxation system that allows taxation of land and windfall gains accruing to landowners in the context of large-scale land appreciation. Explore mechanisms to reduce entry barriers (e.g., provide financial instruments with a longer maturity).	The incentive for speculative land acquisition through sales markets and the associated higher levels of land concentration (and underutilization) is reduced.
5	High costs of registering land transactions imply that many sales remain informal. Also, without safety nets or alternatives to manage risk, land sales markets may be dominated by distress sales, which promote neither efficiency nor equity.	Reduce transaction costs in sales markets through local involvement in registration that would also allow market regulation. Create instruments to allow farmers to manage risks and complement these with social safety nets.	Greater tenure security increases the asset endowment of the poor, and at the same time increases the scope for land transfers, in particular longer-term rentals. Increased scope for land-related investment and, where the conditions are appropriate, use of land as collateral to access credit.
6	Even though they improve productivity, land rental markets are limited to the short term, and to spatially and socially close groups. They thus make little contribution to improved utilization of land and fostering structural change and/or land-related investment in rural areas.	Take measures (e.g., standard contracts) to further reduce the transaction costs of land rental. Encourage long-term land rentals by making renters eligible for programs to support investment.	By realizing more of the potential of land rental, underutilization of land is reduced. Land access, investment, and productivity in rural areas increase.
7	Poorly functioning rural financial markets limit access to long-term financing, thus reducing the scope for mortgage-based land acquisition and the use of sales markets to improve land utilization.	Promote a greater variety of financial services in rural areas (microfinance, cooperatives, banks). Increase *Banco Agrario*'s efficiency in transforming savings into rural investment. Explore options for providing longer-term credit.	Greater scope for land sales market operation. Public efforts to improve land access focus on the poor who will not be reached by markets.
8	Land reforms tends to substitute for rather than complement and reinforce market outcomes Despite considerable spending on government-sponsored redistribution programs, markets have been more effective for transferring land to productive producers who are either small or landless.	Design government programs targeted to complement rather than substitute what can be achieved through land markets, recognizing that land markets will provide only part of the solution to Colombia's deep-rooted land problems. Design programs targeted at incentivizing better utilization of the large amount of underutilized land (e.g., the establishment of a land fund). Link these programs to local government initiatives and greater agricultural competitiveness, and ensure civil society and private sector participation.	Land reform focuses explicitly on increasing productivity of underutilized lands in a way that catalyzes transactions through markets, and as one among a number of policy instruments. The incentives provided through land reform encourage other forms of land access (e.g., land rental experience as a precondition for land reform).

