41893

Agriculture and Rural Development Discussion Paper 37

The World Bank

Land Administration Reform: Indicators of Success and Future Challenges

Tony Burns

The World Bank

Agriculture and Rural Development
Discussion Paper 37

Land Administration Reform: Indicators of Success and Future Challenges

Tony Burns

1818 H Street, NW
Washington, DC 20433
Telephone: (202) 473-1000
Internet: www.worldbank.org/rural
E-mail: ard@worldbank.org

A large body of research recognizes the importance of institutions providing land owners with secure tenure and allowing land to be transferred to more productive uses and users. This implies that, under appropriate circumstances, interventions to improve land administration institutions, in support of these goals, can yield significant benefits. At the same time, to make the case for public investment in land administration, it is necessary to consider both the benefits and the costs of such investments.

Given the complexity of the issues involved, designing investments in land administration systems is not straightforward. Systems differ widely, depending on each country's factor endowments and level of economic development. Investments need to be tailored to suit the prevailing legal and institutional framework and the technical capacity for implementation. This implies that, when designing interventions in this area, it is important to have a clear vision of the long-term goals, to use this to make the appropriate decisions on sequencing, and to ensure that whatever measures are undertaken are cost-effective.

This study, which originated in a review of the cost of a sample of World Bank-financed land administration projects over the last decade (carried out by Land Equity International Pty Ltd in collaboration with DECRG), provides useful guidance on a number of fronts. First, by using country cases to draw more general conclusions at a regional level, it illustrates differences in the challenges by region, and on the way these will affect interventions in the area of land administration. Second, by providing a framework for the different types of costs included in such projects, it takes a first step toward generating comparable cost figures for such interventions. Finally, by establishing a set of indicators for the efficiency of land administration systems—that are easily generated by the system—it establishes a basis for a set of quantitative indicators of efficiency of service delivery in this sector. Given the vast differences even among the relatively limited set of study countries considered here, efforts to collect these data for a wider set of countries, in a way that will make them comparable over time, will provide important input for Bank operations at the country and sector level, as well as for further research.

Gershon Feder
Senior Research Manager, DECRG

Acknowledgements

This publication has been possible only with support from a number of experts in the field of land administration. In early 2002, the World Bank's Land Policy and Administration Thematic Group, represented by Isabel Lavadenz and Klaus Deininger, together with Jolyne Sanjak, then with USAID, identified the need for a global study of innovations in land administration. A concept paper was prepared by all involved with assistance from Grenville Barnes at the University of Florida. Country case studies were prepared in four regions: Africa; Asia; Europe and Central Asia; and Latin America and the Caribbean. These country case studies were prepared by individual experts, often with input from key project counterparts. Regional papers were prepared by Clarissa Augustinus (Africa), Anne-Marie Brits et al. (Asia), Gavin Adlington (Europe and Central Asia), and Grenville Barnes (Latin America and the Caribbean).

Land Equity International was commissioned to prepare a global synthesis of the case study experience, focusing on two key aspects: to identify the key indicators that might be used to measure efficient and effective land administration systems and to systematically identify and consider the future challenges for projects seeking to improve land administration systems. This document was prepared by Tony Burns, Chris Grant, Kevin Nettle, Anne-Marie Brits, and Kate Dalrymple.

The authors gratefully acknowledge the assistance in reviewing the manuscript of Gavin Adlington, Clarissa Augustinus, Grenville Barnes, Elena Panaritis, and Nigel Thompson. Klaus Deininger provided strategic advice and input into the finalization of the report.

Any errors in the text are the sole responsibility of the authors, and the views expressed in this document are those of the authors.

Company: Land Equity International Pty Ltd
Address: Suite 12-13 / 74 Kembla St, Wollongong, NSW, Australia 2500
PO Address: PO Box 798, Wollongong, NSW, Australia, 2520
Telephone: +61 2 4227 6680
Facsimile: +61 2 4228 9944
Web page: www.landequity.com.au
Email: tburns@landequity.com.au

Table of Contents

1 Introduction 1
1.1 Background....1
1.2 Objectives....2
1.3 Country Case Studies....3
1.4 Regional Papers 4

2 Land Administration 5
2.1 Definitions and General Background....5
2.2 Trends in Well-Developed Land Administration Systems....8
2.3 Environment for Land Administration Projects 11
2.4 Archetypical Contexts....12
2.5 Global Land Administration Issues....14

3 Critical Regional Issues and Case Study Overviews....17
3.1 Critical Issues in Africa....17
3.2 Critical Issues in Asia....19
3.3 Critical Issues in Europe and Central Asia....21
3.4 Critical Issues in Latin America and the Caribbean 23
3.5 Country Case Study Summaries 25
3.5.1 Africa Country Case Studies....25
3.5.2 Asia Country Case Studies....28
3.5.3 Europe and Central Asia Country Case Studies....39
3.5.4 Latin America and Caribbean Country Case Studies 31

4 Land Administration System Indicators....34
4.1 Framework to Assess Land Administration Efficiency and Effectiveness 34
4.2 Policy/Legal Framework 35
4.3 Qualitative Indicators for Customary Tenure 40
4.4 Quantitative Indicators for Formal Land Administration Systems....43
4.4.1 Indicators and Criteria for Success 43
4.4.2 Comparative Analysis....43
4.4.3 Summary of 'Mean' Indicators 55
4.5 Property Registration as a Business Indicator 58

5 Future Challenges 63
5.1 Approach to Land Administration Reform....63
5.1.1 Long-Term Nature of Land Administration Intervention....63
5.1.2 Sequencing of Land Administration Interventions....65
5.1.3 Community Mobilization....71
5.1.4 Solving Rather than Just Identifying Problems 73

5.2 Institutional Challenges 74
5.2.1 Authority of the State 74
5.2.2 Institutional Arrangements 79
5.2.3 Corruption and Governance 86
5.3 Focus on Sustainability 89
5.3.1 Technical Sustainability 89
5.3.2 Financial Sustainability 100
5.3.3 Participatory Sustainability 101
5.3.4 Capacity Building for Sustainability 104
5.4 Land Tenure Policy 107
5.4.1 Land Administration and Land Reform 107
5.4.2 Customary Tenure 110
5.4.3 Alternatives to Titles 118
5.4.4 Pro-Poor Emphasis and Safeguards for Vulnerable Groups 124

6 Conclusions and Guiding Principles 132
6.1 Conclusions 132
6.1.1 Indicators 132
6.1.2 Methodology 136
6.2 Guiding Principles 137
6.2.1 Approach to Land Administration Reform 137
6.2.2 Institutional Challenges 140
6.2.3 Focus on Sustainability 141
6.2.4 Land Tenure Policy 144

7 Appendices 146
Appendix 1 – Policy/Legal Framework Indicators 147
Appendix 2 – Customary Tenure Indicators 172
Appendix 3 – Land Administration Parameters 184
Appendix 4 – Formal Land Administration Effectiveness Indicators 193

Endnotes 201

References 215

Index 225

Author Index 227

Figures

Figure 1 Land Management Arrangements (Enemark *et al* 2005:53). 5
Figure 2 Land Administration Project Environments 11
Figure 3 Tenure Security/Institutional Arrangements Matrix 13
Figure 4 Generic Strategies to Strengthen Land Administration 13
Figure 5 Hierarchy of Tenurial Concerns 16
Figure 6 Framework to Assess Land Administration Efficiency and Effectiveness 34
Figure 7 Case Study Country's Ease of Business Rank against Property Registration Rank (based on Doing Business 2007) 60

Figure 8 Economics of Institutions (from Williamson 2000:597).....64
Figure 9 Geographic Phasing of Systematic Titling in Thailand (updated from World Bank 1990b) 67
Figure 10 Schematic of Tasks within Generic Strategies 70
Figure 11 The 2002 Transparency International Corruption Perceptions Index 87
Figure 12 Cadastral Concept (from Williamson 2002).....91
Figure 13 Thailand Land Titling Project Ground Survey/Conversion Cost Components (Phase I and II - Burns 1995) 96
Figure 14 Options for Cadastral Surveying (based on Dale and McLaughlin 1988:110) 97
Figure 15 Equipment Cost/Accuracy Matrix (from Dale and McLaughlin 1999:55) 97
Figure 16 Evolution of Western Land Administration Systems (from Ting and Williamson 1999:2). 111

Tables

Table 1 List of Country Case Studies 3
Table 2 Generic Approach to Indicators for the Policy/Legal Framework 36
Table 3 Approach to Qualitative Indicators for Customary Systems.....41
Table 4 Criteria for Successful Administration of Legal Rights in Property. 44
Table 5 Indicators of the effectiveness and efficiency of land administration systems.....45
Table 6 Generic Issues and Approach to Determining Indicators.....46
Table 7 Comparison of 'Mean' Indicators for Formal Land Administration Systems 56
Table 8 Doing Business Indicators for Formal Land Administration System 59
Table 9 Property Transfer Costs. 61
Table 10 TLTP Component Structure (from Rattanabirabongse et al., 1998:23) 66
Table 11 Planned Phasing of Activity in Indonesia (BPN 1993:64–65) 68
Table 12 Planned Phasing of Activity in Ghana (Ministry of Lands and Forestry 2002:33) 69
Table 13 Types of Societies (from Diamond 1997:268–9).....75
Table 14 Historical Stages of the Evolution of Informal Housing in Peru 77
Table 15 Administration Features of World Bank Decentralization Models 82
Table 16 Breakdown of Systematic Registration Costs from Case Studies (US$/parcel) 94
Table 17 Summary of Cost and Time Estimates in Ethiopia (from Alemu 2006).....98

Table 18 Summary of Performance Assessment in Ethiopia (from Alemu 2006) 99
Table 19 Land Office Revenue/Allocated Budget in Thailand (year ending 30/09/01) 101
Table 20 Land Reform Processes and the Values and Characteristics of Associated Land Rights 124
Table 21 Changes in Agrarian Codes with Respect to Gender (Deere and León 2001: 186). 127
Table 22 Collective Land Rights in New Constitutions and Agrarian Codes (Deere and León 2001:238) 130
Table 23 Indicators for Land Administration System Efficiency 134
Table 24 African Country Case Studies 148
Table 25 Uganda Country Case Study 153
Table 26 Asian Country Case Studies 155
Table 27 Europe and Central Asia Country Case Studies 161
Table 28 Latin America and the Caribbean Country Case Studies 165
Table 29 Customary Tenure Indicators for African Country Case Studies 173
Table 30 Customary Tenure Indicators for South Africa and Uganda Case Studies 175
Table 31 Customary Tenure Indicators for Asian Country Case Studies 177
Table 32 Customary Tenure Indicators for Europe and Central Asia Country Case Studies 180
Table 33 Customary Tenure Indicators for Latin America and Caribbean Country Case Studies 181
Table 34 Land Administration Parameters for African and Asian Country Case Studies 185
Table 35 Land Administration Parameters for European and Central Asian and Latin American, Caribbean Country Case Studies 189
Table 36 Land Administration Parameters for Selected Jurisdictions with Well-Developed Registries 192
Table 37 Indicators of Formal Land Administration Effectiveness for the Country Case Studies (Africa and Asia) 194
Table 38 Indicators of Formal Land Administration Effectiveness for the Country Case Studies (ECA and LAC) 196
Table 39 Indicators of Formal Land Administration Effectiveness for Selected Jurisdictions with Well-Developed Registries 198

Abbreviations

AandD	Alienable and disposable land (in the Philippines)
ADB	Asian Development Bank
ALDP	Accelerated Land Distribution Program (Trinidad and Tobago)
ALRO	Agricultural Land Reform Office (Thailand)
AMCHUD	African Ministers Conference on Housing and Urban Development
AREA	Association of private real estate agents (Trinidad and Tobago)
ASHTA	Agricultural Small Holdings Tenure Act (Trinidad and Tobago)
ASRP	Agricultural Sector Reform Program (IDB funded program in Trinidad and Tobago)
AusAID	Australian Agency for International Development
BAL	Basic Agrarian Law of 1960 (Indonesia)
BOO	Build-Own-Operate
BPN	*Badan Pertanahan Nasional* (National Land Agency) (Indonesia)
BTI	Bureau of Technical Inventory (ECA countries)
CahT	Ad Hoc Land Commission (Mozambique)
CAN	National Agrarian Commission (Bolivia)
CARL	Comprehensive Agrarian Reform Law of 1987 (Philippines)
CARP	Comprehensive Agrarian Reform Program (Philippines)
CDA; PIDCOTT	Land management agencies in Trinidad and Tobago
CIS	Confederation of Independent States (part of FSU)
CLAR	Centres for Land and Agrarian Reform (Kyrgyzstan)
CMO	Central Mortgage Office (Kyrgyzstan)
CNR	National Registries Center (El Salvador)
CNRA	National Council of Agrarian Reform (Bolivia)
COFOPRI	*La Comisión de Formalización de la Propiedad Informal* (Commission for the Formalization of Informal Property) – Titling Agency (Peru)
CoSL	Commissioner of State Lands (Trinidad and Tobago)
CPR	Common Property Resources
CRS	Customer Relations and Services/Community Relations and Services
CSUTCB	Confederations of Campesino Workers, Colonizers and Indigenous Settlements (Bolivia)
CVA	Central Valuation Authority (Thailand)

DENR	Department of Environment and Natural Resources (Philippines)
DKI Jakarta	*Daerah Khusus Ibukota* (Capital City Region of Jakarta)
DINAGECA	National Directorate of Geography and Cadastre (Mozambique)
DITM	Department of Information Technology and Management (New South Wales, Australia)
DMA	U.S. Defense Mapping Agency; now NIMA – National Imagery and Mapping Agency
DOL	Department of Lands (Thailand)
DOS	British Directorate of Overseas Surveys (Trinidad and Tobago)
ECA	Europe and Central Asia
EU	European Union
FIG	International Federation of Surveyors
FSU	Former Soviet Union
GIS	Geographic Information System
GLTN	Global Land Tool Network
GORTT	Government of the Republic of Trinidad and Tobago
GosREGISTER	State land registration system (Kyrgyzstan)
GosCartographia	State service of Geodesy and Cartography (Kyrgyzstan)
GPS	Global Positioning System
ha	Hectare (10,000 square metres)
HM, HGU, HGB, HP	*Hak Milik* (ownership), *Hak Guna Usara* (cultivation right), *Hak Guna Bangunan* (lease right for 20–30 years), *Hak Pakai* (use right), *Hak Pengenolaan* (land management), rights recognized under the Indonesian Basic Agrarian Law
HRD	Human Resource Development
IBRD	International Bank for Reconstruction and Development
ICAO	International Civil Aviation Organization (Trinidad and Tobago)
IDA	International Development Agency (World Bank)
IDB	Inter-American Development Bank
IFC	International Finance Corporation
IGN	National Geographic Institute (El Salvador)
ILD	Institute for Liberation and Democracy (Peru)
INCo	National Institute of Colonization (Bolivia)
INC	National Cadastre Institute (Bolivia)
INRA	National Institute for Agrarian Reform (Bolivia)
ILAP	Indonesian Land Administration Project
IPO	Indigenous People's Organizations
IPRA	Indigenous People's Rights Act of 1997 (Philippines)

ISTA	Salvadorian Institute for Agrarian Transformation (El Salvador)
JICA	Japan International Cooperation Agency
LA	Latin America
LA98	Land Act of 1998 (Uganda)
LAC	Latin America and the Caribbean
LAD	Land Administration Division (Trinidad and Tobago)
LAO PDR	Lao People's Democratic Republic
LAMP	Land Administration and Management Project (Philippines)
LGU	Local Government Unit (Philippines)
LTC	Wisconsin Land Tenure Center
LTP	Land Titling Project
LUPAP	Land Use Policy and Administration Project (Trinidad and Tobago)
LandSD	Lands and Survey Division (Trinidad and Tobago)
NCIP	National Commission on Indigenous People (Philippines)
NSL	Certificate for public land issued under the Land Code (Thailand)
NS2, NS3, NS4	Private tenure rights recognized under the Thailand Land Code. NS2 rights are pre-emptive and not transferable; NS3/3K are certificates of utilization and NS4 are titles. NS3/3K and NS4 are transferable.
NGO	Non-governmental organization
NORAD	Norwegian Agency for Development Co-operation
OECD	Organization for Economic Cooperation and Development
OMO	Organization and Management Operations
PADL	Planning and Development of Land Bill (Trinidad and Tobago)
PDR	People's Democratic Republic
PETT	Special Project for Land Titling and Rural Cadastre (Peru)
PHARE	*Pologne, Hongrie Assistance à la Reconstruction Economique*
PTO	Permission to Occupy (Namibia)
PPR	Project Preparation Report
PRDSA	Agriculture Services Rehabilitation and Development Project (Mozambique)
PROAGRI	*Programa de Investimentos Publicos na Agricultura* (Agricultural Reform Program) (Mozambique)
PRSP	Poverty Reduction Strategy Paper (World Bank)
RFD	Royal Forest Department (Thailand)
RPI	Immovable Property Registry (Peru)
RPU	Urban Property Registry (Peru)

RPO	Real Property Ordinance (Trinidad and Tobago)
RRP	Rural Rehabilitation Project (Mozambique)
RTC	Rights, Tenancy and Crop Inspection; record for taxation purposes (Karnataka)
SAL	Standard Agricultural Lease (Trinidad and Tobago)
SALIS	State Agricultural Land Information System
SC	Scheduled Castes (Karnataka)
SDI	Spatial Data Infrastructure
SEPR	Special Section of Rural Parcels
SNRA	National Agrarian Reform Service (Bolivia)
ST	Scheduled Tribes (Karnataka)
STK	Five-year usufruct license (Thailand)
SPGC	Surveying office at provincial government level within the Provincial Office of Agriculture and Rural Development (Mozambique)
SUNARP	National Superintendency of Public Registries (Peru)
SWAPO	South West Africa People's Organization
TAN	National Agrarian Tribunal (Bolivia)
TCO	*Tierras Comunitarias de Origen* (Traditional Indigenous Communities – Bolivia)
TCP	Technical Cooperation Program
TLTP	Thailand Land Titling Project
TandCPD	Town and Country Planning Division (Trinidad and Tobago)
UNDP	United Nations Development Program
UN FAO	Food and Agriculture Organization of the United Nations
USAID	United States Agency for International Development
UTM	Universal Transverse Mercator projection

1. Introduction

1.1 Background

In most countries, land[1] accounts for between half and three-quarters of national wealth.[2] Land is a fundamental input into agriculture production and is directly linked to food security[3] and livelihood. Land is also a primary source of collateral for obtaining credit from institutional and informal providers, and security of tenure[4] provides a foundation for economic development. Fees and taxes on land are often a significant source of government revenue, particularly at the local level. Formal recognition of rights is often vital in ensuring that indigenous and other vulnerable groups have access to land.

There are many demands on land resources: agriculture, pasture, forestry, industry, infrastructure and urbanization, as well as claims by indigenous groups and those campaigning for ecological and environmental protection. Not surprisingly, most societies cannot balance these often-conflicting demands. Land has therefore frequently been the cause of social upheaval, and much effort has been devoted to developing systems to administer land rights, **land administration systems**[5] A land administration system may include processes to manage public land, record and register private interests in land, assess land value and determine tax, define land use, and support the process of development application and approval.

Numerous projects to improve land administration systems have been undertaken over the past half century or so, primarily to provide formal recognition of rights in land and to facilitate the trading of these rights. Typical project objectives include one or more of the following: reforming and strengthening policy, legal, and institutional frameworks; introducing formal land-titling systems or other forms of secure tenure; improving registration practices; upgrading survey and record keeping technologies; capacity building—all in an attempt to develop more efficient and effective land administration services. The political spectrum of countries introducing projects ranges from one-party states in Lao PDR, Cuba, Tanzania and Mexico to military regimes in countries such as Peru and Argentina, to capitalist states such as Taiwan and Thailand. Many former socialist countries have also implemented projects as part of a move from command to market economies. Countries also cover the full economic spectrum, from the poorest countries, such as Malawi, to developed countries such as Japan and Taiwan. Projects have had varying emphases on social equity and economic development, with no consistent set of objectives and policies. As a result, it has been difficult to compare and evaluate the collective experience. Project outcomes have also been mixed.[6] Projects to strengthen land administration are often long-term and usually require significant resources and funding.[7] These characteristics are a disincentive for governments to clarify rights in land. It has been suggested that the key reasons why China did not introduce

systems to recognize private rights in rural areas, following the decollectivization of farms in 1980s, were the cost of implementation and the unknown social implications of introducing private land ownership.[8]

Despite the significant resources invested by governments and the donor community in modernizing land administration infrastructure, there is little systematic discussion of what constitutes effectiveness in land administration within the varying socioeconomic, cultural, and temporal contexts. To document recent project experience, background papers were prepared in 2003 for cases studies in Africa, Asia, Europe and East Asia, and Latin America and the Caribbean. Drawing upon the extensive research and experience captured in these background papers, this publication sets out a practical approach for assessing and establishing effective and efficient land administration systems.

1.2 Objectives

The comparison of developing and transitional land administration systems across regions provides a basis for an informed assessment by systematically reviewing the characteristics, accessibility, costs, and sustainability of different land-titling and registration options. Importantly, this text sets out with the intention of describing what to do—not why to do land administration reform. The economic and social rationales for undertaking such reform are discussed at length by a number of authors, including Feder (1988), de Soto (2000), and Deininger (2003). This publication is based on information compiled in a number of case-study countries that are characterized by the presence of either project interventions or specific innovative approaches, and aims to identify those parameters critical for policy development and operational efficiency.

Background research undertaken includes:

1. Detailed country case studies, based on specific terms of reference, to explore the individual cost elements for providing secure and transferable property rights, and how these change with the requirements of formalization, with the institutions involved, and the available technical options;
2. Syntheses of regional papers that were presented at regional workshops in 2003 in Budapest, Kampala, Pachuca, Mexico and Phnom Penh;

This publication is the culmination of these background studies. It sets out a framework for a set of indicators (as tabulated in appendices 1–4) and reviews the critical issues, with comparisons drawn from both within and across the regions. The publication sets out a global synthesis of the 17 country case studies and regional reports. Chapter 2 reviews land administration principles and the context for projects to strengthen land administration systems. Chapter 3 provides a summary of the situation in the four regions as well as a brief overview of the situation in the 17 country case studies. Chapter 4 describes the indicators developed to assess systems that are comparable over a wide range of social and economic contexts. One of the potential shortcomings of describing past experience is that critical issues may be systematically overlooked. To remedy this, the Chapter 5 delivers a systematic discussion of future challenges in the development of more efficient and effective land administration systems.

This discussion is based on topics identified as potential "blind spots." Conclusions and guiding principles are presented in Chapter 6.

1.3 Country Case Studies

By applying a consistent methodology across different countries, the case studies provide a framework for decision-makers to assess options for implementing or modernizing land administration systems.

A detailed Concept Paper and Annexes were prepared in early 2002 to support the preparation of country case studies (Lavadenz et al. 2002). The concept paper contained a checklist of required contextual information, including specific land-related information about: (i) the country (in brief); (ii) the land tenure system; (iii) institutional arrangements; (iv) the legal framework; (v) the technology used; (vi) the administrative process for registration; (vii) land and immovable property market information.

Each case study used a framework to draw out costing information on the primary registration function of the country's land administration system. Data were collected for each country case study to assess the following costs of activities:

- General Project Dimensions – overall project costs of land administration; as they typically require several interventions, including legal framework development, equipment, technical assistance, and so on, all costs were taken into account. These were then broken down into smaller divisions in subsequent tables;
- Project Component Costs – takes the figures from above and categorizes the various expenditure items;
- Regularization Activity Costs – considers the costs of first registration (or converting land from informal to formal) and how the costs are broken down into various categories to achieve that first registration;
- Property Market and Maintenance Details – considers the ongoing costs of running the registration system, and the volume of transactions; and
- Checklist for Technical Work – provides a simple checklist of some of the major activities and costs for ease of reference.

Country case studies were prepared for the following countries/jurisdictions.