3. Legal Issues and Regulations

	Issue	*Recommendation*	*Expected Impact*
1	Lack of clarity (or awareness) on the legal status of land distributed under Laws 135 and 160 creates uncertainty, undermines credit access, operation of land markets, and investment. Lack of individual landownership by many Law 160 beneficiaries limits access to credit and sustainability.	Clarify (or if needed modify) the rules for transfers of such land through rental or sales; provide wide publicity. Where needed, have INCODER conduct quick campaigns to regularize current occupants. Develop mechanisms to regularize occupants who substituted for reform beneficiaries who left.	Tenure security, credit access and, thus, land values and the scope for productivity-enhancing land transfers will be increased. The productive potential of lands that were redistributed at high cost is better utilized.
2	Past land reform beneficiaries are unable to access services that would allow them to add value to their properties, partly because of high levels of desertion and nonrecoverable debts that were assumed collectively in the context of acquiring the land. The rigid legal framework (*condición resolutoria*) leaves earlier beneficiaries in a precarious situation, places a burden on the whole settlement, and reduces the mobility of land and the ability to productively use it.	Conduct an in-depth evaluation of the extent of beneficiary debts, the costs and benefits of different options for dealing with it, and the extent to which it creates obstacles for more efficient land use. Make application of the *condición resolutoria* more flexible (e.g., through a sunset clause) and allow local bodies that meet minimum requirements (to ensure that these are not used for political vendettas) to implement the necessary proceedings. Promote provision of local public goods to improve access to markets and technology, and integration in the value chain.	Intensity of land use, investment, and productivity on land distributed by earlier land reforms increase. Greater individual responsibility by reform beneficiaries allows them to make better use of their land and increase productivity. Greater access to markets and services allows beneficiaries to break out of subsistence and better use their labor endowment.
3	Setting the land reform grant at 100% of land (or project) value discourages beneficiary efforts, fosters rent-seeking and corruption, and reduces the number of potential beneficiaries.	Set the land reform grant lower and make it conditional on a previous contribution by beneficiaries, possibly on a sliding scale. Set a cap on the subsidy.	Better incentive structure and greater outreach of land reform programs. Provide incentive to negotiate land and factor prices rather than highest subsidy level.
4	Establishment of rigid and centralized criteria for beneficiary selection does not promote greater transparency, but instead limits the scope for designing programs that respond to the needs of specific groups and encourages discretionary intervention by local officials.	Increase transparency of beneficiary selection and make it subject to a general poverty criterion (e.g., the Selection System of Beneficiaries for Social Programs ([SISBEN]), complemented by beneficiaries' willingness to contribute (ex ante) own effort. Implement land reform programs only in localities meeting certain preconditions.	The ability of the land reform program to reach out to groups with different needs (e.g., female-headed households) increases. The truly productive poor will have a greater opportunity to access land reform programs.
5	The legal requirement to transfer ownership of a complete UAF is inconsistent with the increased importance of nonagricultural income sources. Even under the best circumstances, determination of the UAF makes the process vulnerable to bureaucratic interference.	Require an economic evaluation to demonstrate the economic viability of a certain land reform project rather than the UAF requirement, placing the burden of proof on the beneficiary. Support a spectrum of (gradual) mechanisms to provide land access (incl. rental) by different actors.	A broader spectrum of land reform projects, from commercial agriculture and joint ventures to providing supplementary income through land access, will be established. Land reform contributes to food security.
6	Although land access will be key in preventing displacement or facilitating return of the displaced population (60% of whom lost land), most of the government's policies for the displaced are focused on postdisplacement, short-term assistance, e.g., in education and health.	Increase awareness about the links between land and displacement. Establish mechanisms to make this operational by building on existing efforts (e.g., Decree 2007). Policies aiming to prevent displacement or facilitate return of the displaced population are of highest priority. Incorporate land issues in such policies. Coordinate implementation with INCODER.	Land assets of people suffering from or being threatened with displacement are better protected, offering a chance to reduce the extent of displacement. Policies address displaced people's long-term aspirations and short-term needs.
7	Inability to access land within the frontier is a key reason many migrate to and settle in frontier areas, possibly causing conflict and irreversible resource degradation.	Improve the institutions to address issues of underutilization and concentration of land resources within the frontier. Link them to a clear policy to facilitate land access in the frontier with enforcement of existing land-use regulations.	More sustainable land use in frontier areas. Reduced incidence of land conflicts in these locations.
8	Despite the dismal state of land titling in many places (as recognized by POTs), local governments do not have the authority to initiate titling programs, but instead depend on INCORA/INCODER, which implement initiatives on demand and subject to existing budget constraints.	Enable local governments to implement systematic titling initiatives based on common standards and a regulatory framework to sort out the local titling status and thus increase landowners' level of tenure security. Consider extending this to the ability to move ahead on the actions required to implement Decree 2007 as well.	Reduced insecurity of tenure, higher investment incentives, greater productivity. Lower propensity for displacement due to land loss.