Table 1 List of Country Case Studies

Africa	Asia	Europe and Central Asia (ECA)	Latin America and the Caribbean (LAC)
Ghana	Indonesia	Armenia	Bolivia
Mozambique	Karnataka (state in India)	Kyrgyzstan	El Salvador
		Latvia	Peru
Namibia	Philippines	Moldova	Trinidad and Tobago
South Africa	Thailand		
Uganda			

Source: Author.

The Asian country case studies were all prepared in a consistent format by Land Equity International, although not all have the same level of information. The country case studies for Europe and Central Asia (ECA) and Latin American Countries (LAC) were prepared by different individuals, so there is some variation in the content of these reports. The country case studies for Africa were commissioned late (December 2002) and were prepared by Clarissa Augustinus as office studies. For this reason the Africa country studies do not have the same level of information as the other regions.

1.4 Regional Papers

Four regional papers were prepared as part of the second phase of the study. A regional paper for Africa was prepared by Clarissa Augustinus in early 2003, based on the abbreviated country cases studies for Africa and the results of the discussion in the conference in Kampala in May 2002 (Augustinus 2003a). A regional paper for Asia was prepared by Anne-Marie Brits et al., in May 2002 before the regional conference in Phnom Penh (Brits et al. 2002).

A synthesized regional paper for ECA was prepared by Gavin Adlington before the regional conference in Hungary in April 2002 (Adlington 2002). Land administration in the ECA region is very dynamic and therefore many statements made at the time of collection do not hold true at the time of publication. For example, in Armenia, the time period and cost of registration have more than halved and the rate of transactions more than doubled within a year. Change is a central theme in these systems, particularly where a large project has been implemented. Huge differences remain between Central Europe, Eastern Europe and the Confederation of Independent States (CIS). Central Europe and the Baltic are as advanced, if not more so, than some EU countries. Three of the four studies were from poor CIS countries.

A regional paper for LAC was prepared by Grenville Barnes in October 2002, based on information in the country case studies and the discussion at the conference in May 2002 in Pachuca, Mexico (Barnes 2002).

Some of the regional case study papers are available on CD from the respective regional meetings and through the World Bank Land Policy Web site: www.worldbank.org/landpolicy. Critical issues in the four regions are reviewed below in Chapter 3.

2. Land Administration

2.1 Definitions and General Background

Simple definitions of the terms 'land administration' and 'land management' are set out in Box 1 and the policy context for land administration and land management is illustrated in Figure 1. Land administration is a basic tool that supports land management and operates within the framework established by land policy and the legal, social, and environmental background of a particular jurisdiction.[9]

Land Administration is a system implemented by the state to record and manage rights in land. A land administration system may include the following major aspects:

- Management of public land;
- Recording and registration of private rights in land;

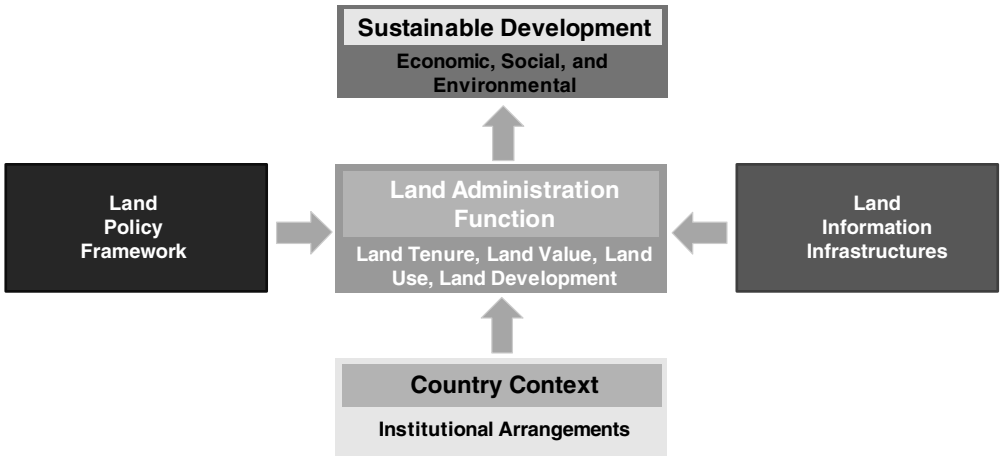
Box 1. Definitions

Land Administration: the processes of determining, recording, and disseminating information about tenure, value, and use of land when implementing land management policies.

Land Management: the activities associated with the management of land as a resource, from both an environmental and economic perspective, towards sustainable development.

Source: UN/FIG 1999:52.

Figure 1 Land Management Arrangements



Source: Enemark et al. 2005:53.

- Recording, registration and publicizing of the grants or transfers of those rights in land through, for example, sale, gift, encumbrance, subdivision, consolidation, and so on;
- Management of the fiscal aspects related to rights in land, including land tax, historical sales data, valuation for a range of purposes, including the assessment of fees and taxes, and compensation for state acquisition of private rights in land, and so forth; and
- Control of the use of land, including land-use zoning and support for the development application/approval process.

Typically, a land administration system is comprised of textual records that define rights and/or information, and spatial records that define the extent over which these rights and/or information apply. In most jurisdictions, land administration has evolved from separate systems to manage private rights in land and manage public land.

In countries with a colonial background there is often a dual land administration system; imported systems based on western models operate in urban areas and areas formerly occupied by colonial land-holders, and customary systems operate elsewhere. There are a number of legal sources for colonial systems; English common law, usually based on law prior to the major changes introduced in England in 1925, and the Civil Codes of France, Spain and Holland. Some countries (including Thailand, the Philippines, Kenya, and Uganda) have introduced later innovations, including systems based on the Torrens title system introduced in Australia from 1858. Other countries have a mixed colonial legacy which is reflected in their land administration systems; the Philippines, for example, has a Spanish and American colonial history, and a judicially-based Torrens system imported in 1901 from the state of Massachusetts. Post-independence, many former colonies have tried to unify their systems; Indonesia, for example, took 12 years from 1948 to draft and promulgate the Basic Agrarian Law in an attempt to unify land law.

There is varied recognition of customary tenure in land administration systems throughout the world. With some, there is an explicit recognition of customary rights, as in the Philippines and Bolivia, but these administrative systems operate in a very complex and conflicting policy, legal, and institutional environment, and as a result offer limited security of tenure. In other instances, there is a unified legal system based on customary law; for example, Uganda and Mozambique.[10] Other jurisdictions do not formally recognize customary rights; Thailand, for example. In other countries, there are religious tenure systems, for example the Islamic systems which administer Waqf land in the Middle East, as described by Powelson (1988: 143–144). Land law reform activities in support of modern land administration systems are becoming increasingly necessary to keep up with the trend toward market liberalization and the demand for stronger private property rights in land (Bruce 2006:3).

Land classification[11] plays a major role in land administration, particularly in Asia, where it was introduced early in some countries (in 1913 in the

Philippines), and more recently in others (the 1960s in Thailand). In most Asian countries, private rights are recognized only over non forest land, and lack of clarity of forest boundaries is often a key factor in tenure insecurity. With increasing pressure on land resources, many countries have set aside land for national parks and wildlife reserves, but this has often resulted in conflict with 'customary use.' (A good example is the forced removal of the Masai from the Serengeti in Africa.) However, governments in many countries either lack the political will or the ability to enforce land classification or the preservation of national parks and wildlife reserves. As a result, a significant proportion of the population has the legal status of 'informal settlers,' or squatters. Furthermore, the rapid urbanization that has occurred since the mid-twentieth century has resulted in informal settlements in urban areas that most governments have found difficult to address.

In many jurisdictions, the core land administration functions of surveying and mapping and registration operate separately, often in different Ministries, while in others they are brought together. In much of Europe and Latin America, registry offices and cadastral offices are separated, with the former usually linked to local courts or administrative districts. Separate registries and cadastral offices in the developing world frequently lead to problems with inconsistent and duplicated records. In some jurisdictions the registry operates without a reliable survey/map base, which creates difficulties with the definition of the parcel over which a registered right might apply, leading to problems with overlapping and duplicate rights.

Notaries, lawyers, private surveyors, and other intermediaries play a significant role in many land administration systems, while in others this is not the case. In Thailand, there is a very small private survey industry, with virtually all the legal work associated with registration, including the preparation of contracts, undertaken by the staff of the Department of Lands.

In most jurisdictions, there are agencies that administer both renewable and non-renewable resources (agriculture, forestry, fisheries, mining and so on) and national parks and wildlife reserves. Sometimes these are linked to a common land administration framework, but in other cases, they operate with varying degrees of coordination. For example, in Bolivia, the military provides a central survey-mapping function and there are departmental (state) registries throughout the country and a number of separate cadastres—including various urban cadastres—set up to support decentralization ('popular participation'), a forest cadastre, a petroleum cadastre, and others, all operating with little coordination.

Land administration systems vary from single, centralized systems in some jurisdictions (most of the states in Australia, for example) to decentralized systems in most Asian countries. In Thailand, for example, the title register is split among 76 Province and 272 Branch Provincial offices, each office maintaining the land administration system within its jurisdiction. Centralized systems as in Australia operate successfully because of established links through intermediaries such as lawyers, surveyors and financial institutions. There are also well-established systems of data brokers and electronic access to

the registers and services offered by the registries. The decentralized systems in Asia facilitate direct access by the public.

In most jurisdictions, planning and development applications and approvals are managed separately from the land administration system, with local government often playing a significant role. Jurisdictions such as Ghana link the planning and registration function by insisting on compliance with planning regulations as a prerequisite for registration, but others, such as Vietnam, grant rights only for specific use.[12] In many developing land administration systems, there is a distinction between urban and rural systems. This is typical of transition economies, where there are often separate projects, for example, an urban project linked to the privatization of apartments, and a rural project linked to the privatization of collective farms. However, this distinction is not common in much of the developed world, where it is virtually impossible to obtain a breakdown of formal land market activity into urban and rural components.

Finally, the term 'land administration' can cover a much wider range of systems, from formal systems established by the state to record rights in land to informal community-administered systems. The World Bank's concept paper anticipated that a global analysis would need to address a wide range of systems when it specified the institutions covered: *"government versus private sector, central versus local institutions, formal versus customary"'* (Lavadenz et al. 2002:4). This breadth of cover presented some challenges, particularly when the methodology set out in the objectives for the global analysis required '*systematically reviewing the characteristics, accessibility, costs, and sustainability of different land titling and registration options.'* Quantitative information on aspects such as characteristics, access, cost, and sustainability was often available for formal land administration systems, but was usually not available for customary land administration systems. This publication has attempted to address the dichotomy by developing a model to assess the performance of both formal and customary systems.

2.2 Trends in Well-Developed Land Administration Systems

A primary motivation for land administration projects throughout the developing world is the facilitation of transparent and efficient land markets. Generally, the major investments are in the acceleration of first-time registration of rights to land and the systematic capture of related records which provide the security and confidence essential to the operation of the land market. While developed countries still emphasize this key role of documenting private ownership, the trend in developed systems is for land administration, particularly the core cadastral components, to be applied to development goals which go beyond the focus on land markets.

In most developed countries, the land administration system is so closely woven into the social and economic fabric of society that it goes almost unnoticed by the community it serves. Disputes over rights or boundaries are infrequent, so the continued need for high-level safeguards is sometimes questioned, raising issues of risk management. This is not to suggest that there

have not been changes in land policy in developed countries. In a number of countries, there has been debate on the impact of land use regulations and other public restrictions on private rights in land (examples include Wiebe et al. 1998 considering the debate in the U.S., Lyons et al., 2002 considering the situation in Australia). There has also been recognition of native title in developed countries including the U.S., Canada, New Zealand, and more recently, Australia (Bartlett 2004).

The land administration systems in these jurisdictions can deliver the social and economic outcomes expected, and support land markets which are fair and transparent for all. Since they are mostly used by professional intermediaries, the systems of land administration are largely invisible to, and taken for granted by, the general community.

The conservatism apparently attached to land-related institutions in developing countries has long dissipated in most developed countries, where institutional re-engineering is relatively common, if not frequent. It would be unusual in Australia, for example, if land administration agencies, along with other arms of government, are not subject to functional review and restructure in a five-year cycle. Early examples were the amalgamation of cadastral and land registration authorities, allowing the newly combined agency to concentrate efforts on improved data quality, streamlined processes, improved service levels, and at the same time, on realizing the economic rationalization (cost savings, staff reductions, and so on) most governments demand. The trend towards integration of cadastral and registration data over the last few decades was assisted by technology and the growth of land information systems.

Programs of data conversion are either in progress or in many cases complete, making it commonplace now for land administration agencies to store and maintain land parcel details (combined text and graphics) in digital form. Titles are routinely stored in digital format, and in most jurisdictions the laws have been adapted to give evidentiary weight to digital media and to allow for the electronic submission of data. This supports the trend to remote data access, which facilitates enquiries from banks and other lending institutions. Increasingly remote registration of transactions and dealings is facilitating the work of accredited agents such as lawyers, notaries, and surveyors, and assisting in the maintenance of the primary registries and map bases. An example of this is the Landonline electronic conveyancy system in New Zealand, where changes in the register are implemented by private lawyers acting for the parties in a land transaction.

The introduction of digital data has raised policy issues concerned with access to data resources. Many jurisdictions are examining costs and pricing policies for data as access via the Internet increases (for example, Switzerland and Australia). On the other hand, public opinion that access to cadastral data and other public registries on the Internet should be free of charge for all citizens is growing in countries such as the Czech Republic.[13] While the debate on access and charges continues, revenue generation remains a political driver in land administration reforms. For the majority, the immediate goal of cost

recovery is being achieved in the selected jurisdictions, with well-developed land administration systems set out in Table 38, page 196.

This improved efficiency is reflected in the trend toward shortening transaction times (refer to Table 39 page 198); no doubt influenced by service improvements such as the remote access mentioned above. There are signs of increasing interest in the performance of land administration systems and the trend of benchmarking systems against each other. The International Federation of Surveyors (FIG) and researchers from the Centre for Spatial Data Infrastructure and Land Administration at the University of Melbourne have examined a series of national benchmarking initiatives aimed at measuring products, services, and practices in search of best practice for cadastral systems (Kauffman 2002, Steudler et al. 2003). After benchmarking a number of performance indicators, a common template was developed to enable the identification of similarities and differences in matters such as national land policy, laws and regulations, land tenure issues, institutional arrangements, spatial data infrastructures, technology as well as human resources, and capacity building.[14] This is known as the Cadastral Template. The dearth of performance statistics experienced in the preparation of this publication proves that this trend is well overdue.

Despite the capacity to innovate (for example, value-added applications of spatial data via the Internet) and improve the potential 'profitability' of providing land administration services, the trend towards full privatization of land administration functions has not been pronounced. Private sector involvement in elements of the process is well established and the trend is to increase this input. For example, the role of the private sector in data capture (cadastral surveys) and transactions (lawyers, notaries and settlement agents) was reinforced through licensing arrangements, but responsibility for the overall system and integrity of the core data has generally remained a state function.

As observed by Williamson and Feeney (2001:14), land administration systems do not address the complex and dynamic relationship between public and private rights or the restrictions and obligations in land use that arise from competing priorities inherent in pursuing sustainable development objectives. In the United States, there is active debate on the infringement of property rights by the state through land-use planning and environmental protection (Siegan 1997, Jacobs 1998). Most systems of land administration and the core cadastral and registration components have historically supported land market objectives, and as such have primarily protected the individual buyer or seller operating within that market. As the pressure on land resources intensifies, especially in expanding urban areas, the land administration systems need to accommodate an increasing number of rights, responsibilities, and obligations in order to facilitate decisions that will support sustainable development.

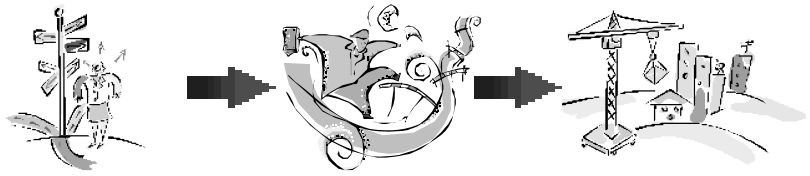
The trend is toward the evolution of land administration as part of an integrated land information infrastructure used to address economic development, environmental management, and social stability. The need to

integrate key data sets has seen the introduction of the National Spatial Data Infrastructure concept as the technical vehicle needed to maximize integration of all spatial data resources (Ting and Williamson 2000).

2.3 Environment for Land Administration Projects

Not only is there great variety in land administration systems, as previously noted in Section 2.1, but there is also great variety in the environments within which the various projects which strengthen such systems operate, particularly in the developing world. Although there is fairly common agreement on the generic objectives for an improved land administration system, each project operates within a specific contextual mix of political, social, and economic objectives (see Figure 2).

Figure 2 Land Administration Project Environments



Contextual Alternatives	Possible Obstacles	Generic Objectives
Post-conflict transition (demobilization, settlement of refugees, limited government credibility and authority, and so on) **Colonial legacy/poverty** (limited resources, lack of funds, limited government credibility, authority, and relevance, confusion between formal and customary, and so on) **Transition economies** (limited experience with property, limited relevance of existing bureaucracy, overstaffing, and so on) **Evolving market economy** (unequal wealth distribution, limited safeguards, limited government credibility and authority, and so on) **Other** (including a mixture of the above)	Lack of political will Legal overlap and ambiguity Conflicting/overlapping institutional mandates Operational constraints (poor land records, poor integration of registry/cadastre, limited access, and so on) Corruption/low civil servant salaries Limited funding Limited safeguards for vulnerable groups Other obstacles	Clearly defined and enforceable land rights Accessible, efficient dispute resolution Efficient and secure processes to transfer rights Confidence of users, particularly the public, and their participation in the land administration system Regulation of land use in the public interest Management of public lands and the commons Equitable taxation of property Equitable access to land information Poverty alleviation

Source: Author.

These contexts vary from transitional economies to evolving market economies through to very poor countries with strong colonial legacies. There is also variety in the type and relative importance of the obstacles that the various land administration projects face. For example, the technical capability in many of the European countries in ECA is comparable to that of many western countries, while technical capability in much of Africa is very weak. This variety complicates any attempt to undertake a comparative study of land administration project experience. Project and country development strategies themselves also undergo reshaping according to the environment they emerge from. A significant change in land projects in recent times has been a shift in donor priorities or emphasis. For example, Bloch et al., (2006:115) note that USAID has shifted its focus from land reform in the 1970s to land-tenure reform in the 1980s.

As noted in the concept paper (Lavadenz et al. 2002), a number of lessons have already been drawn from project experience, including the following:

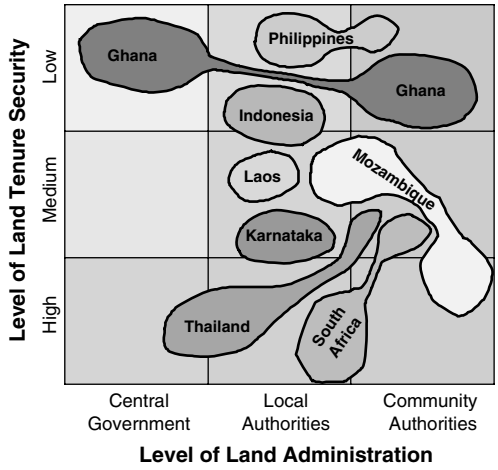
- Land administration goes beyond the implementation of legal, cost-efficient cadastral and land registration systems to the set of services that make the land tenure system within a country relevant and operational;
- Records and recognition are the basis of land tenure security and are interdependent with the social, cultural, and economic conditions of the respective social groups. Over time, needs evolve, and institutions, both customary and formal, must be adaptive;
- The legal, institutional, and technical elements needed to ensure that property rights are well defined, enforceable, and transferable at low cost vary substantially. From the donor perspective, documents formalizing land tenure arrangements have to be legally valid;
- Information on establishment and maintenance costs is extremely relevant with respect to the affordability and sustainability of registry systems.

2.4 Archetypical Contexts

An important element in undertaking a global analysis is a clear framework of archetypical contexts. One possible framework would be a combination of the contextual alternatives and possible obstacles listed in Figure 2. A critical element in any land administration system is the institutional arrangements, particularly the role of central government, local authorities, and community or customary authorities. A strategy matrix, mapping security of tenure against the major institution responsible for land administration, is set out in Figure 3, where an attempt was made to subjectively map the current land administration situation for some of the case study countries in Asia and Africa.[15]

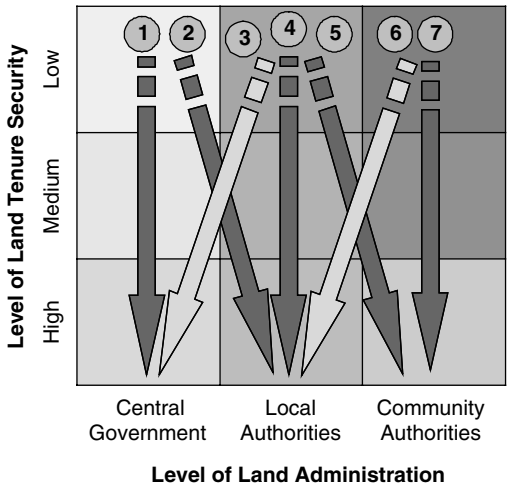
Although there is considerable subjective interpretation in the preparation of this matrix, it demonstrates that the selected country case studies cover most of the strategic options. Most of the case studies in Asia are decentralized formal land administration systems, with little recognition of customary systems, whereas customary systems are a significant influence in Africa. The

Figure 3 Tenure Security/Institutional Arrangements Matrix



Source: Author.

Figure 4 Generic Strategies to Strengthen Land Administration



Source: Author.

key objective of any project to strengthen the land administration system is to move from the top of the matrix to the bottom.

The seven generic strategies identified to accomplish this are (see Figure 4):

1. Strengthening a centralized formal land administration system;
2. Decentralizing the formal land administration system;
3. Strengthening and centralizing an existing decentralized formal land administration system;
4. Strengthening an existing decentralized formal land registration system;
5. Promoting a significant role for community/customary authorities, and perhaps the community itself, in a decentralized land administration system;

6. Transferring an existing land administration role from community or customary authorities to a strengthened decentralized government;
7. Strengthening existing community/customary land administration systems.

Other possible strategies may include combinations of the seven generic strategies listed above. There are few examples of Strategy 1 in the developing world, but many examples in the developed world, where centralized systems are developed, and improved service delivery models, such as electronic searching of registers and electronic lodgment of documents and plans, are implemented. There are also few examples of Strategy 3 in the developing world, although the current project to develop a centralized registration database in Poland is one example of an attempt to implement this strategy. In the future, as technology improves and becomes more available, more projects implementing Strategies 1 and 3 are likely, but they will only be successful when a basic infrastructure is in place. This includes widespread computer literacy, ready access to computers and the Internet, reliable telecommunications systems and, more importantly, procedures and systems that are tailored to the needs of the general populus and are supported by appropriate programs to educate users.

There are many examples and a detailed discussion of the other generic strategies in the developing world set out in the section entitled '*Sequencing of Land Administration Interventions*' in this document, in particular, Figure 10 on page 70.

2.5 Global Land Administration Issues

Although the outcomes desired from a system of land administration are frequently common across regions, the means of achieving those outcomes, and the critical issues encountered, differ according to the respective environments depicted in Figure 1. The issues critical to successful projects and viable land administration were distilled from specific regional issues, and are summarized here in a global context.

Arguably, issues relating to the institutional framework present the biggest challenge to successful land administration reform. All regions face the existence of multiple organizations, each with legislation empowering them to participate in the delivery of some part of the land administration cycle. The powers often overlap and add to bureaucratic red-tape, which allows agencies to remain self-serving, with scant regard to community needs and demands. Amidst this confusion there is ample opportunity for cronyism, patronage, informal fees, and other forms of corrupt practice that preclude the least able from participating in the formal land market and gaining security of tenure. Those who benefit from chaos are reluctant to support change, which results in lack of confidence in the formal system of land administration and a concomitant growth in informality. In Latin America and much of Europe, the jurisdictional separation of registration and cadastre between the legal (Ministry of Justice) and surveying (land and/or surveying agencies) fraternities adds an ingredient of professional bias to the institutional mix.

Potential conflicts between customary and/or informal systems of land tenure and state-supported formal systems of land registration are an issue in all developing regions except the case studies in ECA. Africa presents a significant challenge because the traditional authorities (chiefs, clans, families and so forth) have significant authority over land in most countries. While not as prevalent in Asia, customary forms of tenure exist, such that care must be taken to protect these interests in formulating land policy. In the Latin American environment, customary ownership is recognized as having legitimacy in formalizing land administration in the region. The desired outcome is a marriage of the two systems and this presents particular challenges to the legal and policy framework of land administration.

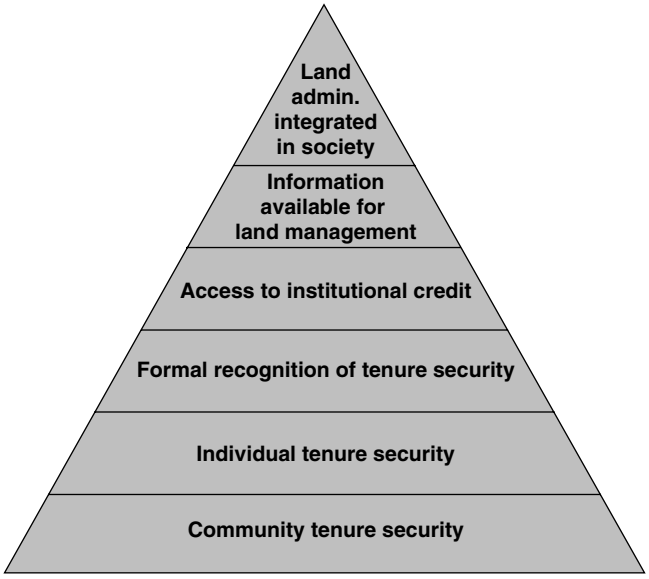
The *legal framework* is almost universally characterized by a multiplicity of overlapping land-related laws, compiled over decades with little attempt to rationalize the ambiguity resulting from successive legislation. Essentially, there seems to be the relative ease of creating new laws, compared to the effort required to improve existing legislation with the legal framework both aiding and abetting the institutional chaos referred to above. The frequent reliance on a litigious approach in dealing with land disputes—rather than administrative processes—extends the time and cost of resolution to the point where justice is very difficult, if not impossible, to achieve, and usually precludes all but the very wealthy.

An issue affecting the administrative processes is the level of fees and charges that can be reasonably imposed to ensure the land administration system is at least self-funding. Care must be exercised to ensure that the revenue objectives are balanced by the capacity of those participating in the market to pay. In the initial stages, this usually means a period of subsidization until the critical mass of parcels needed to sustain a land market are registered, and the land administration system has the confidence and support of the community.

Low skill levels and an acute shortage of resources are *technical issues* common to all regions studied. Despite this, there is a tendency to justify investment at the high technology – high accuracy end of the technical spectrum, based on the benefits of the multipurpose application of the spatial data arising from the cadastre. Concepts such as the National Spatial Data Infrastructure have evolved to provide a vehicle for downstream integration of information. While such concepts are ultimately necessary, they can be confusing to countries struggling to introduce the basic elements of a land administration framework, and are often a distraction from the fundamentals. Uganda, which is planning to introduce spatial data infrastructure prior to land registration, is a possible example of this as the cost-effectiveness is unclear.

To explain the evolution of land administration in society, the following model, based loosely on Maslow's Hierarchy of Human Needs (Maslow 1987), sets out a hierarchy of tenurial concerns, where higher tenure concerns will only be addressed when the lower concerns are satisfied. Spatial data infrastructure, a valid concern in many countries with well-developed land administration systems, addresses the high level concern of integrating land administration into society. In most developing countries, much work is

Figure 5 Hierarchy of Tenurial Concerns



Source: Author.

required to address lower level concerns before focusing on spatial data infrastructure. This is not to suggest that initiatives to improve land administration systems need not recognize the long-term objectives of SDI, but SDI objectives should not obscure the efforts to address lower-level tenurial concerns.

In all regions, the sustainability of the formal system is dependent to a large extent on the level of community trust in the formal system of land administration and the affordability of participation. These factors govern the level of registration of subsequent transactions in land rights after initial registration. Without the registration of all derivative transactions the accuracy of records will rapidly erode to the point where confidence disappears, informality grows, and uncertainty reigns. Essentially, the formal land administration system needs to adapt to the procedures and costs in the informal system, and the community needs education and awareness programs to extend beyond project public relations campaigns.

In ECA there was an urgent need to rapidly distribute land, or affect the reinstitution rights in land, and establish means by which rights could be protected. This was needed to meet immediate demand during the 1990s, following the collapse of the communist regimes. The long-term implementation of sound land administration systems is now beginning to be given the attention it merits.

All the issues above largely contribute to *effective maintenance* of the land administration system. Without simple, secure forms of tenure, service-conscious institutions, unambiguous laws, enforceable regulations, and smooth, inexpensive administrative processes, the climate of transparency and openness conducive to an effective land market will not exist.

3. Critical Regional Issues and Case Study Overviews

The individual regional papers describe a wide range of issues which were analyzed and distilled, as far as possible, to be representative of the respective regions as a whole. For consistency, they are considered under the major headings for the contextual information for the country case studies: land tenure, institutional framework, legal framework, technical arrangements, administrative processes, and land market information. These regional overviews provide a quick overview of the context for the country case studies, and thus provide a framework for explaining some of the regional variation in them. Within each topic, significant changes and trends that have occurred in the regions since the regional workshops conducted in 2002 are included.

3.1 Critical Issues in Africa

Over the last decade, more than 13 countries in SubSaharan Africa have adopted new land policies, laws which are pro-poor and gender sensitive, or both. However, the main challenge has been to implement these policies in a general environment of constrained resources and limited funding. Despite numerous initiatives during the last decade to implement new land administration systems in SubSaharan Africa, or to modernize existing ones, limited results have been achieved.

Where it exists, formal land administration consists of the conventional approach, based predominantly on deeds and title registration. However, the vast majority of the urban and rural populations in African countries live under customary systems of land administration. Further, due to the complex nature of the cadastre and property rights, colonial land administration laws and regulations remain entrenched in many countries.

Like many developing regions, Africa is experiencing rapid urbanization, with an urban population doubling almost every 20 years, the majority living in slums (Augustinus 2005). With a strong emphasis on realizing the Habitat Agenda and endorsing policy options with political support, the African Ministers Conference on Housing and Urban Development (AMCHUD) was established in 2005. Biennial meetings will be used as a consultative mechanism on the promotion of sustainable development of human settlements in Africa, where land plays a central role in housing strategies. As it supports pro-poor and innovative solutions to land and house problems, support for the systematic titling option is fading.

Land Tenure. Many parcels in the land registration systems are uncertain and hold ambiguous information, despite attempts to create land registration systems with certain, highly accurate spatial information.

In many instances, customary tenure and informal land administration systems are sufficiently secure to make large-scale titling programs unnecessary. Indeed, the formal land registration system in most countries is often not neutral, and where titling is implemented, people with customary tenure may, in fact, lose their rights. Women and overlapping rights holders are very vulnerable in these circumstances. It is because of this situation that African countries are introducing new forms of land tenure which are more appropriate.

Institutional Framework. There are major problems surrounding the flow of spatial information for land administration purposes within government, between departments at national level, between national and lower level tiers of government, and between government and the private sector and users. Coordination is therefore a critical issue. There are few comprehensive national spatial systems operating that contain reliable information for land administration purposes. Where they do exist, they only include that part of the country covered by the cadastre, typically formal urban areas.

For a range of reasons, many of which are related to governance issues, it is extremely difficult to implement large-scale national land-titling programs, or to enforce land-use controls. Hence the extent of land titles in much of Africa is largely confined to the major cities and areas where cash crops have been/or are being grown.

Legal Framework. In common with other regions, a central issue in Africa is the proliferation of conflicting and overlapping laws. Many countries have begun legal reform to address the issues and to introduce new approaches, including, among other things, new forms of evidence. For example, Tanzania passed two new land laws in 1999, a Land Act and a Village Land Act, to provide a framework for the formal recognition of land rights throughout mainland Tanzania. Other countries have also passed recent land laws, including Uganda and Mozambique, which are included in the country case studies. However, the scale and comprehensiveness of change needed is huge and has not yet reached full implementation. Systematic titling for much of Africa is not considered an option for a range of reasons, largely related to the experience from the mid–1950s in Kenya, where systematic land titling led to a range of problems, including 'land grabbing' by the urban elite.

In many countries, many existing titles are of doubtful veracity, and require complex legal processes rather than simpler administrative methods to effect transfer. As a result legal titles frequently do not reflect changes in legal rights resulting from events such as succession or transfer or more broadly the customary rights recognized in the community and these differences add to the complexity of dispute resolution.

Technical Arrangements. There is a general lack of financial, technical, and human capacity, indeed of all resources throughout Africa. Because the systems are under-resourced, many of them are out of date, expensive to maintain, and inefficient. Most countries also retain colonial forms of legal evidence, requiring a high standard of professional input. For example, there are few registered professional surveyors, with many countries boasting less than 30 in total.

Administrative Processes. Even if no dispute occurs, land registration in most countries takes 15 to 18 months on average, while realistically, two to seven years is not uncommon. This lengthy and costly procedure means that tens of thousands of land titles are usually pending and becoming obsolete as time passes.

Land Market Information. Land markets exist all over Africa, both in rural and urban areas. They are not a recent phenomenon. However, they are not free land markets, and the sale of land is often limited to relatives (by blood or marriage), ethnic, national, or religious groups, and men. Many of these sales take place outside of the formal land administration system.

3.2 Critical Issues in Asia

A common characteristic of land administration in Asian countries is the influence of colonial history. With the notable exception of Thailand, colonial administration has commonly resulted in a duality of systems, one to accommodate western occupation (usually urban and commercial agriculture areas) and the other covering customary tenure arrangements.

Rising populations have put pressure on dwindling land resources, leading to widespread deforestation, land degradation, and landlessness. Various land reform interventions have been attempted, with limited success. Land administration interventions have, however, largely been successful because of a conscious separation between respective land administration and land reform programs.

Land Tenure. Recognition of rights is confined to non-forest land, thereby excluding, in many countries, a significant proportion of the indigenous population who have lived on and cultivated land for many generations. In some countries, whole communities (towns) are established in land classified as forest. This is a critical land classification issue, as settled and cultivated land will never return to forest use. The existing policy, institutional, and legal frameworks regarding forest protection often remain far removed from the reality on the ground.

Institutional Framework. The institutional setting is usually characterized by large, conservative, central agencies with vested interests that resist change. Recent government land administration policy is almost universally to decentralize services and devolve power from central to local government. The trend is towards deconcentration, with central government responsible for policy, maintenance of a unitary legal and regulatory framework, and uniform service standards, and all operational responsibilities devolved to the regions. In most cases, the trend is yet to become widely realized.

Multiple agencies, with overlapping land administration roles and responsibilities, each supported by empowering legislation, is a critical issue in some countries. Attempts to coordinate project implementation through "steering committees" and so on have invariably been unsuccessful. The compromise arrangement—to distribute project component parts among different agencies, results in a disaggregation into separate projects.

Institutional issues remain one of the biggest obstacles to successful land administration reform in the region.

Legal Framework. The need to rationalize the sheer volume of uncoordinated and disintegrated land-related legislation is a critical issue in many countries. The level of law enforcement is low and the prevailing culture of consensus makes it very difficult to reach agreement on the need to amend existing legislation.

A common characteristic of the region is the predominance of title registration over deeds systems. However, with the exception of the Philippines, which has some limited and ineffective rights to compensation by the state, these systems are not backed by any form of state guarantee.

There is a high incidence of land-tenure related conflict, with attendant social disruption, in some countries. Dispute resolution is usually subject to court litigation, with the time delays and costs involved effectively removing most citizens from the process.

Technical Arrangements. The critical technical issues are the relatively low level of technology and the low skill levels of staff, coupled with the perception that the lack of access to technology is at the heart of most land administration problems. In reality, incorrectly conceived and applied technology is likely to be a much more serious problem.

Underestimating the need for appropriate human-resource training and development programs, and for the expansion of programs across the private sector or industry, is another critical technical issue.

Administration Processes. The existence of a hierarchy of rights over private land complicates the tenure system in many countries because many of the rights are for specific and temporary use, which means the need for renewal, or conversion to a higher right, adds to the bureaucratic chain. For example, Indonesia registers separate rights for ownership, cultivation, building, use, and management. When added to an already complex regulatory system, this creates a concentration of power in numerous points of the process, which increases the potential for "informal fees," discourages participation, and leads to distrust of the formal tenure system.

A parallel issue is the failure to delegate responsibility to an appropriate lower level of competence. The convoluted chain of officials whose signatures are required, in many jurisdictions, to approve many routine functions in the land administration process, adds to transaction time and expense, increases backlogs, and discourages participation in the formal system.

Land Market Information. With the commitment to systematic registration of rights to land in Asia, there is a growing mass of registered land parcels in most countries. However, the security of title and sustainability of the land administration system rely on maintenance of the records, so a critical issue emerging in many countries is the relatively low level of registration of subsequent transactions. This reflects low levels of community understanding of the benefits of formal registration, and highlights the need to simplify

procedures and processes, review fee structures, and extend community education and awareness programs beyond project public relations campaigns.

3.3 Critical Issues in Europe and Central Asia

ECA countries fall into three basic categories depending on their history and progress since the collapse of communism. These are generalized into the following groups:

(a) **Central European countries** usually maintained their land records systems and adapted them to their socialist regimes, but continued to allow private ownership and land markets to operate, especially in urban areas. Following the fall of communism, the countries had to revitalize and renew their systems and deal with restitution or compensation for people that had their rights taken away under those regimes;

(b) **The Baltic and Balkan countries** wanted the reinstatement of land and property taken from people during the communist period back to the original property holders. This required complicated and detailed investigation into the history of ownership and the reinstatement or compensation of the heirs of people who had land or property taken from them just after the Second World War;

(c) **Confederation of Independent States (CIS) countries** were part of the Former Soviet Union (FSU), where land and real estate was distributed based on those that occupied houses or worked for state or Collective farms and enterprizes.

There is great variety in the socioeconomic development of ECA countries. Income levels and development in the Central European and Baltic countries is markedly different than in the poorer countries of the CIS. For example, Latvia's experience demonstrates that land administration services, despite fees being more than 10 times the absolute amount charged in the poorer countries, are more affordable to users due to their higher incomes[16].

CIS countries have often proceeded to allocate rural land without physical boundary marking or identifying rural parcels in any way other than through a plan in the office. This is because individual owners often continue to farm collectively and any ground marks would be removed by agricultural machinery. Deliberate steps to delay would-be private farmers leaving collectives were made by collective directors in Russia (Barnes 2006). These steps include simple neglect of legal requirements to demarcate individual parcels and sign release forms. Both scenarios inhibit the development of land markets.

ECA countries experience fewer issues related to large informal settlements, customary tenure, inheritance or special tenure arrangements (for example, ownership by religious bodies). Instead, an ongoing problem in many countries relates to the erection of buildings without the correct building permission or occupancy permits. In many countries, it is estimated that this can amount to half of all buildings. As the government refuses to register properties without appropriate building permission or occupancy permits,

many are forced into the informal sector. Some countries, such as the former Yugoslavia and Azerbaijan, are also dealing with the problem of displaced persons from various wars.

In the ECA region, there is frequently a different form of 'social ownership. 'Under such a system, the residents in multiple-occupancy buildings have the continued right to occupancy and cannot be moved, although their bundle of rights is very limited. Rights are fully protected by civil law, and the countries studied as representative of the region have well-developed legal frameworks in line with best international experience.

The CIS countries studied also provide a useful model for successful land administration because they have effectively implemented a single-agency approach to the cadastre and registration functions. For example, they have incorporated the former Soviet-style *Bureau of Technical Inventory*, which registers buildings separate from land, into the current registration offices. At the same time, the institutional framework was strengthened by combining Land Management and Cartographic agencies into one new organization.

Land Tenure. Systematic registration has not improved the tenure situation for some in the urban sector because the approach was to identify problems, not resolve them. Thus the people who built without correct approvals, or encroached on adjoining land, or both, find themselves unable to acquire the rights to land they may have occupied in good faith for decades. This is the case in Yugoslavia, resulting in half of properties remaining unregistered, leaving owners worse off than before the systematic program.[17] Armenia and Kyrgyzstan have recently made great efforts to legalize constructions through systematic processes.

A critical question in many jurisdictions is the efficacy of having subdivided (on paper) large rural holdings into individual parcels—when it was evident that parcel sizes were often too small to be viable, and now require consolidation. This approach was considered necessary for prevailing political and equity reasons. Economic and agricultural production issues were considered secondary to the need for citizens to perceive that their rights were restored and to give them a means of subsistence during the hard economic times of transition.

Institutional Framework. Corruption and staffing problems in cadastre and registration offices are serious issues affecting the operations of the offices and the public's acceptance of the new system. A policy is therefore needed to promote private sector capacity, reduce staff levels (especially eliminating corrupt and inefficient officers) and raise the salaries and working conditions of staff who remain. In recent years, a number of strategies have been implemented to improve this situation by changing office layouts and workflow procedures, and programs are underway to make use of internet based applications. This will also eliminate the need for individuals to visit the land office directly.

Legal Framework. Whenever it was decided to privatize rural land and issue titles to individuals or enterprises in CIS countries, the political emphasis was

on speed and short-term results. The extent to which this compromises the accuracy and reliability of records is potentially a critical issue that will face subsequent generations and may lead to an erosion of confidence in the system. A risk analysis to determine a satisfactory compromise between the demand for rapid implementation and the sustainability of the land administration records should be considered.

Public awareness and understanding are a basic requirement of the registration system. It is essential in systematic registration systems that a well-publicized and effective public viewing period is conducted before registration, and sufficient time is given for people to examine and understand the location of their land and the rights recorded in their favor and their neighbors'. Concerns remain about guarantees where they have not often been provided or where there are added complications in the area in question.

A major issue facing the legal framework is implementing the 'open' register with information publicly accessible, as most jurisdictions want to retain a closed register.

Technical Arrangements. The primary objective of boundary demarcation is to ensure that boundaries can be identified or replaced when in dispute. For the purpose of registering rights, the primary aim is to deliver a secure system which allows people to transact dealings. Building on a strong technical base, many projects in the region had an emphasis on the use of modern technology. A key lesson has been that sophisticated geodetic networks, up-to-date mapping, accurate surveying, and modern (expensive) surveying equipment are not necessary to fulfil the objectives listed above. Indeed, the focus on technology has delayed projects in many countries.

Administrative Processes. Cost recovery is a major factor in all agencies in ECA, however fees and charges should be assessed on the basis of the capacity of users to pay. High costs discourage participation in the formal system of registration; the time and money required to carry out a transaction should be minimized in order to encourage real estate markets. It is also necessary to ensure that systems are sustainable by recruiting good quality staff. Countries in ECA are having mixed results in achieving this objective.

Land Market Information. Experience in the rapidly developing markets of ECA suggests that real estate markets are impacted more by effective registration systems that allow transactions to occur quickly and cheaply than by systematic titling programs.

3.4 Critical Issues in Latin America and the Caribbean

The distinguishing characteristics of Latin American land tenure and administration are the large inequities in land distribution and the history of land reform across the region. While many of the land reforms did not adequately address the inequity problem, they did put in place a tenure system and institutional structure that sets Latin America apart from other regions of the world. It should also be noted that Latin America contains a significant area of land claimed by indigenous peoples, thereby introducing

both a separate tenure category and a land administration structure entirely different from the mainstream national structures. The large extent of informal land holdings in both urban and rural areas of the region has elevated the need for large-scale initiatives that formalize these holdings and re-engineer the land administration system to prevent the re-emergence of informality.

It was also observed that, other than geographical proximity, there is little similarity between Latin American and Caribbean countries with regard to regional issues and approaches to land administration.

Land Tenure. Informality in Latin America and the Caribbean, in both urban and rural sectors, continues to be a huge challenge to the development of land administration systems. While the level of indigenous tenure is a factor in the former, a parallel type of tenure in the Caribbean could be the extent of family land holdings. Such family land may have been titled many years ago in the name of a deceased ancestor but passed down through subsequent generations without formal documentation. This issue is further complicated when descendants with valid claims reside overseas.

The tenurial profile in the Caribbean tends to favor large state-owned land holdings, historically leased out as a device to limit the ability of labourers to become peasant farmers and ensure the availability of essential labor for the large estates and plantations. The same leasing system today allows greater control of land use and has the social benefit of ensuring access to land for resource-poor farmers.

Institutional Framework. An issue that pervades almost every Latin American country is separation of the property registry and the cadastre at the information and institutional levels. While there is little uniformity across countries, the national land agency is typically separate from the registry offices, which are often under the Supreme Court. In addition, the national mapping agency is typically located in a geographic institute, which in many cases is a military entity. With the exception of El Salvador, which has merged all three entities, these three land institutions are usually located in completely different parts of the government structure. This is contrary to the trend in the Caribbean, where these three agencies are often fused together in a Lands and Surveys Department. National land matters in the Caribbean are usually handled by the Commissioner of Lands, whose office (in the case of Trinidad and Tobago) is joined with Lands and Surveys.

Similarly, the legal and fiscal cadastres are typically separated into different institutions, with an overwhelming tendency to decentralize the latter to the municipalities. This has resulted in each municipality developing independent cadastral systems based on different criteria, philosophies, and approaches to procedures, software and so on.

Legal Framework. The legal framework is *'plagued by confusing and contradictory norms originating in an exceptional manner and executed by multiple entities that do not have an integrated vision of the process.'* (Barnes 2002:9, translating Montúfar 2002:95).

Technical Arrangements. The low level of technical skills is a critical issue in Latin America. Most of the surveying work is done by topographers with little academic training. There is a clear need to strengthen the training and education components of land administration projects in Latin America. (This issue is not relevant to the Caribbean because it has a body of professional surveyors.)

Administrative Processes. The trend in Latin America is to move from an owner-oriented deeds system to a parcel-based deeds system. This has to do with the structure of information management rather than a conscious change from a deeds registration system to a title registration system, as is the case in the Caribbean.

Another administrative issue is the difficulty of gathering costs for adjudication, survey, and registration throughout the region. The available data varies considerably, reflecting to some extent the different methods of aggregating and reporting costs.

Land Market Information. Based on the data collected by the consultants in the four countries, it is clear there is an increasingly active formal property market—but the magnitude of the residual informal property market is unclear. One issue is the difficulty of maintaining property in the formal system once it has been initially titled and registered. This culture of not registering transactions may be related to a perception of high transaction costs which, in many cases, are beyond the means of the rural poor.

3.5 Country Case Study Summaries

The country case studies highlight the vastly different historical influences on the present-day political, economic, judicial, social, and cultural environments for the various land administration systems. The prominent country characteristics are summarized below.

3.5.1 Africa Country Case Studies

Ghana. Ghana is a West African country which gained independence from the British in 1957, the first Sub-Saharan country to do so. Ruled by successive military dictatorships and democratic systems, in 1992, with the introduction of the 4th Republic Constitution, democracy was re-established.

Ghana has a total land area of about 230,000 square kilometres, approximately 95% of which is cultivable. The country's population was estimated at 17 million in 2000. It is rapidly urbanizing and continually expanding due to high fertility and low infant mortality rates. Ghana's economy and labour force remain dependent on agriculture.

In West Africa generally, land belongs to a community respecting both a physical and spiritual relationship with the dead, living, and unborn. With the advent of colonialism, strains have appeared in the hitherto stable traditional land-holding regime. Transition from traditional land ownership structures to align them with modern economic and social conditions has not been smooth. About 80% of Ghana is administered under customary tenure regimes.