4. Institutional Issues

	Issue	*Recommendation*	*Expected Impact*
1	Without a framework of land-related interventions (and institutional responsibilities), land reform remains ad hoc and is unlikely to have a major impact. Even though local governments have a key role in land-use planning, instruments and incentives for them to participate in land reform are nonexistent, in effect shutting them out of the process and leading to implementation of contradictory policies that lack local ownership and are less likely to be sustainable.	Increase local government participation; in particular, make them eligible for financial support for their own land reform initiatives, subject to: 1. A more comprehensive POT/PMD that deals with issues of land use, markets, services, technology, poverty, and food security at the local level; 2. Collection of land taxes to activate local markets; 3. Support for in-kind (public land, infrastructure, etc.) to the target groups; 4. Success in implementing or rehabilitation of land reform. Establish a land reform fund to provide resources.	Focus land policy on the need to improve land use and increase the income that poor people can derive from the land. Make land reform a bottom-up rather than a top-down process that is consistent with and driven from stakeholders' efforts at the local level. Possible ways of intervening in land markets (incl. land reform) are more clearly defined, thus ensuring better consistency among the instruments used.
2	Monopoly by INCORA/INCODER on award of land reform grants runs counter to attempts at decentralization, in addition to being vulnerable to political interference.	Allow local governments (and possibly also qualified private actors and NGOs) to develop own models to facilitate productivity-enhancing land access by the poor. Make them eligible for public cofunding subject to broad criteria (policy, governance structure, own contribution, proven success, independent monitoring).	Land reform is better integrated with local priorities. Redistributive interventions will be better targeted to lands where there is significant potential for productivity improvements and to poor people.
3	There is virtually no participation by local actors and civil society in the land reform processes, making it highly vulnerable to politicization.	Reduce public sector representation on the *Consejo Municipal de Desarrollo Rural* (CMDR) and restructure it in a way (e.g., with *veredal* and private sector representation) that would enable it to play a meaningful role in articulating concerns that affect land use in a given locality. In return for greater responsibility (e.g., on suitable business models), endow the CMDR with increased ability to make decisions.	Land reform program will be attuned to the needs and desires of the local population. Stakeholders can exercise effective control over the land reform process.
4	The lack of monitoring and impact evaluation reduces accountability and transparency and makes it easier to manipulate land reform programs, thereby discrediting the whole process. None of the participating institutions has an incentive to monitor beneficiary performance in the early stages, when corrective action would still be feasible.	Establish an independent evaluation system for the impact of different policies affecting the rural sector. Do a baseline in-depth survey. Secure dissemination and discussion of results and make award of public funds contingent on evidence from the monitoring system on good performance. Complement the above with monitoring of the participatory process and establish an incentive structure that rewards diligence and transparency in this.	Independent scrutiny of the land reform process. Economic returns to investment in land reform are comparable to those in other areas of the economy. Deviations and irregularities are detected and can be constructively used to adjust program implementation if needed.
4	The scope of gaining access to land left behind by internally displaced populations (IDPs) is a powerful motive underlying systematic displacement by guerrillas and paramilitaries. Despite increasing levels of displacement, the share of households that want to return remains very low.	Strengthen tenure security by updating registries and systematically implementing Decree 2007 as a way to increase the local population's ability to resist. Provide assistance to improve IDPs' ability to deal with the shock of displacement and provide *municipios* that are particularly affected with the resources to do so (e.g., through a fund to compensate those that effectively deal with large inflows of displaced). Design and implement demand-driven programs for those who desire to return.	Reduced scope for gaining land reduces incentives for systematic use of displacement as a war strategy. Greater tenure security reduces the population's propensity to leave. More effective assistance increases IDP's ability and willingness for subsequent return. A greater share of those who are displaced will be able to hold onto their assets.
5	Despite considerable progress in the past, the potential contribution of rural land taxes to better land use and greater local government revenues is not realized due to lack of both actualization and consistency across *municipios*.	Maintain and improve local capacity for assessment and collection of land taxes. Create incentives for actualization of registry and collection of land taxes (e.g., matching funds). Encourage greater uniformity of land taxation across local governments. Improve provision of local services. Consider exemption of smallholders and provide a land tax credit for new investment in perennials.	Landowners have more incentives to make productive use of their land (incl. renting). Fiscal independence and accountability of local governments increase, improving the range and quality of services provided.

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