An Urban V Project was planned for 2001–06 to include photo-mapping at 1:2,500 scale over 25 larger towns. This was to be followed in the second phase by registration and issue of title. A second major project is the World Bank-funded Land Administration Project, which seeks to achieve fundamental re-structuring of land administration in the country.

Mozambique. Notwithstanding considerable recent political and economic change, Mozambique is one of the poorest countries not only in Africa, but the world. Present-day land tenure was heavily influenced by the adoption of a socialist policy following independence in 1975 from Portugal. During the socialist period (1975–90) the focus of land administration was on the allocation of land-use rights, and although the new 1990 Constitution now allows all forms of private property, land remains in state ownership and cannot be sold, alienated, or mortgaged.

Mozambique has a strong system of customary tenure, which accounts about 90 percent of land in the country. This causes a set of land administration problems common in African countries. Customary land tenure regimes differ markedly from location to location, depending on population density, kinship organization, inheritance patterns, land quality, markets, and historical experience. This background is also the framework for the vast majority of everyday land-related transactions, and was given formal recognition in the 1997 Land Law.

Law administration reform aimed at introducing new forms of evidence and approaches was undertaken, but implementation will require significant effort.

Namibia. As a former German colony, subsequently administered by South Africa, it was not until 1988, when the South-West Africa People's Organization (SWAPO) guerrilla group launched a war of independence, that the country gained independence. Independence was formalized in 1990 in accordance with a UN peace plan for the entire region. The 825,418 square kilometres of land on Africa's southwest coast are largely desert and high plateau.

The majority of the population of about 1.8 million people lives in the north under customary tenure. The majority of the rest of the land in the country is registered in full ownership (freehold) in a deeds registry system that is too expensive for the poor to access. An inferior colonial–apartheid relic system termed Permission to Occupy also exists in the north of the country, where it is the only tenure available other than customary tenure. The current delay in township proclamation (the process of urban formalization) is about three years. The government is attempting to address the system's limitations through the Flexible Land Tenure System, while at the same time not displacing the existing system.

The total number of families living in informal settlements without secure tenure is estimated at 30,000 (1994), mostly in towns in the north. Approximately 10 percent of the Namibian population live in urban areas, on land to which they have no formal legal rights.

South Africa. At the southern tip of the continent, a semi-arid climate and 1.2 million square kilometres of land are host to a population of over 44 million

people. The Union of South Africa operated as a British colony under a policy of apartheid from 1902 to the 1990s. The 1990s brought an end to apartheid politically and ushered in black majority rule. The apartheid policies skewed South Africa's tenure systems and land distribution. Blacks could only own 13 percent of the land and even then, this was held under inferior title, not full ownership (freehold), which was held by whites. The upgrading of inferior titles, such as Permissions to Occupy, Customary Tenure (which occurs in less than 13 percent of the country in the former homelands), and informal settlement tenures (gained through adverse possession after 5 years) is still ongoing.

The conventional land administration system operates under a deeds registration system under Roman-Dutch law, with a Deeds registry where the state has no liability. There are nearly 7 million registered parcels, about 8 million surveyed parcels, about 1.25 million registered transactions per year, and about 0.38 million registered transfers a year. A modern mortgage system is in place, and the registry deals with 40,000 requests for information daily through a digital medium.

While about 80 to 90 percent of the national land surface is covered by registered rights and up-to-date cadastral data, about 25 to 30 percent of the country's population live in about 10 percent of the land in the former homelands, on rural land often held under customary tenure.

Uganda. Uganda is an East African country of 236,040 square kilometres sharing its water boundaries on Lake Victoria with its Kenyan and Tanzanian neighbors. The population of over 28 million has a high growth rate of 3.3 percent.

Independence from British colonial administration was achieved in 1962. Mixed ethnic grouping and varying political systems and cultures—a result of boundary demarcations during colonization—made it difficult to achieve peace and working political structures. Since 1986, however, there has been some stability and a period of economic growth.

There is a predominance of customary tenure, involving about 62 percent of the land and about 68 percent of the population. This accounts for approximately 8 million customary landholders throughout Uganda. Freehold and leasehold exist, including a local form of freehold called *mailo*, and that system covers about 12 to 15 percent of the country with about 700,000 titles (about 40 percent of which are current). Perhaps only 5 or 6 percent of the country has current titles, mostly concentrated in urban areas and in Buganda (*mailo*). The conventional titling system has not been modernized and the regulatory framework is largely a colonial relic. There is a serious lack of financial and human resource capacity in the central state to implement even a scaled down version of a titling system. The Land Act of 1998 is still being piloted and a technical process being developed. Under the Act, land is vested in the people and not the government. The Act provides for a Land Fund facility and Communal Land Associations, and sets out processes to decentralize land administration and land disputes resolution functions. The Act also provides for the formalization of customary tenure through certification of customary rights.

3.5.2 Asia Country Case Studies

Indonesia. Indonesia is an archipelago consisting of 13,677 large and small islands. The total land area is 1.9 million square kilometres. The total population exceeds 200 million, with an average population density of 106 persons per square kilometre. The population spread in Indonesia is uneven, with some 60 percent of the population living on the island of Java, which is 6 percent of the land mass. There are about 7,400 urban villages and 60,000 rural villages in Indonesia.

Under the pressure of rapid economic transformation, a number of land-related problems have become progressively more severe in Indonesia. Not the least of these have been social conflicts and disputes over rights to land. Indonesia was under some form of colonial rule for the 350 years before independence in 1945. Land laws became a dualism between western systems and the traditional unwritten land laws, based on the customs of various regions. The Basic Agrarian Law (BAL) was introduced in 1960 to end this situation by creating a national land law based on traditional concepts, principles, systems and institutions.

Recognition of 'adat,' or customary land rights and customary systems of tenure, is explicitly acknowledged in Article 5 of the BAL. However, most of the existing implementing regulations of the BAL fail to elaborate, and are even contradictory to, the adat principles. There are numerous forms of tenure in Indonesia which are confusing and open opportunities for abuse.

Karnataka (state in India). Karnataka is the eighth largest state in India, with a population of about 53 million. The state covers about 5.8 percent of the country's land mass and hosts about 5.3 percent of the population. Karnataka is one of the fastest-growing states. Over the past decade, agricultural input has increased, based on diversification and increases in productivity; rapid manufacturing expansion has contributed to growth in industrial output; and there has been significant growth in services, led by software exports. However despite rapid growth, Karnataka is still a very poor state, poorer than the Indian average.

Over the past few decades, land records for agricultural land in Karnataka have become increasingly dilapidated. For urban and non-agricultural land in rural areas, no system clearly sets out rights over land. This uncertainty in rights in land undermines the objectives of good governance and poses a serious threat to social stability and economic development. There is a weak spatial framework for the land records for agricultural land. The original data has low accuracy, the maps are not up-to-date, there are long delays in subdivision surveys, and changes in land records are being recorded without surveys. There is a lack of both map and textual information in urban areas. The deeds registration system does not include the adjudication of rights or the resolution of disputes, and does not ensure the validity of a transaction. The system is not map-based and there are poor descriptions of property. While the project to computerize land records in Karnataka (Bhoomi) has been successful, it is essentially a computerization of a very old land revenue

system. A number of issues arise, including inconclusive records and cumbersome procedures.

Philippines. The Philippines has an estimated 300,000 square kilometres of land. Nearly 53 percent is reserved for forest cover, minerals, and national parks, while the remaining 47 percent is alienable and disposable (AandD) lands. The population of the Philippines is about 85 million, with about 60 percent of the population living in urban areas.

The land classification system has been rigid and not responsive to the evolving needs of agricultural and urban development, and as yet has not been effective in promoting sound management of natural resources. There have been procedural barriers to the flow of land from agriculture to non-agricultural use, particularly in urban fringe areas. There has been a fragmentation of responsibilities for land management and administration, without appropriate mechanisms for coordination.

The major land administration laws are outdated and some are not in accord with recent land use legislation. Not all privately claimed AandD land is titled. Existing land-record management systems are inefficient and there are limited inventories of records. A large proportion of them have been destroyed through war, theft, fire and water damage, or simply misplaced. Many of the remaining records are in exceedingly fragile condition, and some have been illegally altered. The land registry is not easily accessible and there is a high transaction cost, which discourages registration and is a disincentive to investment. As a result of all of this, confidence in the entire titling system is being eroded.

Thailand. Unique among a significant number of other Asian countries, Thailand was never ruled by a colonial power. Therefore, colonial administration has had no impact on land structures. Historically, all land belonged to the King, but in 1872, procedures for recognizing private rights to land were introduced, and in 1901 a titling system (based largely on the Torrens title system) was introduced.

The Land Titling Project commenced in 1984, and has been one of the largest land titling programs in the world. The project accelerated the issuance of titles to eligible land-holders, and over eight and a half million new titles were issued. It is recognized internationally as being a success, and was a model for other countries in the region and throughout the world.

Land administration and land titling in Thailand have generally taken place in a fairly orderly and structured manner. They are, however, confined to non-forest land, leavinge the rights of those living in areas formally classified as ‘forest’ one of the major land-related policy issues faced by the country.

3.5.3 Europe and Central Asia Country Case Studies

Armenia. Armenia is a small, landlocked country of the former Soviet Union, with an area of 29,000 square kilometres. The population in 2003 was estimated at 2.5 million, a significant decrease from an estimated 3.68 million

in 1997. This mass population emigration is a result of the poor economic situation.

Common to all former Soviet Union republics, prior to independence, all land was held in state ownership and buildings and apartments were allocated for use. After independence in 1991, private ownership was recognized. The transition from state ownership to private ownership was completed very quickly (between 1991 and 1993) and is thought to have been completed fairly.

Although land and dwellings were privatized at an early date, it has only been since 1997 that titles were surveyed and registered in a parcel-based system that enabled transactions to be recorded reliably. The Land Code, passed in 2001, now provides overall guidance to all land administration functions.

Kyrgyzstan. Kyrgyzstan is a former state of the Soviet Union, and a very poor country, with over half of its population estimated to be living in poverty. Before independence, all land was held in state ownership, and buildings and apartments were allocated for use. A new Constitution in 1993 set the path for privatization and today, land, buildings on the land, and apartments may all be owned and registered separately. This practice of separately registering land and buildings is a distinguishing feature of the former Soviet Union and its satellite states. Another prominent feature of the system, unique to the former Soviet Union countries, was that buildings and their occupiers were recorded separately by a Bureau of Technical Inventory (BTI). These arrangements were incorporated into the current institutional structure.

Latvia. Latvia consists mainly of low-lying arable plains over 63,500 square kilometres with a coastline along the Baltic Sea. It has a small population of 2.27 million (2006) with over 30 percent living in the capital of Riga. As a parliamentary republic, Latvia gained independence in 1991 from the former Soviet Union, and accession to the European Union was granted in 2004.

At independence, land ownership rights were restituted on the basis of the old property boundaries. Cadastral maps and Land Book records from the period 1924–40 were used as evidence for restitution. The transition process granted land use rights to claimants by Land Commissions or restituted land ownership rights for former owners or their descendants, or users of land were given rights to purchase land by paying in vouchers. The vouchers were introduced as compensation and were based on the time that each citizen had lived in Latvia. Vouchers were freely tradable at a market price.

Latvia liberalized its economy quickly, freeing prices at the beginning of its transition, and now operates with a functioning market economy. Latvia benefited from involvement in the EU Pologne, Hongrie Assistance à la Reconstruction Economique (PHARE) program, which provided technical assistance to land registration and privatization efforts from 1995 to 1998 in support of the transition to democracy and a market economy. Assistance included technical assistance and the purchase of equipment for further development of the cadastre and Land Book registration systems—and for transformation of and national implementation of existing systems.

Moldova. Moldova, like Latvia, is small land-locked country of the former Soviet Union. Emigration has not been as severe as in Armenia, even though the country is in a similarly poor economic situation, with only 34 percent of the population employed. Moldova had a population of 4.46 million in 2006, with arable, rolling steppe land.

Land restitution began shortly after independence (1991–93) but was not completed. Land, which was usually held in very large state or collective farms, was subdivided into shares and allocated en masse to former collective members as shareholders. Transformation of these shares into specific pieces of land parcels was not undertaken until assistance from USAID was provided between 1998 and 2000. As in Armenia, land and apartments were privatized early, but only since 1999 have they been surveyed and registered in a parcel-based system, which allows transactions to be recorded reliably.

The Land Code, passed in 1991, provides overall guidance to all land administration functions. A new Land Code is being prepared and will provide better prerequisites to finalize the privatization process. The Law on Real Estate Cadastre, passed in 1998, establishes the procedure for the creation and maintenance of the Real Estate Registry, which determines an individual's rights to real estate in Moldova.

3.5.4 Latin America and Caribbean Country Case Studies

Bolivia. Bolivia has an area of about 1.1 million square kilometres and had a population of about 8.3 million in 2000. The country is one of the poorest in the Latin American region, and has very high income inequality. There are three distinct agro-climatic regions: the highland plateau (altiplano) in the west; the inter-Andean Valleys, some semi-arid and some humid, in the center, and the flat tropical lowlands in the east. The population has great cultural diversity—about 67 percent is indigenous, and about 36 percent is rural—but it is unevenly distributed, with the rural population concentrated in the Andean regions.

In the past, two agencies had responsibility for land titling: National Council of Agrarian Reform (CNRA) had jurisdiction over the whole country, and National Cadastre Institute (INC) had jurisdiction over legally declared settlement areas. The lack of coordination between these agencies, and limited mapping, often gave rise to duplicate and overlapping titles. Studies in Santa Cruz, in the east, have revealed overlapping claims on about 40 percent of the land. The situation on the ground also differs significantly from legally recorded land rights. The titling process in Bolivia has traditionally been extremely slow, typically taking seven to ten years or longer. The backlog of land reform titles from the 1950s was still being addressed 40 years later. Only a small proportion of rural land titles issued over the past 40 years have been registered in the Property Registry, and land transactions have not been systematically registered. There is significant insecurity in land tenure, particularly in the east where population density is lower and community structures are less well developed. This insecurity is depressing land values and has been a barrier to investment and expansion of the agricultural frontier.

El Salvador. El Salvador has a total area of 21,040 square kilometres, and in 2000, had a population of about 6.3 million. About 60 percent of the population is urban. Poverty and insecure land tenure in El Salvador have led to a range of problems, including low investments in agriculture and real estate, inadequate land management, and severe land degradation. Over the past 30 years, various administrations have recognized that land issues were a serious constraint to economic development. A major strategy was land redistribution, with 300,000 hectares expropriated in a land reform program, initiated in the 1980s and benefiting 550,000 families.

Government, however, did not have good systems to record land rights and land transactions. In 1996, a World Bank-funded project was started with the objective of regularizing 1.8 million land parcels and creating an efficient, streamlined, decentralized and self-sustaining national registration and cadastre agency, the National Registry Center (CNR).

Peru. Peru has a total area of 1.3 million square kilometres. The country can be divided into three broad geographic regions: the Costa, or coastal region, a narrow belt of desert lowlands that contains most of Peru's cities; the Sierra of the high and rugged Andes, with elevations from 2,750 to 6,800 metres; the MontaÒa or Selva, the eastern lowland jungle of the Amazon Basin, that covers 60 percent of the area of Peru but contains only seven percent of the population.

The population of Peru in 2000 was estimated at 26 million, with about 45 percent Indian, 37 percent mestizo (mixed Indian and European), 15 percent European and three percent other. About 70 percent of the population is urban. Urban migration since the 1940s has radically altered the structure and size of Peruvian cities. The migrants from the rural areas were largely excluded from the established legal and administrative systems that support the formal sector. They responded by establishing informal settlements (*asentamientos humanos)* in defiance of the law. A system to formalize real property in Peru was established at the end of the 1980s through studies leading to pilots and legal reform. The World Bank-funded Urban Property Rights Project issued 1.35 million titles between 1998 and 2004, which benefited more than 5.7 million Peruvians in marginal areas. The Inter-American Development Bank (IDB) has funded activity to register rural property.

Trinidad and Tobago. Trinidad and Tobago is a higher middle-income country in the Caribbean. Although colonized by the Spanish and under their influence for 300 years (1498–1797), the subsequent colonization by Britain wiped out most of the Spanish legacy in the land tenure and land administration structures. As a result, Trinidad and Tobago does not have much in common with the three Latin American case studies (Bolivia, El Salvador, and Peru). Nevertheless, it provides an excellent example of land administration structures within the Caribbean region. The population of just over 1 million lives on the two main islands, of which Trinidad is the more populous. The prosperous economy is largely due to petroleum and natural gas production and processing.

Historical forces have resulted in land holdings being concentrated in the hands of a small number of individuals and corporations, although there still remain large areas of land that are owned by the state but leased to private individuals. There is no customary tenure in the country, but there are many parcels of land occupied under commonly accepted tenure regimes known as 'family land' (not recognized by law).

4. Land Administration System Indicators

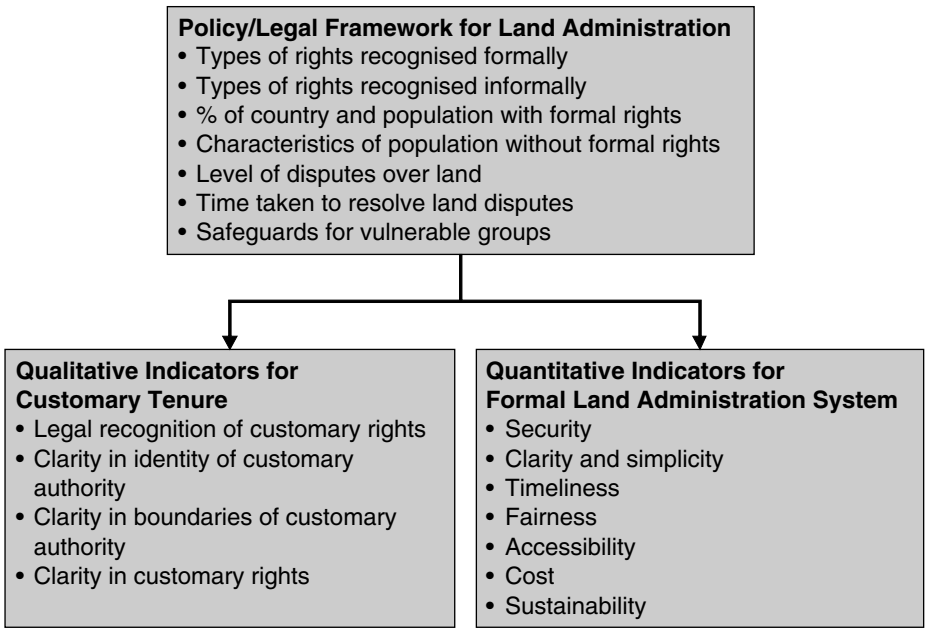
4.1 Framework to Assess Land Administration Efficiency and Effectiveness

The framework used in this study to assess the efficiency and effectiveness of the land administration system in a jurisdiction is set out in Figure 6, and has the following structure:

- A top-level category that assesses the nature of the policy and legal framework that supports the land administration system, particularly the relative importance of formal and customary tenure systems;
- Where customary systems operate, a second category to assess the qualitative effectiveness of these systems;
- Athird category that is a set of quantitative indicators of the effectiveness of the formal land administration system.

This framework was developed by the authors in close collaboration with the key respondents responsible for the regional case studies. It assesses the efficiency of land administration systems in a holistic manner, with a set of qualitative indicators for customary systems and a set of quantitative indicators for formal land administrative systems—all within an overall framework that reviews the policy and legal framework.[18]

Figure 6 Framework to Assess Land Administration Efficiency and Effectiveness



Source: Author.

These three categories are discussed in this chapter. The Doing Business process to assess impediments in land administration for entrepreneurs and small business enterprizes is reviewed in Section 4.5. A comparative analysis of quantitative indicators that assess the land administration environment from an end-user perspective is set out in Section 4.4. In spite of the large investment in land administration development over recent decades, the global analysis reveals remarkably little data previously available upon which to assess the effectiveness of land administration systems. The data herein has taken significant effort to gather, interpret, and present in comparative form, but this text provides a basis for comparing land administration systems, and provides parameters to model land administration systems under varying conditions.

4.2 Policy/Legal Framework

As previously noted, land is a fundamental resource in most societies, and there is great variety in the way land rights are recognized and recorded. Before delving into indicators of effectiveness, it is necessary to step back and assess the policy and legal frameworks that support various land administration systems.

Many of the difficulties or shortcomings of land administrations systems throughout the world are due to the inability of the civil service, the local authorities, or both to implement policy. There is no point strengthening the systems without addressing the weaknesses in governance. In most situations this will require strong political will, and it is no coincidence that significant developments in land administration have occurred following regime change—for example, the changes implemented after revolutions in Thailand in 1932 and in Bolivia in 1952. This continues today with property rights being on the agenda in Afghanistan[19] and Iraq.[20]

A less radical approach has been gaining the attention of top policy-makers and convincing them of the need for change. Peru is a good example: formalization of property of informal settlers in urban areas was investigated and legislation was enacted with the direct support of President Alain Garcia, and then implemented with mass programs under the supervision of President Fujimori (1990–2000).[21] Other countries, such as Ghana, have developed a comprehensive land policy, often with extensive stakeholder consultation. However, without good governance and strong political will and guidance, these policies can bedifficult to implement in practice. In other countries, policy development has been included as part of a land administration project (for example, the Land Administration Project in Indonesia[22] and the Land Administration and Management Project in the Philippines[23]). There are projects that have focussed on dispute resolution as an important aspect of the land administration environment (for example, recent or current projects in Cambodia,[24] El Salvador,[25] and Nicaragua[26]).

Policy and Legal framework information from the country case studies was gathered at a macro level and is set out in Table 2. Each of the policy and legal framework qualitative indicators from the case study jurisdictions is set out in Appendix 1, Table 24 to Table 28. A comparative summary of the jurisdiction issues is set out below.

Table 2 Generic Approach to Indicators for the Policy/Legal Framework

Indicator	Generic Issue/Approach
Types of rights formally recognized	Overview of the types and extents of formal tenure regimes and the tenure security offered by them.
Types of rights informally recognized (including customary systems)	Overview of the types and extents of informal tenure regimes and the tenure security offered by them. This may cover a range of situations, including informal settlers in both urban and rural areas and customary tenure systems.
Percentage of the country and population covered by the formal system	An estimate of the percentage of the country area and percentage of the population living on land where the rights are formally recognized. This includes land held by formal rights in the past where subsequent dealings have not been registered (avoiding where possible double counting) but excluding, where possible, areas long occupied by informal settlers.
Characteristics of population without formal rights	Overview of the major classes of people who do not benefit from the formal recognition of rights in land.
Level of disputes over land	An assessment of the level of disputes over land, including ongoing land-related court cases.
Time taken to resolve land disputes	Average time to resolve land disputes, perhaps relying on anecdotal experience.
Safeguards for vulnerable groups	Some systems provide inadequate safeguards for vulnerable groups such as widows and the young.

Source: Author.

Types of Rights Recognized Formally. In the ECA countries of Armenia, Kyrgyzstan, Latvia, and Moldova, land ownership rights can belong to the state, to private individuals, or be communal. Rights to land and property include full ownership, leases, permanent use rights, mortgages, easements, and separate ownership of land and buildings. It is therefore difficult to classify the systems as either registration of deeds or title systems.

The Asian countries reviewed also distinguish between states' rights and private rights. For example, in Indonesia, the tenure system provides for a hierarchy of ownership and use rights, the highest level being limited to individuals, while corporate entities and foreigners are restricted to lesser forms of tenure. Thailand and the Philippines have tenure regimes based on the Torrens titling system, while Karnataka has a deeds registration system and Indonesia has both a deeds registration system and a private conveyancy system that records land rights.

The LAC countries reviewed generally allow private ownership of land and the registration of rights of possession, with land being categorized as state or privately owned land, or state–enterprise land (as in Trinidad and Tobago). Bolivia makes a further distinction among five different forms of private, legal land tenure, ranging from small holdings to cooperative land, but vagueness in the distinctions has contributed to confusion in the administration of the

law. Although Trinidad and Tobago introduced a Torrens title system in 1985, following the introduction of a Registration of Deeds Act only 10 years earlier, most transactions continue to take place under the latter. In Bolivia and Peru, private land ownership is allowed through an original title, but to obtain one is a very slow process, especially in Bolivia, where it can take up to 12 years.

The African countries reviewed differ markedly with regard to formally recognized land rights and land ownership. In Mozambique, all land in the country is officially state land, and no freehold is available. Conversely, in South Africa, Namibia, and Ghana, it is possible to distinguish between privately owned, state, and communal land. South Africa has a very sophisticated and accurate deeds system, as does Namibia in parts of the country. In the communal areas in northern Namibia, only customary tenure and a Permission to Occupy (PTO) system, a relic from colonial rule, are in place. Ghana has both a deeds and a title system, the latter only in the major cities of Accra and Kumasi.

Types of Rights Recognized Informally (Including Customary Systems). In the ECA countries, tenure is governed purely in accordance with formal laws and regulations, and informal tenure is not recognized. Although there are areas where people occupy land without any legal rights (e.g. Kyrgyzstan) this is not a common occurrence, and informal settlement is very seldom recognized.

In Asian countries where large tracts remain legally classified as forest, there is often a lack of clarity regarding forest boundaries, and no clear process for the rights of those living in forest areas to be formally recognized (as is the case in Thailand, Indonesia, and Karnataka). Generally, rights cannot be issued on forest land where many indigenous groups live. In the Philippines, communal land claims are recognized, as well as individual claims on communal land, while in Indonesia 'extralegal' occupants of state land may in certain cases be given the opportunity to apply for formal recognition of land rights.

In the LAC countries, numerous revolutions and changes of government have had a fundamental impact on the official approach to land rights. In Bolivia, for example, those who were working the land prior to the revolution in 1952 have obtained formal land rights. In most LAC countries, informal property rights were not recognized until fairly recently. Today it is possible for illegal occupants of land to obtain title in many countries, although the process is often a lengthy one. In Trinidad and Tobago the situation regarding the recognition of informal rights is somewhat different than in the rest of South America. A large number of people occupy 'family' land (mostly state-owned land), to which many nevertheless have strong legal claims. Few squatters live illegally on private land.

Customary tenure is a very important form of land tenure in Africa (for example, in Ghana, close to 80 percent of the country is under customary tenurial arrangements) and legal recognition of customary rights is increasing. Customary land ownership is legally recognized in Ghana, in certain parts of South Africa, Namibia, Uganda, and in Mozambique, where such rights were incorporated into the 1997 Land Law.

Percentage of Country and Population With Formal Rights. In Armenia, roughly a sixth of urban land is privately owned, while in Latvia, 829,205 properties and land uses are registered in the cadastre, of which just over 70 percent have ownership rights registered. In Moldova, urban land comprises roughly 316,000 ha, of which about 30,000 ha (roughly 10 percent) is in private ownership.

With all the confusion regarding forest land in Asia, land rights are generally only issued on and recognized for non-forest land. In Indonesia, registered parcels cover about five percent (about 17 million registered parcels) of the land, but a significant proportion of the population. In the Philippines, where more than half the country is legally forest, there are about 10 million registered titles, some of which are duplicated and overlapping. About six percent of the country is unclassified, including parts of Metro Manila, where rights remain uncertain.

It is estimated that about 80 to 90 percent of South Africa is covered by the formal system, while in Mozambique, Ghana, and Uganda, respectively, significantly smaller proportions of the country are recognized under formal land administration systems. In South Africa, up to 75 percent of the population is estimated to be covered by the formal system, and around 32 percent in Uganda.

Characteristics of Population Without Formal Rights. In countries such as Armenia, Kyrgyzstan, and Latvia, where there are a limited number of squatters, illegal occupation is sometimes recognized. If someone illegally occupies land openly, continuously, and in good faith, they may obtain ownership rights after 15 years in Kyrgyzstan and 10 years in Latvia. None of the ECA countries place any limitations on the rights of women to own land, and their rights are protected by law.

Informal settlement is a problem in Asia, particularly in areas of rapid urbanization. It is generally considered illegal, but as a result of sociopolitical issues, it is rare for informal settlers to be evicted. In Karnataka, it is possible for the State Assembly (on recommendation of the Cabinet) to approve certain land rights being awarded to illegal occupants of land. In the Asian countries reviewed, there are no specific limits on women's right to own land but there is evidence to suggest their rights do not always translate into effective control over land in practice (in Karnataka, for example).

In LAC countries, peasants and indigenous people are in a weak position when it comes to land rights and access to land. Some government interventions have proved disastrous. In Bolivia, logging rights on land inhabited by native groups were awarded to outsiders, and in El Salvador, intervention resulted in the creation of a landless class, effectively forced to become laborers on large plantation properties. By introducing a formalization program for those living in informal communities largely on state owned land, the Peruvian government has provided assistance to informal settlers and indigenous groups.

Although the lack of legal recognition for occupying land is still a problem in most African countries (particularly urban areas), considerable progress was

made during the 1990s. Following changes introduced after 1994, South Africa now recognizes informal settlement rights, and under certain circumstances, occupancy rights. Namibia does not recognize occupancy rights in urban areas, and the state retains the right to evict those living informally on state land in urban areas. Similarly, Ghana does not generally recognize the rights of informal settlers. Although there are no legal restrictions on women who own or wish to own land, there are various factors that are believed to impact women's right to own land in customary areas.

Level of Disputes Over Land. The level of land-related disputes is relatively low in Thailand and low to medium in the Philippines, but it is high in both Karnataka and Indonesia, and a substantial number of cases end up in court (in the latter about 60 percent of court cases are land-related).

Conflict levels over land are considered to be low to medium in LAC countries, with the greatest problem being conflict over the geographic extent of registered rights. The consolidated map of land ownership in Bolivia suggests that 40 percent of the total land area is subject to overlapping claims.

Although the level of land-related disputes is believed to be relatively low in South Africa and Namibia, the opposite appears to hold true in Ghana, Mozambique, and Uganda. In Mozambique, overlapping requests and land use concessions for what is considered to be some of the best land in the country have contributed to conflict between communities. In Uganda, some 48 percent of plots are reportedly being disputed at present, with roughly half the disputes related to boundaries, and a further 35 percent related to tenancy issues.

Time Taken to Resolve Land Disputes. Land disputes in ECA countries are normally dealt with within a week to three months. In Kyrgyzstan, disputes are usually resolved within hours at the local registration offices. In the Asian countries reviewed, the court systems are congested, causing long delays and high costs. In Bolivia, land disputes in traditional areas of the country are less frequent than in the urban areas, and are resolved quickly, whereas in Trinidad and Tobago legal disputes may take years to resolve, partly as the result of congestion in the courts. In the African countries reviewed, there appear to be various mechanisms in place to enhance speedy dispute resolution, with some countries having established special bodies for this purpose. They are not always effective though, and in some countries dispute resolution still takes years. In Uganda, disputes involving the government take about five years to resolve. Given the importance and scope of customary land tenure, traditional authorities and tribunals play an important part in the process of dispute resolution.

Safeguards for Vulnerable Groups. In Asia, much has been done to safeguard vulnerable groups, although there is still considerable scope for further assistance. In the Philippines, the 1987 Comprehensive Agrarian Reform Law introduced guidelines for the redistribution of all public and private agricultural lands suitable for agriculture to farmers and farm workers who are landless. In Indonesia, a 1997 amendment to the land law provided for right to title with proof of 20 years of occupancy 'in good faith' and

community recognition. In Thailand, landless squatters may acquire rights over private land after a period of 10 years, provided they occupied the land 'peacefully' and 'openly' during this time.

Peru recognized the rights of informal settlers in urban areas in 1988, when it introduced new concepts that provided for the registration of possession rights, and set up a new system with simple procedures to register possession rights and ownership. In Bolivia, a comprehensive agrarian land reform plan distributed land to roughly a million peasants, unfortunately without any additional assistance in the form of technical assistance or credit, which greatly diluted the potential for positive economic impact.

In African countries such as South Africa and Namibia, much as been done to safeguard the position of vulnerable groups. Although South Africa has been upgrading informal settlements, many continue to live in shacks without formal land rights, albeit protected to some extent by anti-eviction laws. It is possible for informal settlers to obtain adverse possession rights after five years. Specific safeguards aimed at assisting women and the very poor are being incorporated into the South African system. In Namibia, the rights of women are protected in the Constitution, which has constrained the practice of evicting widows from family land in the communal areas in the north of the country. Theoretically, the Ugandan land law protects tenants, communal land holding women, and minors, but practically, budgetary restraints mean this law has not been fully implemented.

4.3 Qualitative Indicators for Customary Tenure

Indicators for the efficiency and effectiveness of a formal land administration system can be developed for comparative purposes. Customary tenure systems, on the other hand, follow a less conventional model and are more qualitative in nature.

There is great variety in customary tenure arrangements within a given country, so these systems will not be reviewed in detail. However, a number of factors impinge on the tenurial security provided by customary systems, and an attempt is made to document qualitative indicators on these factors. Table 3 below sets out the indicators for the effectiveness of the systems and the approach adopted in assessing them.

The customary systems in the country case studies are assessed and tabulated in Appendix 2, Table 29 to Table 33. A comparative summary of issues of each customary system's indicators is set out in the following paragraphs. There is a notable absence of ECA countries in the following discussion, as there were no issues reviewed in this study with respect to the customary land tenure or inheritance and use traditions that complicate tenurial arrangements.

Legal (Formal) Recognition of Customary Rights. Customary rights are recognized in the Philippines and Indonesia, with the 1987 Constitution of the Philippines recognizing the land rights of indigenous cultural communities, and Indonesia's Basic Agrarian law of 1960 stipulating that the national land law shall be based on 'Adat' (customary) law and incorporate customary

Table 3 Approach to Qualitative Indicators for Customary Systems

Indicator	Approach to Assessing Indicator
Formal recognition of customary rights	Assessing the legal recognition of customary tenure, including the checks and balances in place to ensure community rights are not encroached upon by outsiders.
Clarity in the general community regarding the identity of customary authority	The cohesiveness of traditional communities depends on the authority of traditional leaders. Without clear leadership, or if leadership is disputed, customary tenure systems usually become less secure.
Clarity in the general community regarding boundaries of customary authority	Uncertainty over boundaries of community land decreases tenure security.
Clarity in the general community regarding customary rights	A number of factors confuse the perception of which customary rights exist, including inconsistencies between civil and customary law, internal migration into community land, and so on. The level of disputes and the mechanisms for dispute resolution also affect the clarity of rights.

Source: Author.

concepts, principles, systems and institutions. An Indigenous Peoples Rights Act was passed in the Philippines. Notwithstanding the objective of improving the position of groups living under customary tenure, just the opposite happened in Karnataka. Protection for people from the Scheduled Castes and Tribes has had limited effect, and misguided attempts at assistance have resulted in many marginal and small farmers becoming landless labourers. The issues pertaining to customary rights in forest areas remain unresolved in many Asian countries, including Thailand. Although there is some local recognition of the rights of the tribes that live in the forests and in mountainous areas, there is no official recognition of the hill tribes under the Thai Land Code.

Since the late 1980s, there has been increasing recognition of the rights of indigenous communities in LAC countries such as Peru and El Salvador. In 1994, Bolivia, where some 67 percent of the population is of indigenous origin, amended its Constitution to recognize traditional indigenous territories and the right of indigenous people to administer their own land. Although Trinidad and Tobago does not have customary tenure, it has 'family land' that is similar in some respects. In many cases, family land was titled a long time ago and handed down from generation to generation without formal documentation. 'Family land' differs from indigenous land in Latin America in that structures to deal with functions such as land allocation and conflict resolution are absent.

Customary tenure is the dominant form of land tenure in most African countries. At present South Africa and Namibia each have a range of tenure types, as do most of the other African countries. Customary owners may enter into a full range of land transactions (both commercial and family transactions)

in countries such as Uganda. In Ghana, traditional norms and practices are recognized as the legal basis for land rights, while in Mozambique customary land tenure was given formal recognition in the 1997 Land Law.[27]

Clarity Regarding Identity of Customary Authority. In a country such as Indonesia, where there are more than 200 different ethnic groups, the identity of customary authorities in traditional rural areas is clearer than in urban areas where people from different ethnic groups live together. In the Philippines, there were numerous community-level disputes, with some contending that ethnic identities and ancestral domains are being 'imagined.'

Although there has been greater recognition of customary rights during recent years, and although traditional authorities continue to play a formal and informal role in land administration, political and administration structures have diminished the identity and power of such authorities in Latin American counties such as Peru, Bolivia, and El Salvador, and African countries such as Namibia and Mozambique. During the socialist period in Mozambique (1975–90), the national government vigorously pursued a policy of reducing and even abolishing the power of indigenous leaders and administrative structures. Yet they remain in place to this day, although their influence varies greatly throughout the country. In countries such as Ghana, there have been incidents of traditional leaders pursing their own interests, often taking individual decisions—such as selling land and then retaining the benefits—that are contrary to customary practice.

Clarity in the General Community Regarding Boundaries of Customary Authority. In Indonesia, customary land rights are recognized by law. One of the criteria that the government uses is that boundaries must be well defined and understood, which is not always the case. In the Philippines, boundary uncertainty and land grabbing seem to have become common. Uncertainty and confusion over the boundaries of customary authorities is also an issue that Latin American countries such as Bolivia and Peru are grappling with.

The high level of land-related conflict in countries such as Uganda is evidence that the boundaries of customary authority are not always clear. In Ghana, where both customary and statutory law apply in urban areas, there is much confusion about who has the right and authority to approve the alienation of particular parcels of land. In South Africa, the duplication of land allocation functions has created some conflict between traditional chiefs, municipal councillors, the state, and Provincial Departments of Agriculture, for example.

Clarity in the General Community Regarding Customary Rights. Given the high level of land-related conflict in Asia, customary rights are not always clear and, as noted in earlier sections, there is much uncertainty regarding rights, in particular those in forests. In Thailand, limited recognition (a five-year renewable usufruct license) is given to agricultural users in forest areas.

In Latin American countries such as Bolivia, land tenure security, the recognition of property rights for indigenous people, and community organization remain problematic issues, although some progress was made in the last decade.

In Africa also, there is considerable confusion over boundaries, and rights are not clear in countries such as Uganda and Mozambique (where overlapping rights have created problems). There are some issues regarding the differences between legal rights and what happens in practice, which also contribute to confusion and conflict (as is the case in Namibia).

4.4 Quantitative Indicators for Formal Land Administration Systems

4.4.1 Indicators and Criteria for Success

Considerable effort has been devoted in recent years to preparing schedules of quantitative indicators for the efficiency and effectiveness of formal land administration systems, with perhaps more effort being devoted to the frameworks than to the collation of reliable data to apply the framework. Most of this effort was driven by the International Federation of Surveyors (FIG). In 1995, the FIG,[28] in preparing its statement on the cadastre, listed criteria that could be adapted and used in measuring the success of a formal land administration system. This information is set out in Table 4.

A set of indicators was selected on the basis that the indicators cover the FIG criteria for successful administration of legal rights in property, and that the data to support the determination of the indicator was available in the various country case studies.[29] These indicators are validated against the benchmarks used in well-developed registries. The following table of indicators of the effectiveness and efficiency of land administration systems was compiled.

The generic issues and response to these issues in determining each of the indicators is set out in Table 6.

4.4.2 Comparative Analysis

Some initial parameters are required to determine the indicators. These are listed in Table 34 and Table 35 (appendix 3) for the case study countries. As previously discussed, much of the data was compiled in 2001; in ECA there were already significant changes by 2002, and the systems have evolved. Parameters and other data from the case studies were then used to prepare tables of indicators set out in Appendix 4, Table 37 and Table 38.

For ease of comparison Table 36 (appendix 3) sets out the parameters, and Table 39 (appendix 4) sets out the indicators for the eight registries in Australia, a selected number of OECD jurisdictions (England/Wales, Scotland, and New Zealand) and for more developed countries and jurisdictions in Asia (Singapore and Hong Kong).

Before proceeding, a caveat should be made on the data set out in the following tables. As noted earlier, there is considerable variation in land administration systems throughout the world, and almost as much variation in statistics collected by the agencies administering these systems. An attempt was made to adjust for these variations, or at least record them in footnotes. The numbers gathered for the case studies were used where available. Information for registries in Australia, selected OECD countries, and

Table 4 Criteria for Successful Administration of Legal Rights in Property

No.	Criteria	Description of Criteria
1	Security	The system should be secure such that a land market can operate effectively and efficiently. The geographic extent of the jurisdiction of the system and the characteristics of the rights registered should be clear to all players. Financial institutions should be willing to mortgage land quickly and there should be certainty of ownership and parcel identification.
2	Clarity and Simplicity	The system should be clear, and simple to understand and to use by administrators and the general public. Complex forms, procedures, and regulations will slow the system down and discourage its use. Simplicity is important to ensure that costs are minimized, access is fair, and the system is maintained.
3	Timeliness	The system should provide up-to-date information in a timely fashion.
4	Fairness	The system should be fair in development and operation and be perceived as being so. It should be seen as objective, separated from political processes, such as land reforms, even though it may be part of a land reform program.
5	Accessibility	Within the constraints of cultural sensitivities, legal and privacy issues, the system should be capable of providing efficient and effective access to all users. This includes providing equitable access to the system through, for example, decentralized offices, simple procedures, and reasonable fees. In some jurisdictions, the public does not need access to registries, but access to notaries, lawyers and so on.
6	Cost	The system should be low-cost, or operated in such a way that costs can be recovered fairly and without unduly burdening users. Development costs, such as establishing offices, adjudication, and initial survey, should not have to be absorbed entirely by the immediate clients of the system.
7	Sustainability	Mechanisms must exist to ensure the system is maintained over time. Sustainability implies the organizational and management arrangements, procedures and technologies, and the required educational and professional levels are appropriate for the particular jurisdiction. Sustainability implies that the formal system is understood by and affordable to the general population.

Source: FIG 1995, Statement on the Cadastre, section 6.11, available on http://www.fig.met/commission7/reports/cadastre/statement_on_cadastre.html.

Singapore and Hong Kong are compiled based on information collected by the annual Registrars Conference in Australia, with some subsidiary information gathered as necessary.

There are also many gaps and anomalies in the numerical data gathered in the country studies. This particularly applies for Africa, where little numerical data was available. Nonetheless, the indicators do provide useful information for modeling the resources and funding necessary to support a formal land

Table 5 Indicators of the effectiveness and efficiency of land administration systems

#	Indicators	Security	Clarity and Simplicity	Timeliness	Fairness	Accessibility	Cost	Sustainability
1	Percentage of total parcels registered	■				■		■
2	Percentage of transfers that are registered	■						■
3	Annual registered transactions as a percentage of registered parcels	■	■			■		■
4	Annual registered transfers as a percentage of registered parcels	■	■			■		■
5	Annual registered mortgages as a percentage of registered parcels	■						
6	Annual registry running costs/registered parcels		■				■	■
7	Annual registry running costs (including cadastre if separate)/registered parcels		■				■	■
8	Registration staff days/registration		■	■				
9	Total staff days/registration		■	■				
10	Time to produce certified copy of title		■	■		■		
11	Time to complete registration of transfer (including private sector suppliers)		■	■		■		
12	Total ongoing land related court cases as a percentage of total registered parcels				■			
13	Average time to resolve ongoing court cases				■			
14	Number of registries per 1 million population					■		
15	Number of registries per 100,000 square kilometers in country land area.					■		
16	Average working days to pay for average transaction cost					■	■	
17	Transaction cost as a percentage of property value					■	■	
18	Unit cost of systematic title					■	■	
19	Level of government where registration is undertaken					■		
20	Ratio of revenue/expenditure						■	■

Source: Author.

administration system under a range of different scenarios. The results of the analysis for the various indicators are summarized below.

The following paragraphs provide a comparative analysis of the indicators for the country case studies, as well as additional Australian, selected OECD countries, and Singapore and Hong Kong.

Table 6 Generic Issues and Approach to Determining Indicators

Indicator	Generic Issue/Approach
Percentage of total parcels registered	The major issue is the uncertainty in determining the total number of parcels. The objective is to assess what percentage of the total number of parcels is included in the formal registration system. Parcels are not included in the formal registration system for a range of reasons, including the inability to support registration and the lack of clarity in policy or entitlement to registration. An estimate of the total number of parcels is made, qualified as appropriate.
Percentage of transfers of rights that are registered	This is a valuable indicator of public acceptance and the sustainability of the system, but will be very difficult to measure. In most jurisdictions, there should be information on the number of registered transfers, but activity in the informal sector is often hard to quantify. This information may be available through sample surveys or pilot studies.
Annual registered transactions as a percentage of registered parcels[30]	This indicator of land-market activity should be readily available. The registered transactions relate to the registration of subsequent dealings in registered property.
Annual registered transfers as a percentage of registered parcels	As above, but relating only to transfers.
Annual registered mortgages as a percentage of registered parcels	This indicator measures how effectively the formal credit market is operating, but only relates to the registration of new mortgages, without adjustments for discharged mortgages.
Ratio of annual registry running costs/registered parcels	The total cost of providing the registration function is to be included. There will be variations in the costs included, and where these variations will impact on the analysis the variations are noted.
Ratio of annual registry running costs (including cadastre if separate)/ registered parcels	This ratio is to be used where there is a separate cadastral office or function, and where this cost has not been included in the running costs of the registration system. Variations are noted.
Registration staff days/ registration	This indicator is to be calculated by multiplying the total number of staff supporting the registration function by the average number of working days in the year (taken generically to be 227 days[31]) divided by the total number of annual registrations.
Total staff days/registration	This indicator is the same as the above, but using the total number of staff, including any staff in head office or in support, such as the cadastre. Where there are major variations, such as the deployment of a substantial number of staff on systematic registration activity, this is noted.

Table 6 (*Continued*)

Indicator	Generic Issue/Approach
Time to produce certified copy of title	This indicator is straightforward.
Time to complete registration of transfer	This is also straightforward. This total registration time includes any preliminary dealings with private sector service suppliers such as notaries, lawyers, or surveyors.
Total ongoing land-related court cases as a percentage of total registered parcels	In many jurisdictions, it is difficult to quantify the total number of land-related court cases. An estimate is made, qualified as appropriate.
Average time to resolve ongoing court cases	This estimate is also difficult to extract from court records; anecdotal evidence is used.
Number of registries per 1 million population	A registry is defined as a physical office where the public can lodge and effect the registration of a dealing in property.
Number of registries per 100,000 square kilometers in country land area	As above.
Average working days to pay for average transaction cost	The estimate of the average transaction cost includes, where possible, all transaction costs, including formal fees and taxes, where applicable, the fees of service providers such as notaries and surveyors, and an estimate of informal fees and charges. Where fees and changes are ad valorem, some assumption will have to be made on the average price of the property being traded. This assumption is documented.
Transaction cost as a percentage of value	The transaction cost is the same as before. In many jurisdictions, property values are under-declared. Where this is thought to occur it is to be noted.
Unit cost of systematic title	Where the systematic registration function is contracted out, the costs should be clear. Where the systematic registration cost is undertaken fully or partially by civil servants, where possible an estimate of civil servant salary costs is made. The cost of technical assistance to support systematic registration is also included in the estimated costs.
Level of government where registration is undertaken	Central, provincial, district, or other as appropriate.
Ratio of revenue/expenditure	The revenue/expenditure, where possible, includes the full registration function, including the cadastral function. If a separate cadastral function operates, then two ratios are provided, one for the registration function alone, and one for the total registration/cadastre function.

Source: Author.

Percentage of Total Parcels Registered (Title and/or Deeds Registration). Data are not available for ECA or Africa. In the developing systems, estimates for the percentage of parcels registered range from 23 percent in Indonesia to 67 percent in Peru. In the selected jurisdictions with well-developed land registration systems, it is estimated that 100 percent of parcels are registered.

Percentage of Transfers that are Registered. Data are not available for most developing systems. In the Philippines, based on a very small rural sample, it is estimated that only 15 percent of transfers are registered. In the registries in Australia, it is estimated that all transfers are registered.

Annual Registered Transactions as a Percentage of Registered Parcels. There is a wide range in the value of registered transactions expressed as a percentage of registered parcels:

- 0.8 percent in the evolving system in Armenia;
- 3–4 percent in Kyrgyzstan, Moldova, and Karnataka (India);
- 5–8 percent in Latvia, Indonesia and Trinidad and Tobago;
- 11 percent in the Philippines;
- 13.8 percent in Peru;
- 17.8 percent in El Salvador;
- 21.2 percent in Thailand.

The ratio in the Australian registries ranges from 24.4 percent in South Australia to 41.8 percent in Queensland; the other developed systems are in the range of 19 percent to 24 percent.

Annual Registered Transfers as a Percentage of Registered Parcels. Data on the number of registered transfers are not available in many jurisdictions. The registered transfers expressed as a percentage of registered parcels are:

- 3.7 percent in the Philippines;
- 3.9 percent in Peru;
- 6.4 percent fin Scotland;
- 7.1 percent in Tasmania ranging to 10.2 percent in Western Australia of the Australian registries;
- 9.2 percent in Hong Kong;
- 12.1 percent in England and Wales;
- 13.1 percent in Thailand.

Thailand has the highest percentage, indicating substantial market activity, despite having a 3.3 percent fee charged on transfers of property held for less than five years, and despite the decreasing market activity resulting from the 1997 Asian crisis.

Annual Registered Mortgages as a Percentage of Registered Parcels. Little data on registered mortgages are available in the developing systems. The ratio of annual registered mortgages to registered parcels is 0.7 percent in Moldova, 2.1 percent in Peru, and 4.5 percent in Latvia.

In Australia, the ratio of annual registered mortgages to registered parcels ranges from 6.0 percent in Tasmania to 11.1 percent in Western Australia. The ratio is 6.0 percent in Hong Kong, 7.7 percent in England and Wales, and 7.1 percent in Scotland.

Ratio of Annual Registry Running Costs per Registered Parcel. The average annual cost of operating the registry per registered parcel is US$0.21 in Karnataka, US$0.79 in Indonesia, US$1.17 in the Philippines, US$2.70 in Trinidad and Tobago, and US$27.47 in El Salvador.

In the developed registries, the cost per registered parcel is US$9.83 in Australia's Northern Territory, US$11.15 in New Zealand, US$15.96 in Hong Kong, US$25.64 in Scotland, and US$26.23 in England and Wales. These jurisdictions all record separate costs and revenue for the registry offices.

Ratio of Annual Registry Running Costs (Including Cadastre if Separate) per Registered Parcel. In the jurisdictions where the costs and revenue for a combined registry and cadastral office are recorded, the average annual running cost per registered parcel varies dramatically:

- US$2.10 in Thailand;
- US$2.46 in Moldova;
- US$7.00 in Latvia;
- US$17.00 in Kyrgyzstan; and
- US$46.92 in Armenia.

In the Australian registries, the average annual running cost per registered parcel is:

- US$19.76 in New South Wales;
- US$20.50 in South Australia;
- US$22.72 in Victoria;
- US$28.55 in Queensland;
- US$35.14 in Western Australia; and
- US$54.73 in Tasmania.

Registration Staff Days/Registration. The number of registration staff days per registration is estimated by each country at:

- 0.5 in Thailand;
- 0.56 in Karnataka;
- 0.6 in Latvia;
- 0.76 in Peru;
- 0.8 in Kyrgyzstan;
- 0.9 in Indonesia;
- 2.5 in Moldova; and
- 10 in Armenia.

This means that an average registration officer in Thailand can complete two registrations in a day while in 2002 it took on average a registration officer in Armenia 10 days to complete a single registration. The high number of staff days in Moldova reflects the number of staff involved with systematic registration and some level of overstaffing in the registries. In the developed registries, the number of registration staff days per registration is:

- 0.07 in Queensland;
- 0.08 in the Australian Capital Territory;
- 0.09 in Victoria;
- 0.16 in Tasmania;
- 0.18 in New Zealand and the Northern Territory;
- 0.21 in Hong Kong;
- 0.22 in Western Australia; and
- 0.35 in South Australia.

Total Staff Days/Registration. The total number of staff days per registration is 0.5 in the Philippines, 0.54 in Peru, 0.66 in Thailand, 1.2 in El Salvador, and 1.8 in Trinidad and Tobago.

In the developed registries the number of total staff days per registration is 0.05 in Singapore, 0.25 in New Zealand, 0.59 in England and Wales, 0.92 in Scotland, and 0.94 in New South Wales.

Time to Produce Certified Copy of Title. The average time taken to produce a certified copy of a title varies widely:

- 30 minutes in Thailand and Peru;
- 1 hour in Latvia;
- 1 day in Indonesia and Karnataka;
- 2 days in the Philippines;
- 2–7 days in Kyrgyzstan;
- 4 days in Armenia;
- 6 days in Trinidad and Tobago;
- 6–10 days in South Africa; and
- 8 days in El Salvador.

The average time to produce a certified copy of a title in the developed registries is:

- instantaneous in Victoria, Queensland, and the Northern Territory;
- 2 minutes in Tasmania;
- less than 5 minutes in New Zealand;
- 5 minutes to 2 hours in South Australia;
- 9 minutes in New South Wales;
- 10–45 minutes in Western Australia;

- less than 15 minutes in the Australian Capital Territory;
- 30 minutes in Singapore; and
- 1 day in England and Wales.

Time to Complete Registration of Transfer. The average time to complete the registration of transfer varies widely:

- hours in Thailand;
- 3 days in Latvia;
- 3–4 days in Moldova;
- 4–7 days in Peru;
- 8-30 days in El Salvador;
- 10 days in Kyrgyzstan;
- 15 days in Armenia and;
- 90 days in Trinidad and Tobago.

In the developed registries, the average time taken to complete registration:

- immediate in New South Wales;
- 24 hours in the Northern Territory, Australian Capital Territory, and Tasmania;
- 2–5 days in Queensland;
- days in Victoria;
- 5.2 days in Western Australia;
- 7 days in South Australia and Singapore;
- 15 days in New Zealand;
- 20 days in Hong Kong;
- 25 days in England and Wales; and
- 27 days in Scotland.

The average time taken in Thailand is world-class and is due to a number of factors, including a very efficient registration and land-records management system, and the fact that there is no private conveyancy industry. All contracts for transfer are prepared in the land office as part of the process of registering the transfer.

Total Ongoing Land-Related Court Cases as a Percentage of Total Registered Parcels. There is limited data available on the number of land-related court cases. The number of cases per registered parcel is 0.15 percent in Thailand, and 15 percent in the Philippines, with the differences reflecting a range of issues, including the relative quality of the land administration systems and the litigiousness of the two societies. Information on court cases is not available for the developed registries.

Average Time to Resolve Ongoing Court Cases. The average time taken to resolve land-related court cases is minimal in Kyrgyzstan and Latvia, three

months in Armenia, three years in Thailand, seven years in Karnataka, and a 'long' time in Moldova.

Number of Registries per 1 Million Population. The number of registries per million head of population is:

- 19.2 in Armenia;
- 11.1 in Latvia and Kyrgyzstan;
- 6.6 in Moldova;
- 5.89 in Thailand;
- 3.77 in Karnataka;
- 2.3 in Peru (deeds);
- 1.96 in the Philippines;
- 1.48 in Indonesia; and
- 0.8 in Peru (titles).

To some extent, these differences reflect differences in population densities and geography, however, it is clear that ECA has the highest number of registries per million head of population.

For the developed registries, the number of registries per million head of population is:

- 3.78 in New Zealand;
- 3.09 in the Australian Capital Territory;
- 2.51 in the Northern Territory;
- 2.11 in Tasmania;
- 1.66 in Queensland;
- 1.58 in Western Australia;
- 1.32 in Hong Kong;
- 0.66 in South Australia;
- 0.51 in England and Wales;
- 0.39 in Scotland;
- 0.37 in Singapore;
- 0.21 in Victoria; and
- 0.15 in New South Wales.

The differences here also relate very much to population densities and geography, particularly for the Australian registries which, with the exception of Queensland, Western Australia, and the Northern Territory, are centralized.

Number of Registries per 100,000 square kilometers in Country Land Area. The number of registries per 100,000 square kilometers is:

- 103.76 in Karnataka;
- 70.94 in Thailand;

- 54 in the Philippines;
- 15.79 in Indonesia;
- 4.6 in Peru (deeds);
- 1.6 in Moldova and Peru (titles);
- 0.9 in Armenia;
- 0.4 in Latvia; and
- 0.25 in Kyrgyzstan.

In the developed registries the number of registries per 100,000 square kilometers:

- 1,515 in Singapore;
- 1,315 in Hong Kong;
- 41 in the Australian Capital Territory;
- 16.54 in England and Wales;
- 4.45 in New Zealand;
- 2.59 in Scotland; and
- 0.1–0.5 in South Australia, Western Australia, New South Wales, Tasmania, Northern Territory, Queensland, and Victoria.

The small territorial extent of Singapore, Hong Kong and the Australian Capital Territory strongly influences the ratios for these jurisdictions. The low values for the other well-developed registries reflect the centralized nature of the systems.

Average Working Days to Pay for Average Transfer Cost. Substantial assumptions were required to arrive at an estimate for the average number of working days required to pay for an average transfer. The estimate for the average number of days required to pay for the average transfer is:

- 12 in Thailand;
- 24 in the Philippines;
- 31 in Latvia;
- 66 in Moldova;
- 77 in Armenia; and
- 228 in Kyrgyzstan.

In the Australian registries, the estimate for the average number of working days required to pay for an average transfer:

- 28.0 in New South Wales;
- 29.9 in Western Australia;
- 32.3 in Queensland;
- 32.9 in Tasmania;
- 39.1 in Victoria; and
- 40.5 in South Australia.

Transfer Cost as a Percentage of Property Value. The estimate for the average cost of an average transfer as a percentage of property value is:

- 0.5 percent in Indonesia;
- 0.4–4 percent in Latvia;
- 1.5 percent in Armenia and Moldova;
- 4.5 percent in Thailand;
- 5 percent in Kyrgyzstan;
- 8.2 percent in the Philippines; and
- 13 percent in Karnataka.

The cost of an average transfer as a percentage of property value is:

- 3.24 percent in New South Wales;
- 3.25 percent in Tasmania;
- 3.28 percent in Western Australia;
- 3.31 percent in Queensland;
- 4.15 percent in Victoria; and
- 4.19 percent in South Australia.

Largely due to the relatively high transfer costs, property values are under-declared in Thailand, the Philippines, and Karnataka, and in all three jurisdictions, there are great uncertainties in the assessment of property value.

Unit Cost of Systematic Title (US$). Systematic registration applies only to the developing systems, as most property in the well-developed systems is registered and there is no need for such a program. The unit cost of a title or first registration is:

- $9.90 in Moldova;
- $12.66 in Peru (urban);
- $15.76 in Kyrgyzstan;
- $18.02 in Armenia;
- $24.40 in Indonesia;
- $32.80 in Thailand;
- $46.68 in Peru (rural);
- $1;064 in Trinidad and Tobago, and
- $1,354 in Latvia (sporadic).

There is considerable variation in the costs included, and to some extent in what constitutes a 'title'. The higher rates in Trinidad and Tobago and Latvia are due largely to the use of sporadic processes and are exceptions rather than the rule. In Latvia's case, the process involves the restitution of rights existing prior to communism.

Level of Government where Registration is Undertaken. Most of the developing registries are decentralized, usually to an administrative district (Latvia, Indonesia, Karnataka, the Philippines, and Thailand), or to local

authorities (Armenia, Kyrgyzstan, and Moldova). Single registries operate in South Australia, New South Wales, Victoria, the Australian Capital Territory, Tasmania, and Singapore. Branch registries operate in Queensland, Western Australia, the Northern Territory, Hong Kong, England and Wales, and Scotland.

Ratio of Revenue to Expenditure. The ratio of annual registration revenue to the annual cost of running the registries is:

- 20.7 in Karnataka (Registration only);
- 9.8 in Karnataka (Registration plus Survey Department);
- 5.08 in Thailand;
- 2.37 in the Philippines;
- 1.6 in Armenia and Latvia; and
- 0.28 in Kyrgyzstan.

The ratio of annual revenue to expenditure for the developed registries is:

- 2.67 in the Northern Territory;
- 2.11 in South Australia;
- 1.30 in Hong Kong;
- 1.15 in Victoria;
- 1.135 in Scotland;
- 1.023 in England and Wales;
- 1.00 in Queensland;
- 0.99 in New South Wales;
- 0.95 in New Zealand; and
- 0.84 in Western Australia.

Karnataka, which has a very manual registration of deeds system, demonstrates that land administration can generate a significant return on investment for the government, as do Thailand and to a lesser degree the Philippines. The ECA systems are evolving, generally under a policy of cost-recovery. The fee structures for the developed registries have generally been prepared under government policies of restricting fees for services such that the cost of providing the service is recovered.

4.4.3 Summary of 'Mean'[32] Indicators

Based on the results of the study, a 'mean' value was extracted. This has been used to compare other indicators of the countries studied (see Table 7). The 'mean' value is not an average based on empirical data; it is a perception of a 'fair level,' based on an overview of the data and many years' experience.

It is not suggested that all systems line up with the 'mean' values. There are valid reasons for variations from them, and in some jurisdictions and situations they may not be appropriate. This particularly applies to the 'mean' values expressed in US$, a unit with significant variation in the various jurisdictions in terms of purchasing power or average salary equivalents.

Table 7 Comparison of 'Mean' Indicators for Formal Land Administration Systems

Legend

Country indicator substantially better than the 'mean'	
Country indicator near the 'mean'	
Country indicator substantially worse than the 'mean'	
Blank indicates that information was not available to calculate indicator	

Indicator	'Mean'	Ghana	Mozambique	Namibia	South Africa	Uganda	Indonesia	Karnataka (India)	Philippines	Thailand	Armenia	Kyrgyzstan	Latvia	Moldova	Bolivia	El Salvador	Peru	Trinidad & Tobago
Percentage of total parcels registered (a)	>50%																	
Percentage of transfers that are registered (b)	high																	
Annual registered transactions as a percentage of registered parcels	>15%																	
Annual registered transfers as a percentage of registered parcels	>5%																	
Annual registered mortgages as a percentage of registered parcels	>5%																	
Ratio of annual registry running costs/registered parcels (c)	<$5																	
Ratio of annual registry running costs (cad)/registered parcels (d)	<$10																	
Registration staff days/registration	<1																	
Total staff days/registration	<1																	
Time to produce certified copy of title	<1d																	

Time to complete registration of transfer	<5d	
Total ongoing land-related court cases as a percentage of total registered parcels	<1%	
Average time to resolve ongoing court cases (e)	<5y	
Number of registries per 1 million population (f)	>2	
Number of registries per 100,000 square kilometres in country land area	>2	
Average working days to pay for average transfer cost	<30d	
Transfer cost as a percentage of value	<5%	
Unit cost of systematic title (US$)	<$30	
Ratio of revenue/expenditure	>1	

Source: Author.

(a) Will depend on the objective and approach (systematic or sporadic)

(b) This is often difficult to assess and usually depends on small samples or anecdotal evidence.

(c)/(d) Will depend on the level of development, (d) including cadastre if separate

(e) Somewhat subjective as it is often hard to quantify land disputes in court and to assess how frequent they are. Ideally, it would be good to get the 'mean' to less than 6 months.

(f) Will vary on population density and market activity. A figure <2 is fairly common and not necessarily a good model. With improved,easily-accessed technology, more centralised systems will develop.

An important caveat is required. The targets, methods, and 'means' will vary in a given situation depending on the objectives of the intervention. Possible objectives for intervention might be: to rapidly achieve equitable land distribution, *or* to increase land-market activity, *or* to deal with squatters, *or* to clear the courts of land disputes, *or* to establish a system for property taxes, and so on. Factors such as the survey approach, targets in terms of cost or speed, and end result will vary accordingly. There may also be constraints on what is legally and publicly acceptable. Some jurisdictions will not accept administratively based systems (for example, some countries with civil law tradition requiring notaries and registration at a court) *or* will only accept local administrators (such as the local village headman) *or* will only accept systems guaranteed by the central government. There is also the whole realm of what is acceptable from a survey and property definition perspective. The results of this study need to be seen as a first step in undertaking a rigorous analysis of interventions to strengthen land administration systems.

It is clear that some interventions were more successful than others. The three CIS countries—Armenia, Kyrgyzstan and Moldova—successfully produced titles at a unit cost less than the 'mean' and have a relatively high number of registries per capita. However, they have limited registration of subsequent dealings. All three countries require a high number of average working days to earn the money to cover the cost of an average transfer. Latvia, despite having a high unit cost for titling, using a sporadic approach with costs largely covered by applicants, has a high level of registered transactions and is more than covering costs. Thailand and Karnataka have high ratios of revenue to expenditure and efficient registration processes. In Karnataka's case this is despite a high transfer fee, a relatively long period to affect transfer, and a relatively low rate of annual registrations. In LAC, Peru and El Salvador have the basis for efficient land administration systems, with high levels of registered transactions and efficient registration processes. The formal land administration system in Africa (except for South Africa) is not well developed, typically only covering urban areas, and little information is available. There are problems with informal settlement common to other regions such as LAC.

For a rapid appraisal of the efficiency of a formal land administration system, five perspectives for indicators were considered: legal and policy, customer, community acceptance/market activity, internal efficiency, and sustainability. This approach resulted in a set of nine indicators to assess the efficiency of a formal land administration system (see section 6.1 on page 132).

4.5 Property Registration as a Business Indicator

In 2004, the World Bank and IFC prepared *Doing Business 2004*, the first of a series of annual publications that set out simple indicators of how efficiently the regulatory environment supports business and private entrepreneurs. In *Doing Business 2005*, a section on property registration was added, which recognizes the importance of formal registration of property rights in supporting business and economic growth (World Bank et al. 2005). Efficient property registration strengthens property rights and increases the possibility for entrepreneurs to obtain credit using a land title as collateral (de Soto 2003). In Zambia, 95 percent of commercial bank loans to businesses are secured by

land, in Indonesia, 80 percent, and in Uganda, 75 percent.[33] The *Doing Business* reports compile indicators for a large number of countries (135 countries in 2004, increasing to 175 in 2007). Three basic indicators are used to measure the efficiency of formal registration systems as shown in Table 8. These particular indicators assess formal land-administration system efficiency from the user perspective. Ease of use is measured through time, cost, and complexity indicators for registering a property transfer.

The methodology adopted to build the database uses key informants who are private lawyers offering conveyancy services and key individuals within government. Informants were asked to carry out a mock transaction, using a standardized case where an entrepreneur wants to purchase land and build in the largest business city for a country or jurisdiction. The assumptions made are that the property is previously registered and free of disputes.

The *Doing Business* land-administration indicators provide a rapid, simple, and objective appraisal of transacting commercial property in major cities in up to 175 economies. Comparative analyses are made in relation to who, what, and why countries reform their registration procedures. New Zealand is ranked the highest performer in terms ease of property registration, it takes only two days and two procedures, at a cost of 0.1 percent of the property value, to register. Armenia is ranked second, it takes four days and three procedures, at a cost of 0.4 percent of the property value. In contrast, among the worst performers is Uganda. Ranked at 166, it takes 227 days, 13 different procedures and costs 6.9 percent of the property value to formally register the property transaction.

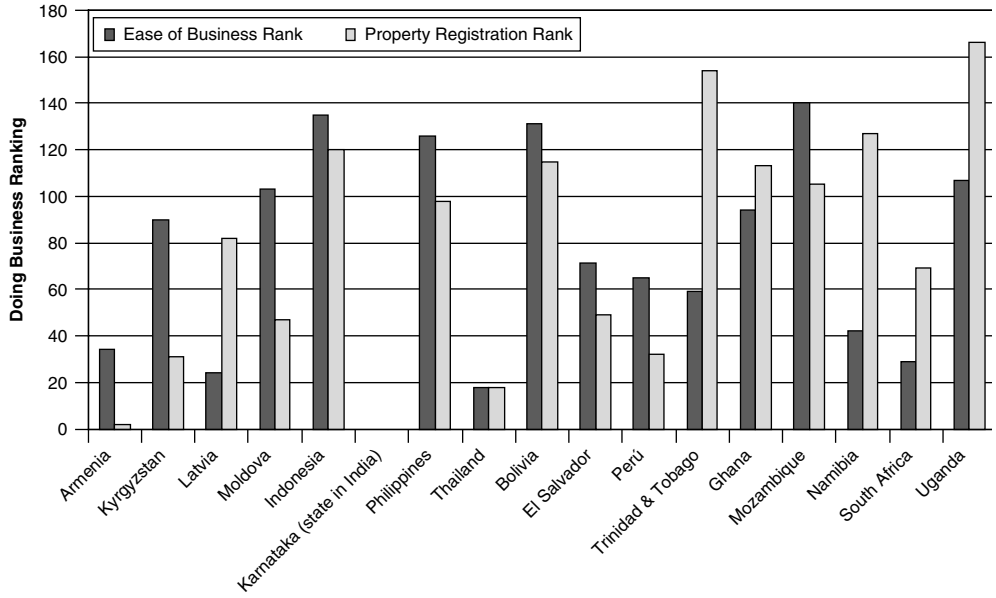
Other analyses can be performed using the *Doing Business* data. Individual indicators, for example, property registration, can be compared to a country's ease of business ranking. This is used to indicate areas for reform. Of the countries studied in this report, Kyrgyzstan Republic, Armenia, and Ghana

Table 8 Doing Business Indicators for Formal Land Administration System

Indicator	Approach to Assessing Indicator
Number of procedures required to complete the registration of a property transfer	All interactions of the buyer, seller, agents, government agencies, notaries, and lawyers that are legally or in practice required for registering property are recorded. This indicates the degree of regulation and hence the complexity or streamlining of the service.
Number of days for the procedure	Time, recorded in calendar days, captures the median duration that property lawyers or registry officials indicate is necessary to complete a procedure. This gauges the process with a regulatory outcome.
Cost of registration as a proportion of the property value	Cost is recorded as a percentage of the property value. Only official costs required by law are recorded. Other taxes, such as capital gains tax or value added tax, are excluded from the cost measure. If cost estimates differ among sources, the median reported value is used.

Source: Doing Business Website (available at http://www.doingbusiness.org/MethodologySurveys/RegisteringProperty.aspx).

Figure 7 Case Study Country's Ease of Business Rank against Property Registration Rank



Source: Doing Business 2007 (available at http://www.doingbusiness.org/EconomyRankings/).

made notable reforms during 2005 and 2006 to ease overall property registration procedures. Figure 7 shows Latvia, Trinidad and Tobago, Namibia, and Uganda as having a large gap between their overall performance and the ease of property registration rankings. Ghana, along with several other African countries, contributed to an active property registration reform agenda by lowering taxes and fees (World Bank et al. 2006b).

Generalizations of reform performances based on these indicators are subject to serious bias because in many cases, figures do not encapsulate the entire property market. For example, while reforms may have been significant in Africa in many countries, only one to two percent of a country may be covered by the formal system. The suggestions for reform are also questionable because they do not address why and how property transactions acting outside the formal market can be converted from 'dead capital'.

Although the Doing Business report assumptions[34] are somewhat simplistic, and the reliance on the data capture could be subjective, they do provide a framework for assessing the relative performance of countries.

Another set of indicators are summarized below based on those in Kälin's "International Real Estate Handbook: Acquisition, Ownership and Sale of Real Estate Residence, Tax and Inheritance Law" (Kälin 2005). A select sample of countries and columns, including the brokers commission, land register and notaries' fees, and purchase taxes have been extracted to provide a comparison to the Doing Business indicator of transfer costs (Table 9.) The broker's commission is generally paid by the seller and is an additional transfer fee that is not included in the calculation of the Doing Business

Table 9 Property Transfer Costs

Country	From Kälin 2005:15–19			Doing Business 2007
	Broker's Commission	**Land Register and Notary Fees**	**Purchase Taxes**	**Transfer Cost (% value)**
Austria	Max. 3% (possibly by both buyer and seller)	1% land register fee plus authentication fee, 1–3% lawyer fees	Land transfer tax 3.5%	4.5%
Bahamas	6% for developed, 10% for undeveloped plots	2.5% of value (lawyer's fee)	1–2% of value	
Canada	3–6%	Notaries in Quebec/ lawyers elsewhere — hourly fee	Varies by province — mostly 0.5 to 1.5%	1.7%
Croatia	2–5%	€ 35 register fee, € 10 authentication fee by notary	5%	5%
France	5–10%	7%	Included in land register and notary fees	6.8%
Greece	2% from buyer and possibly 2% from seller	1.5% for purchase	Conveyancing fee 7–11%, registration fee 0.5%	3.8%
Hungary	2–5%	Scale of fees — about 1% total	Conveyancing fee generally 6–10%	11.0%
Ireland	1.5–2.5%	Each party pays their own fees — generally 1%	Conveyancing tax up to 9%, statutory duties 2%	10.3%
Italy	2–3% for one intermediary, 5% for exclusive broker	€ 2,500 to € 10,000, depending on value and notary	3–10%	0.9%
Malta	5%	1%	Transfer duty 5% plus € 500 for authorizations	
Monaco	8% for purchase	Registration and notaries total about 9%	Total 9%, 7.5% of which is registration and stamp duty	4.4%
Portugal	2–6%	€ 300 minimum for notaries and land register	Transfer tax , 6.5% stamp duty 0.8%	7.4%

Table 9 (*Continued*)

Country	From Kälin 2005:15–19			Doing Business 2007
	Broker's Commission	Land Register and Notary Fees	Purchase Taxes	Transfer Cost (% value)
Spain	4–7%	Ancillary purchasing costs about 3%	Land acquisition tax 7%	7.2%
Sweden	3–5%	None	Statutory duty 1.5% for individual and 3% for company	3.0%
Switzerland	2–4%	0.01 to 0.7% depending on canton	1–3% depending on canton	0.4%
United Kingdom	2–3%	Max £800 registration, plus lawyer's fees	Up to 4% stamp duty, up to £150 for data searches	4.1%
United States	6% developed, 10% undeveloped	None	Documentary stamp taxes, lawyer's fees, title insurance 2–5%	0.5%

Source: Kälin 2005:15–19.

transfer cost indicator. In most countries, there is a close comparison between indicators. Italy, Monaco, and Greece figures differ significantly. It is assumed that results calculated for the Doing Business database may be based on under-declared values. The real estate figures for the U.S. make additional note of title insurance fees, which would appear to have not been considered in the Doing Business cost analysis.

Doing Business (World Bank et al., 2006a) has put forward a number of recommendations to assist practitioner's reform property registration processes, including:

- Simplify and combine procedures for registering property;
- First link, then unify, the agencies involved;
- Provide easier access to the registry;
- Don't regard technology as a panacea (a warning);
- Make registration an administrative process;
- Simplify taxes and fees; and
- Make the involvement of notaries optional.

While the Doing Business indicators are subjective, the initiative provides ongoing benchmarking and analysis by setting out simple performance measures that emphasize the importance of effective and efficient land administration functions for economic development.

5. Future Challenges

Chapter 4 of this report summarized the experience and lessons from recent efforts to strengthen land administration systems based on the country case studies. One of the shortcomings of describing past experience is that critical issues may be systematically overlooked. A number of potential "blind spots" in the country and regional studies were identified, most of which are interrelated. This section provides a systematic discussion of future challenges under the topics of approach to land administration reform, institutional challenges, sustainability, and land tenure policy. The material presented forms important components in how land administration systems can be appropriately designed according to a jurisdiction's requirements, budget, and cultural traditions. Country examples are used to illustrate these concepts.

5.1 Approach to Land Administration Reform

The approach chosen to improve land administration effectiveness depends first, on the stage of development of the jurisdiction and second, on the project objectives. Land administration reform can take on numerous different roles, from small redesigns within particular sections of the system, for example, registry and or cadastre digitization, to a comprehensive re-engineering of the entire land administration system. As a consequence, reform periods range from short—less than 3 years—to comprehensive national land administration reforms that are proposed over more than 15 year timeframes to ensure new concepts and institutional relationships can be fostered in a sustainable and amenable environment. Phasing techniques and beneficiary participation through community awareness programs are also key implementation factors for the approach discussed. The final reform factor discusses the importance of resolving, rather than just identifying, problems, so that progress can continue with minimal delays or obstructions to reform.

5.1.1 Long-Term Nature of Land Administration Intervention

'*It is important to note that there are no quick fixes to land tenure problems. Except in particularly favorable circumstances, improvements in this field can only be achieved in the long run*.' (Wachter and English 1992:17).

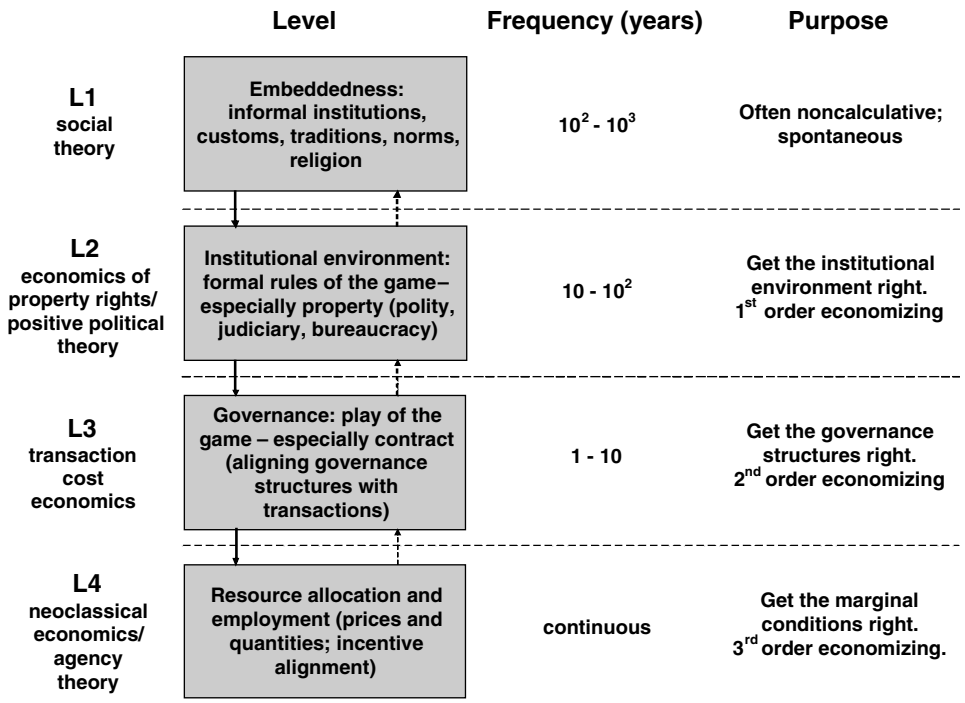
Any initiative to develop or strengthen a land administration system must recognize the strong political, legal, and social environment it must operate within. There are many stakeholders and many different points of view that need to be recognized. Projects will take time and will often have to be phased over many years. The systems that operate in the developed world took many years to reach their current status, something often forgotten when designing projects for the developing world. A key lesson from the 1992 review of rural land titling projects in the World Bank (by Wachter and English) was that many projects, often designed as part of wider development projects, failed, as

the complexity of the task of strengthening the land administration systems was grossly underestimated during design.

With many stakeholders, consultation can take a long time and has risks. Lavigne-Delville (2000:108), in reviewing experience in introducing the Rural Code in Niger, observed *'. . .the difficulties in organizing* [detailed surveys and public debates], *coupled with the potential risks of reform, sometimes gives the impression that the whole process has become bogged down in detail and consultation.'* Some of the activity required to strengthen land administration systems can take many years. This may impact the overall design or sequencing of the intervention, something that is discussed below (see page 65). A good example is the 15 years it took to reach agreement on boundaries between regions administered by different chiefs in KwaZulu-Natal in South Africa.[35] If this activity is included in the design of the project, a long timeframe needs to be anticipated.

Williamson (2000:597) presented a model of four levels of social analysis (refer to Figure 8), identifying the definition and enforcement of property rights as important elements in the second level of analysis, with emphasis on governance and contracts in the third level. The frequency ranges nominated by Williamson for Levels 2 and 3 (10 to hundreds and 1 to 10 years respectively) contrast sharply with the traditional land administration project duration of 3 to 5 years, particularly as many projects cover many of the issues identified by Williamson in Levels 2 and 3.

Figure 8 Economics of Institutions



Source: Williamson 2000:597.

A key feature of the initiatives for strengthening land administration systems in East Asia has been a long planning horizon. The land titling activity in Thailand was planned over a 20-year timeframe, and the activity in Indonesia was planned over 25 years. The techniques adopted in Thailand are very flexible and relatively low cost, but even so the Department had 3,000–5,000 personnel deployed on project activities for long periods over many years. A project operating over this timeframe requires a clear vision and strong political commitment. Both the Thai and Indonesian projects were designed within overall strategic plans that geographically and technically phased the activity. Political support can be important in a country such as Thailand, where there are frequent changes in government. Often a project has to build wider political support. The urban land titling project in Peru was very much a part of President Fujimori's political agenda, but the titling agency (COFOPRI) and the project continued under President Toledo's administration, largely due to their good reputation and credibility, particularly among the urban poor. Many projects need to build stakeholder support as an important part of project design. Where major problems exist, initial phases are likely to focus on strengthening the policy, legal, and institutional framework, and building stakeholder support, often through pilot activity.

The long-term focus in Asia contrasts with the focus on short-term objectives in Europe and Central Asia. In most of the countries in transition, the urgent need was to deal with the sudden change in land tenure for the population and establish a means by which millions of people could make use of their suddenly acquired assets. As Adlington (2002:11) notes, in the four countries in transition that were reviewed *'. . . the need for speed has been emphasized. It is not acceptable to politicians or the public for the process to take tens of years or to cost hundreds of millions of dollars.'* This emphasis on speed has had problems. In some urban areas, a significant number of beneficiaries could not receive title due to problems that could not be solved in the field, such as the encroachment of buildings or unapproved construction. In rural areas, boundaries were often not marked and not occupied by the new 'owners', and there was, at times, limited consultation with the public. It is not surprising that there is little market activity in these areas.

A long time-frame can be a challenge for governments focused on election cycles and to donors used to projects with durations no longer than five years. Here the formulation of a long-term strategy with phased implementation can break down the activity into manageable parts and ensure it is appropriately focused—not dissipated by trying to address all perceived issues at the same time.

5.1.2 Sequencing of Land Administration Interventions

'Often too much is expected as a result of the implementation of cadastral mapping and land registration programs. Claims regarding the potential benefits of these programs far outweigh those actually realized. . . . in almost all cases estimates of the time required to complete programs of cadastral mapping and land registration are unrealistic.' (Kent 1981:413).

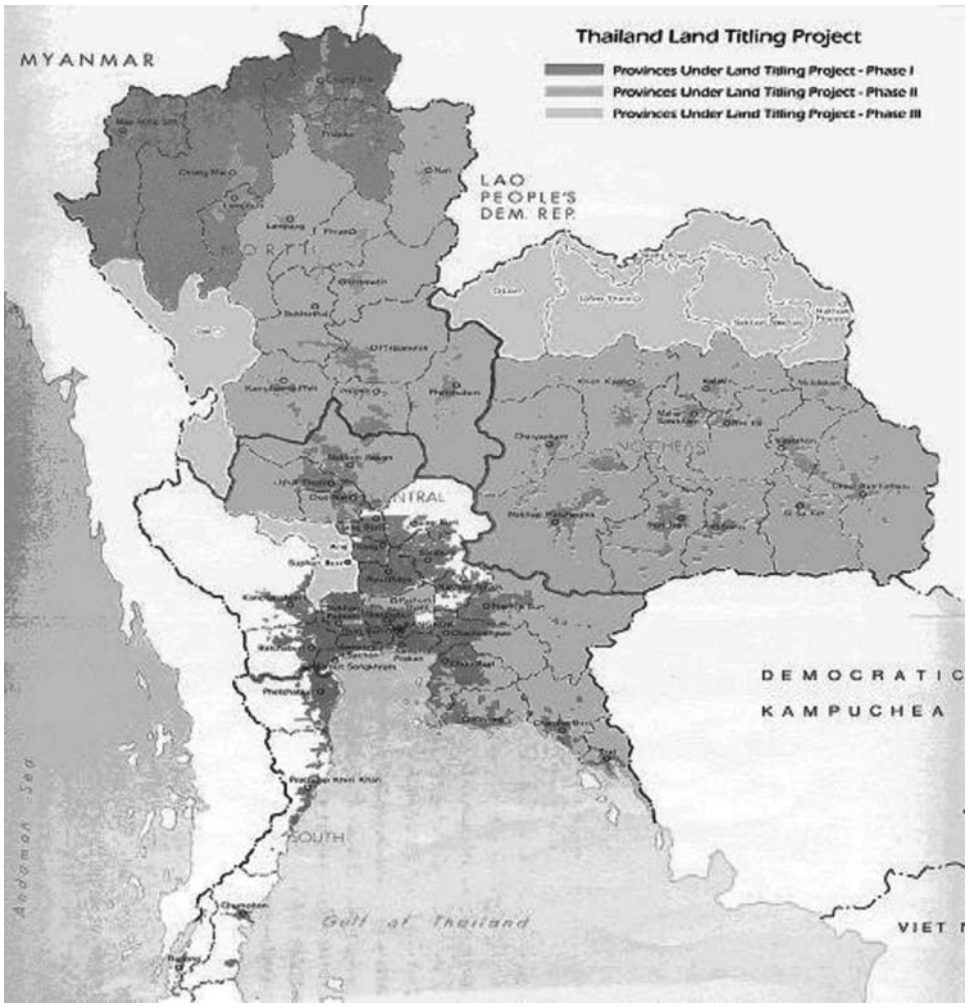
Land administration projects in Thailand, Indonesia, and Ghana were planned as long-term projects implemented in a number of five-year phases. Four phases were implemented in Thailand. The Thai project built on a strong legal and policy framework, with the initial emphasis on increasing capability to undertake systematic registration and the geographic expansion of systematic registration activity. An emphasis in later phases was improved service delivery. This change in emphasis can be seen in Table 10 (from Rattanabirapongse et al., 1998:23). There has also been a geographic spread in systematic titling activity (see Figure 9), with the initial phase concentrating in the lower northeast of Thailand, the poorest provinces in the country at the time, and in the North of Thailand, an area with potential for economic growth. The second phase continued the mix of economic and social

Table 10 TLTP Component Structure

Item	Component – Phase I (output 1,634,533 titles)[36]	Actual Cost (US$M)	% Base Cost
1	Rural mapping, surveying, and systematic adjudication	37.8	60.9
2	Urban mapping	2.8	4.5
3	Land administration (including civil works)	6.0	9.7
4	Valuation	0.7	1.1
5	General institution building (including technical assistance)	14.8	23.8
	Total, Phase I	**62.1**	
Item	**Component – Phase II (output 2,100,377 titles)[37]**	**Actual Cost (US$M)**	**% Base Cost**
1	Cadastral mapping and remapping	25.6	29.9
2	Land titling and administration	49.9	58.0
3	Valuation	0.6	0.7
4	Institution building	4.2	4.7
5	Technical assistance and training	5.5	6.4
	Total, Phase II	**85.5**	
Item	**Component – Phase III (output 4,772,055 titles)[38]**	**Base Cost[39] (US$M)**	**% Base Cost**
1	Land titling (including surveying, mapping, and title issue)	118.9	67.8
2	Improved service delivery	17.1	9.7
3	Strengthening DOL	17.5	10.0
4	Valuation	15.1	8.6
5	Technical assistance and training	6.3	3.6
6	Studies (socioeconomic and environmental impact)	0.5	0.3
	Total, Phase III	**175.4**	

Source: Rattanabirabongse et al. 1998:23.

Figure 9 Geographic Phasing of Systematic Titling in Thailand



Source: World Bank 1990b, updated.

objectives, with extensive work in the central and northeast, as well as the eastern seaboard, an area targeted for economic development. The third phase completed the work in the north, northeast and central regions, and the fourth phase filled the gaps and concentrated in the south.

The situation in 1993 in Indonesia provided a less firm foundation for a program to strengthen land administration. Following 12 years of preparation, the Basic Agrarian Law was introduced in 1960, but by 1993 only 20 percent of the non-forest land was registered. Articles regularly appeared in the media, highlighting problems such as corruption, multiple certificates over the same parcel, public mistrust in the land administration system, and conflict between formal and traditional land administration practices. Sporadic registration in the formal system was not even servicing the predicted demand due to increasing population. To address this situation, a 25-year program was prepared to be implemented in five phases of five years each. Based on early tax-mapping records, it was estimated that at the end of the 25-year period,

Table 11 Planned Phasing of Activity in Indonesia

Phase	Period	Planned Output	Scope
1	1994–99	1.2 million	This phase is very much an institution-building phase. Significant work on the policy framework. Systematic registration activity is confined to Java. Project areas selected on the basis of assisting in the development of efficient land markets and the alleviation of social conflict over land, but focused on offices receptive to change, and keeping the geographic spread of activities manageable.
2	2000–04	6.0 million	This phase will build on the processes and procedures developed in the first phase. A major part of the systematic registration output would still concentrate on Java, the area of most demand, but activities would be carried out to test and refine procedures to register communal adat (e.g. in western Sumatra). If socially acceptable, pilots could be conducted in southern Sulawesi. Further work would be required to strengthen BPN as an institution with automation, computerization, HRD, and training.
3	2005–09	11.0 million	This phase would concentrate on the islands of Java and Sumatra. Work could commence in southern Kalimantan on the basis that efficient procedures have been developed to mark forest boundaries, reclassify land, and incorporate customary tenure procedures.
4	2010–14	13.0 million	Work in this phase would also concentrate on Java and Sumatra, with increasing activity in the outer islands on the basis of the results of social assessment and clear selection criteria.
5	2015–19	13.0 million	This phase would complete the planned 25 year program. Activities would be undertaken in most remote provinces, subject to social assessment.

Source: BPN 1993:64–65.

the total number of parcels in Indonesia would be about 78 million. The nature of the planned phasing is set out in Table 11. Implementation has not gone as planned, with the first phase extended to seven years, but the output for Phase 1 of 1.957 million has exceeded the planned target of 1.2 million. Due to a range of factors, there was a delay in implementing Phase 2. The strategic approach adopted in designing the proposed land administration project in Ghana is illustrated in Table 12.

In breaking down a program into phases, it is important to note that not all problems need be solved at once. Pilot activity is an important strategy to build capacity by developing and field-testing efficient procedures, and building stakeholder support. To gain support from stakeholders, particularly where there is not a strong policy and legal framework, one strategy is to select

Table 12 Planned Phasing of Activity in Ghana

Objective	Output	Pre-Impl.	Short-Term	Medium-Term	Long-Term
Disciplined land market	Model linking land use/administration in urban areas			Develop	Expand
	Model linking land use/administration in rural areas				Develop
Clearly defined allodial rights	Delineation, demarcated, surveyed boundaries	Pilot	Pilots	Expand	Complete
	Register of allodial rights		Develop	Expand	Complete
Problems with compulsory acquisition resolved	Resolution of problem		Policy Detail	National	Institutionalize
	Inventory of government-owned land		Complete		
Secure land tenure	Alternatives to land titling in rural areas		Pilots	Expand	Complete
	Systematic land titling	Pilot	Pilots	Expand	Institutionalize
Improved access to land	Framework of incentives/preserving rights		Develop	Expand	Institutionalize
Strengthened, decentralized land administration	Strengthened land sector agencies		Strengthen	Support	Institutionalize
	One-Stop-Shop		Pilots	Expand	Institutionalize
	Strengthened customary secretariats		Pilots	Expand	Institutionalize
Engagement with land owners, customary authorities	Communications, Information Education Program		Develop	Expand	Institutionalize
Enhanced coordination of land sector agencies	Restructured, strengthened sustainable system	OMO	Policy	Institutionalize	Corporatization
Effective collection of land-related fees, taxes, revenue	Improved model to identify, value, and collect revenue		Policy	Expand	Institutionalize

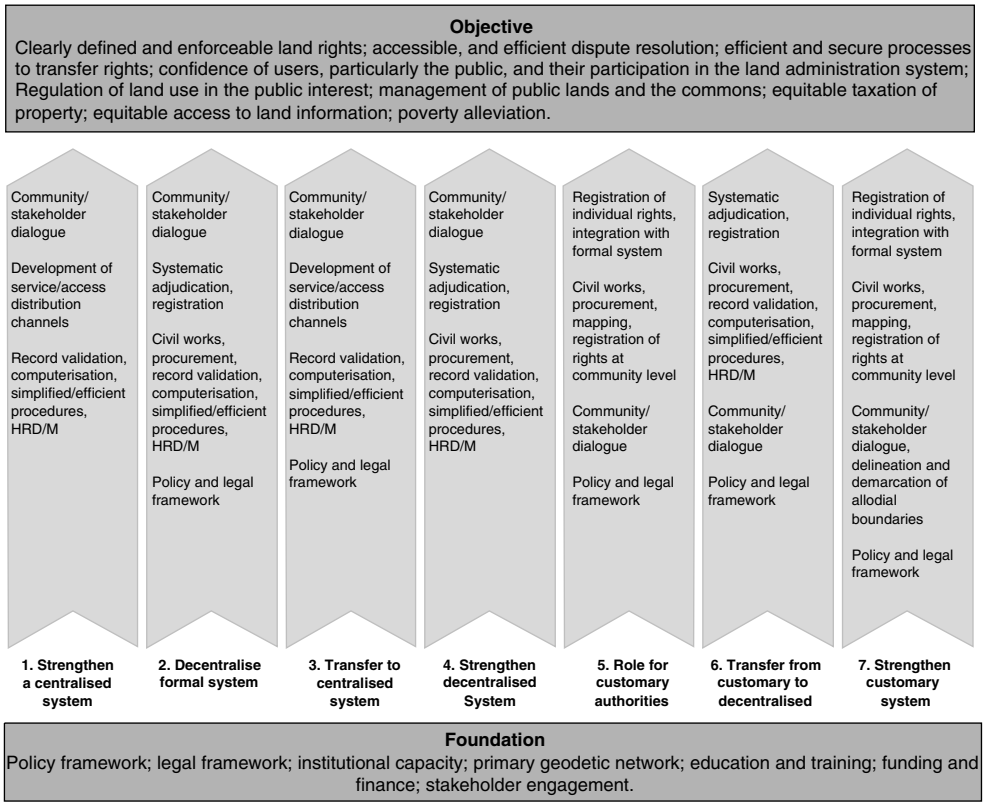
Source: Ministry of Lands and Forestry 2002:33.

pilot areas with limited difficulty. This may mean confining initial activity to a subset of the problems being faced by the land administration system. For example, in Indonesia one of the criteria used in selecting pilot areas in Phase 1 was the absence of forests, as there was a lack of clear policy on the delineation and demarcation of forest boundaries. In Lao PDR, where rights to land are complicated by unclear rights to the land of Lao nationals who fled the country after the change of administration in 1975, initial land-titling activity was confined to the urban areas of Vientiane.

As illustrated in Figure 2, there is great variety in the contextual environment for land administration projects and in the obstacles faced in attempting to strengthen land administration systems. This variety is reflected in the different approaches adopted for the projects in Thailand, Indonesia, and Ghana. A framework illustrating typical approaches is set out in Figure 10 based upon the seven generic strategies that were illustrated in Figure 4, but with a foundation.

The tasks listed above the foundation, within the generic strategies, are not necessarily in order of priority. In some cases, such as Thailand, a strong foundation already existed although effort was required to strengthen the education system in cadastral survey, land information, and valuation. Other countries require significant effort to build a foundation. For example the need

Figure 10 Schematic of Tasks within Generic Strategies



Source: Author.

to formulate policy in the Philippines and Ghana, tasks that Williamson (2000) might call formalizing the 'rules of the game' and 'playing the game' (refer to Figure 8 on page 64).

In other cases, pilot activity might be undertaken to help strengthen the foundation and the land administration system itself. Some tasks can take considerable time, for example, it took almost 20 years to systematically register 8.5 million titles in Thailand. Moreover the emphasis may change as a project is implemented, in Thailand, for instance, the emphasis shifted to improving service delivery. Strategies that combine the generic strategies might also be adopted, in Mozambique new innovations are being developed to grant secure tenure to foreign investors while concurrently securing the rights of local communities under customary tenure systems.

When planning for a phased implementation a key question is often where to start. In Thailand, systematic titling activity started in the lower northeast, the poorest provinces, and in the north, where it was considered that farmers would be well placed to access increased opportunities for institutional credit. In Indonesia, selection criteria focused on efficient land markets and reducing social conflict over land, within the overall constraints of confining activity to areas where customary rights were not present, and avoiding areas that lacked clarity in policy, such as forest land. In many countries, a decision on whether the project starts in urban or rural areas must be made. In other cases, it covers both, as ultimately the land administration system itself will cover the whole country. A key issue in deciding where to start systematic titling and registration is the expected demand for titling and registration services. There is no point in titling areas where the population sees little benefit in titles or the registration of subsequent dealings. This often means placing an emphasis on the urban sector where, as noted in Table 19 in the case of Thailand, there are also more opportunities for raising revenue to recover the initial and ongoing investment in a strengthened land administration system.

5.1.3 Community Mobilization

'. . . in every country we investigated, we found that it is very nearly as difficult to stay legal as it is to become legal. Inevitably, migrants do not so much break the law as the law breaks them – and they opt out of the system.' (de Soto 2000:21).

An essential element in any effort to initially register rights in land, and then ensure that subsequent dealings in those rights are registered, is building community confidence in the system and fostering participation. As de Soto (2000:21) indicates, gaining this confidence may require simplification of existing systems. The need for community participation applies particularly to systematic titling activity, where the efficiency of the whole process depends on landholders being in the right place at the right time with the necessary documents and information. Gaining an understanding of community practices and concerns is an important first step, particularly in countries where the formal system is neither efficient nor well regarded. In Africa, extensive multi-stakeholder consultations were necessary in formulating land policy and legislation (Augustinus 2003a:10). In other countries, focus groups,

semi-structured interviews. and household surveys were undertaken to prepare for and implement land administration projects.

A range of terms was used to describe the process of fostering participation during project implementation, a term used in ECA is 'Public Awareness.' A description of this process is set out in the project information document for the proposed Ukraine Rural Land Titling and Cadastre Project (World Bank 2002b), where *'. . . the publicity campaign would focus on informing small land holders of their rights to individual title, and their land use rights and obligations after these rights have been granted. Information would also be supplied on farm management, legal procedures related to land, and leasing of parcels. This would be achieved through mass media campaigns, production of pamphlets and leaflets on a mass scale and through holding public meetings at each farm . . .'*. In Uganda, there are 'sensitization campaigns' with the objective of *'letting everyone know what the new law says, what it does not say, what role it plays in the land reform, what is going to change and how, what kind of timeframes may be expected and what the law means for different stakeholders'*, (Palmer 2000:279). In the Philippines, the term Communications, Information and Education (CIE) is often used.

The term Customer Relations and Services (CRS) was adopted in the early 1990s in the design of the Land Administration Project in Indonesia. This term attempts to cover public communication requirements of the activity, as well as the project objectives of fostering an ethos of customer focus in land sector agencies. Customer focus can be developed in a number of ways, including simple posters in land offices explaining registration processes and prerequisites, customer help desks in waiting areas, the public display of fees and process times and suggestion boxes in land offices. These can be assessed in a number of ways, including customer satisfaction surveys. While these processes work well in some offices and not in others, they require a clear commitment of the leadership in the organization to the concept that the public is a 'customer,'—definitely not an easy process in some jurisdictions. The customers' expectations of land administration are security, clarity, and simplicity, timeliness, fairness, accessibility, cost, and sustainability (refer to Table 4 on page 44). A major concern for most users is cost and time. Much can be learned about customer focus from an organization's readiness to display clear promises regarding cost and time. As previously noted, the registration system in Thailand is very efficient because all registrations must be completed on the day they are lodged. This promise of timely response takes the discussion away from a rationale for delay such as problems with process, staffing, working hours etc. to the steps needed to ensure that the promise is honored.

The scope of the term CRS has broadened in Asia and within the Australian Agency for International Development (AusAID). In the Philippines, they now use the term 'Community Relations and Services' to reflect the need to engage the community in the process of reforming the land administration system. It was recognized that a wider group of stakeholders has to drive the reform agenda, including community advisory groups, NGOs, academia, and politicians, because the bureaucracy is incapable of reforming the system. This process is also occurring in Africa. The term 'Community Education' is finding

favor in Lao PDR, reflecting the more autocratic nature of the government in this country.

5.1.4 Solving Rather than Just Identifying Problems

'. . . it is a cardinal principle of adjudication that it does not, by itself, alter existing rights or create new ones. It merely establishes with certainty and finality what rights exist, by whom they are exercised, and to what limitation, if any they are subject.' (Simpson 1976:195).

Without delegated responsibility for decision-making, problems must be identified, documented, and passed to a higher authority. This higher authority may be superior officials in a remote head office, or, as is often the case, a statutory committee, convened from time to time in the respective registration district or locality. This approach destroys targets, alienates beneficiaries, adds to frustrating backlogs, and creates bottlenecks in a procedure which is meant to be systematic and rapid.

Usually problems leading to disputes over rights or boundaries can be classified and anticipated when designing registration programs. Pilot programs can be used to identify policy implications of a systematic registration program and identify mechanisms (decrees, declarations, orders and so on) needed to facilitate delegation with appropriate checks and balances. Small pilot projects can be used to prepare and test the manual of operations. They are an adjunct to delegation, and guide field staff in the rules applying to evidence and the procedures to be followed in the field when mediating disputes. Experience in large registration programs in Thailand, for example, suggests that the overwhelming majority of disputes are resolved by field teams, with very few requiring reference to courts or other dispute resolution authority. Of course, the Thai culture is one of conflict avoidance, which lends itself more to conciliation than (say) a similar situation in the more litigious Filipino culture. Nevertheless, operational manuals can eliminate many problems by simple and fair application of rules and basic mediation.

Reliance on judicial processes, in which evidence is gathered for referral to a court or other judicial authority, complicates systematic registration programs. The confusing array of land laws and the delays encountered in the court system are commonly listed issues in all countries included in the case studies. Experience shows that systematic registration is more effective when an administrative approach is followed. This allows for registration by appropriately qualified and trained officials, who follow administrative procedures that are based on government policy that has been implemented with appropriate community participation and oversight and tested under pilot conditions.

The need for documentary evidence exacerbates the tendency to identify, rather than resolve, problems, and is especially problematic in poor rural areas where documents are usually sparse and a right is commonly based on long-term occupation. Prescription, or the acquisition of legal rights by peaceful, community- accepted occupation of land for a specified period of time, is a useful means of ensuring the formal registration system reflects reality on the

ground. It is also a very useful tool in systematic registration because it shifts the requirement for proof of entitlement from having to provide documentary evidence to having to prove long-term, community-accepted, peaceful occupation. Prescription is possible in many jurisdictions. In Thailand, under the Civil and Commercial Code, prescription is possible over private land occupied for a period of 10 years, but not over state land. In the Philippines, the reverse is true, with prescription possible over state land held for 10 years, but not over private land.

The need for prescription was evident in the initial pilot study phase of the Land Administration Project in Indonesia. Subsequently a longstanding regulation of the Basic Agrarian Law was amended[40] to provide for title issuance on the basis of oral evidence of occupation, provided it was shown to be in good faith, and acknowledged as such by the community. As an ex-officio member of the adjudication field team, the village or community head is on hand to attest to the occupation and further streamline the issue of title to the occupant. The occupation horizon was set at a conservative 20 years and, since under the negative system of land registration in Indonesia, any right can be disputed after title is awarded, the security of those who might be adversely affected by prescription was considered adequately safeguarded. Another innovation in the same amendment was the introduction of a sunset period of five years, after which claims against title could not be made and absolute title was awarded. This was designed to minimize the level of disputation and clear the way for the eventual introduction of a positive element into the Indonesia land registration system.

5.2 Institutional Challenges

Core land administration functions are typically founded within the government sector, where often-complex systems exist to coordinate registry and cadastral services. Opportunities and complications within government institutional arrangements strongly affect the efficiency of land administration systems and the services provided. The following subsections describe both effective and ineffective arrangements of state authority and responsibilities, institutional structures necessary to support and coordinate core land functions, and considerations of accountability and transparency to reduce corrupt activities. Institutional challenges are best approached when there are good opportunities for long-term support and cooperation and a consensus can be reached on the development direction.

5.2.1 Authority of the State

'. . . the state's capacity to engineer and orchestrate social change and to mediate social conflicts often falls well short of its ambitions, indeed it may pursue contradictory strategies.' (Juul and Lund 2002b:2)

In most societies, an early consideration was the establishment of systems to administer rights in land. Political philosopher Jeremy Bentham asserted that historically, the inception of property rights and law were deeply intertwined (Mandelbaum 2002:270). The type of system established will depend on a range of factors including the type of society and the nature and extent of

the land resources available. Diamond (1997:267-92) sets out a simple classification of societies based on four classes: band, tribe, chiefdom, and state (see Table 13). Diamond notes that over the past 13,000 years, there was a general trend toward the replacement of smaller, less complex societies by larger, more complex units, and suggests that population pressure or population density is a prime driver (Diamond 1997:284). Critical elements in the classification of the state, as set out by Diamond, are centralized decision-making, multiple levels of bureaucracy, and reliance on laws and judges to resolve disputes. Similarly, The World Bank (1997) suggests there are benchmark functions for the scope of state. State authority is set in terms of minimalist, intermediate, and activitist function, and property rights are prioritized as a minimalist function of the state, indicating that the recognition of property rights is an essential or core function of the state. Reliance on laws and judges, or the rule of law, is central to the definition of the "state."

Table 13 Types of Societies

	Band	Tribe	Chiefdom	State
Membership				
Number of people	dozens	hundreds	thousands	over 50,000
Settlement pattern	nomadic	fixed: 1 village	fixed: 1 or more villages	fixed: many villages
Basis of relationships	kin	kin-based clans	class and residence	class and residence
Ethnicities and languages	1	1	1	1 or more
Government				
Decision making, leadership	"egalitarian"	"egalitarian" or big-man	centralized, hereditary	centralized
Bureaucracy	none	none	none, or 1 or 2 levels	many levels
Monopoly of force and information	no	no	yes	yes
Conflict resolution	informal	informal	centralized	laws, judges
Hierarchy of settlement	no	no	no > paramount village	capital
Religion				
Justifies kleptocracy?	no	no	yes	yes →no
Economy				
Food production	no	no > yes	Yes > intensive	intensive
Division of labor	no	no	no > yes	yes
Exchanges	reciprocal	reciprocal	redistributive "tribute"	redistributive "taxes"
Control of land	band	clan	chief	various

Source: Diamond 1997:289–9.

Neumann (2002:82) observes that if *'. . . things are to go according to law, there must be a lawmaking power whose edicts are enforced over a certain geographical area in which that power monopolizes violence and controls those aspects of life important to the (publicly observable) well-being of those who inhabit the territory.'* Much of the difficulty in establishing land administration systems in many developing countries have been the limited authority of the state and the attempt to extend land administration authority beyond the 'geographical area' in which the State *'monopolizes violence.'* There are many examples of this, one being the indigenous communities in Choco and Valle Departments in the lower Atrato river in Colombia, who were displaced by paramilitary shortly after receiving collective titles in 1997 (Ng'weno 2000:30). The state's jurisdictional authority is clearly neither comprehensive nor uniformly applied. Informal urban settlements are an example of the state's limited mechanisms for securing property rights. Typically, there is an evolution in a state's response to informal settlement. Durand-Lasserve and Royston (2002) summarized the following typical responses: public authority tolerance of dual systems, legal adaptations, formal recognition of informal land delivery systems, reduction in planning and construction norms, integration of land delivery systems, setting up parallel systems, and tentative, top-down land policy and institutional reforms. A summary of events in Peru provides a practical example of the evolution of responses (see Table 14).

The relationship between formal, or state-sanctioned, systems of land administration and customary tenure is discussed in Section 5.2.2 on page 79. In this section, we will consider the important issues of the rule of law and dispute resolution.

Important aspects in considering the rule of law, particularly where the central state is weak, is to ensure that the law accords with social customs, that it is in a form that can be implemented, and that the state has the authority and willingness to enforce the law. Bruce (2003:268) describes the legal framework as a 'layer cake' for assessing the authority and legality involved in common property rights control. Local and community systems with minimal legal recognition make up the bottom layer of land use control. Above this layer is a layer related to communal, state-owned, and managed natural resources, with national legislative controls originating from colonial or later periods. The third and fourth layers are for unified national land laws. Lindsay (2002:25–30) proposes the following design principles for strengthening the legal framework for land administration:

- Be realistic about laws ability to change deeply engrained behavior;
- Make sure that interventions to formalize land rights are tailored to people's needs, priorities and practices;
- Be realistic about what approvals, permissions, procedures etc. are critical to policy objectives, and try to eliminate the rest from the law;
- Be realistic about government's financial and institutional capacity to implement a law;
- Be realistic about people's ability to use the law;

Table 14 Historical Stages of the Evolution of Informal Housing in Peru

Period	Key Events	Consequences	Laws/Decrees
Early 1900s to late 1920s	Informal development of residential neighborhoods by the formal sector.	Negotiable basis of state laws established.	First urban development laws.
Late 1920s to late1950s	Period of gradual invasion by migrants.	Increasing state recognition of property rights acquired through gradual invasion.	
1945–60s	Courting of settlement residents by politicians.	Reduced evictions. Massive growth in the informal sector.	Civil Code, Civil Procedures Code.
1961–68	First legislative recognition of informal housing (limited to existing settlements).	Increasing incidence of invasion and increased expectation of gaining secure housing in cities.	Act 13517, February 1961.
1968–75	Attempt by revolutionary government to impose a standard model on informals as a condition for state assistance. Creation of a process to adjudicate state land (207 steps).	Demonstration of the political power of informals - invasion of Pamplona.	Decree Law 18898, Decree Law 19352.
1975–80	Process for informal settlements to become formal neighborhoods. Responsibility for settlements transferred to Municipalities.	Increasing growth of informal sector.	Decree Law 22612, 1979 new Constitution, 1979.
1980–83	Increased distribution of titles and recognition of informal organizations.	Strengthened organizational basis for invasions.	Council Ordinance 192
1985	Legislative recognition of illegal land sales as a means of acquiring property for housing.	Weakening of formal system and strengthening of informal system.	Act 24071, January 1985.
1988–94	New registry and simplified procedures based on informal rules. Pilot formalization projects in Lima.	Demonstration of viability of simplified formalization methodology. Growing political support.	Leg. Dec.495/496 1988, SD's 001/002-90-VC 1990, Leg. Dec. 667 1991.
1996	Creation of COFOPRI, transfer of responsibility for formalization from Municipalities to COFOPRI.	Raised expectation for titles.	Law 803, 1996

Table 14 (*Continued*)

Period	Key Events	Consequences	Laws/Decrees
1996–2004	Implementation of World Bank Urban Property Rights Project.	Issuance of 1.135 million titles in marginal urban areas.	
2000–2004	Unification of registration and transfer of responsibility for formalization to municipalities.	Increased risk of losing emphasis of prop-poor streamline procedures	Framework law of decentralization Municipalities organic law Settlement Formalizations law

Source: de Soto, H. 1989.

- Be aware that laws that seek to empower poor people, if taken seriously, may engender conflict;
- Build "reality checks" into the process of law-drafting.

There is a need to strengthen the judicial system in many developing countries. This is often a necessary prerequisite for a strengthened land administration system. In many developing countries, disputes over land are a major proportion of the cases in the court system. In 1995, it was estimated that 60 percent of the court cases in Vientiane, in Lao PDR, were related to land. Some countries have established administrative dispute resolution systems. In Vietnam, an administrative procedure for resolving disputes is set down by law.[41] District- and commune-level People's Committees have one day free per week when they can receive complaints from the community. The district and commune People's Committee chairpersons settle complaints or denunciations of their own activities or illegal actions, as well as those of people and agencies under their jurisdiction. The Fatherland Front and citizens are jointly responsible for supervising this process. Complainants have the option of taking unresolved disputes to higher levels of government. In Cambodia, where the courts have limited capacity and credibility, a Cadastral Commission was established to investigate, mediate, and arbitrate land disputes, and the World Bank-funded Land Management and Administration Project is supporting the strengthening of the mechanisms for dispute resolution (World Bank 2002a:37–38).

One strategy for dispute resolution in Africa, where the central state is generally weak and the traditional authorities too often lack transparency,[42] was to establish Land Boards. Tanzania introduced a new land policy in the mid-1990s, and a Land Act and Village Land Act in 1999, when conducting an institutional and legal review, mechanisms for settling land disputes were investigated. The possibility of creating an administrative or quasi-judicial mechanism in the executive arm of the state was considered by the Land Commission, but the idea was rejected, as it was deemed to be inefficient and illegitimate. A three-tier system (primary, magistrates, and the High Court)

was taken on board, it was further decided to provide for village mediation panels consisting of *'not less than five, and not more than seven persons,'* of which at least two had to be women. The jurisdiction of such panels was voluntary and decisions were not binding, which meant most disputes remained unresolved (Shivji 1998:102).

In LAC, many registration processes and decisions are undertaken by the judiciary, leading to delays and inefficiencies. In many countries, land disputes can only be settled in the courts. In Nicaragua, under the Land Administration Project (World Bank, 2002c), a National Directorate of Registries is being formed to oversee the modernization of the registries as an administrative arm of the Supreme Court. The project will also strengthen the agency responsible for mediating land disputes by developing low-cost alternate dispute resolution procedures.

5.2.2 Institutional Arrangements

'Whatever set of structures is chosen, attention should be paid to providing information, training and support to those at village level to ensure they know how powers are meant to be exercized and by whom. This should provide some guarantee that the potential benefits of decentralization and land administration stand a chance of being achieved.' (Toulmin 2000:244).

Consideration of the institutional arrangements for land administration touches on many other issues, including community participation, governance, sustainability, and making decisions in the field, all of which are discussed below. In reviewing institutional arrangements for land administration, a number of issues arise: (i) the organizational structure, roles, and responsibilities of the institutions providing the core land administration functions (registration, surveying, and mapping), (ii) decentralization of land administration agencies, (iii) linkages of the core land administration function to other land sector agencies and functions, and (iv) the role of the private sector. These issues are reviewed below.

Core Land Administration Functions. The core land administration functions are the registration of rights in land and the survey and mapping of the boundaries of the extent of these rights.[43] A key determinate in the efficiency of a land administration system is the institutional structure that supports these core functions. In many jurisdictions the registration function and the survey/mapping function, or the cadastre, is provided by two different organizations, often in different government department. This is common in much of Europe and in Latin America. It can lead to a range of difficulties, including additional effort for users of the system, inconsistencies in records, duplicated effort in records and record management and, in some developing jurisdictions, an inadequate spatial framework for registration. The differences in institutional responsibilities can also present difficulties where the two functions are decentralized to different levels. This is the case, for example, in the Philippines, where there are 162 registries of deeds, one in each province and city, all operating without spatial records. A central office in Manila, the Land Registration Authority, has some of the subdivision plans, and a decentralized

agency, the Land Management sector of the Department of Environment and Natural Resources (DENR) has many original survey and subdivision records at 171 community offices, the fourth level in DENR's deconcentrated structure.[44] Partially as a result of these complicated institutional arrangements, many survey and map records have been lost or destroyed, and there are many overlapping and duplicate titles in the registries of deeds.

One strategy put forward in many jurisdictions to address these problems is to adopt consistent standards for records management and data models. Another is to implement clear coordination guidelines supported by memoranda of agreement between the various institutions. While these work in theory, in practice the experience in the developing world is that duplication of effort and inconsistencies are best addressed by institutional reorganization that brings the core functions together in one organization.

Decentralization. Although many land administration systems in the developed world operate as centralized systems, many in the developing world operate as decentralized systems. This is certainly the case in Asia. There is a range of reasons, but arguably the major reasons are ease of access by users, particularly the public, to land administration services, and support for the information needs of local authorities. In the developed world, most direct users of land administration services are lawyers, surveyors, and staff in financial institutions. Systems have evolved to provide access for these intermediaries to an often centralized registry, initially through data brokers or lodgment clerks and remote electronic access to information and databases, and more recently through the ability to search registers and lodge documents and plans over the Internet. In the developing world, where decentralized land administration systems operate, they have often developed as isolated registry offices, usually operating with manual records systems, with each local office responsible for its own specific jurisdiction. While decentralized systems can provide efficient local registration services, they have potential disadvantages, including:

- The requirement to go to the local registration office to effect registration;
- Limited ability to integrate the registers into a national system to enforce limits on land holdings; support land reform programs, or collect taxes;
- Limited facility to provide other users, particularly other national and local government agencies, with copies of, or access to, land administration records;
- Possibility of inappropriate influences and lack of transparency; and
- Lack of institutional capacity at a decentralized level and lack of oversight.

Steps can and have been taken to address these disadvantages and some decentralized systems have evolved to provide some of the most efficient land registration services in the world. In Thailand, for example, the average time taken to register a transfer, including the preparation of the legal contract, is two and a half hours. However in other jurisdictions, including Indonesia, the Philippines, and much of Latin America, decentralized systems operate significantly less effectively.

Where centralized land administration systems operate, such as in most of Africa, the centralized system often provides very limited geographic cover, and decentralization is strategically used to extend services. As noted by Toulmin (2000:231) there are other drivers for the introduction of decentralized land administration systems, including:

- Significant cutbacks in national government budgets;
- Increased emphasis on good governance and democratization, particularly under strong pressure from donors; and
- Clarification of the respective roles of local authorities and customary authorities and in particular, the perceived need to provide some oversight and checks and balances on the powers of customary authorities.

There are a number of possible models for decentralizing land administration functions, including:

- A direct linkage of land administration services to regional and/or local court system;
- A direct linkage to local administration or local government (what Toulmin (2000:230) calls decentralization);
- Provision of land administration services through local representation, offices of a central agency or both (what Toulmin (2000:230) calls deconcentration);
- The establishment of new, autonomous, or semi-autonomous bodies such as Land Boards (see Quan 2000b and Toulmin 2000:240);
- The devolution of land administration services to customary authorities (see Toulmin and Quan 2000c).

Decentralization models of deconcentration, delegation, and devolution (World Bank 2004) have varying degrees of political, fiscal, and administrative features, and respective service accountability. The key administrative features of each model are shown in the table below, with examples of countries from Southeast Asia that have adopted these models.

There are complications or constraints in adopting any of the proposed decentralization models. A complication can be the divergence between decentralization policy, local authority, and what actually happens on the ground. In Indonesia, a model of local administration was implemented, based on the village administration that has traditionally operated on the island of Java. This system operates reasonably well on Java, but has limited success in the outer islands, where there are other models of traditional authority. In India, from about 1993, a system of local autonomy was introduced into the various Indian states (the Panchayati Raj). The Panchayati Raj was given some authority for raising revenue from land, but it has largely not been taken up. The traditional responsibility for land administration in India was at state level in the various Revenue Departments, and there is lack of clarity in the responsibilities of the Panchayati Raj and the local offices of the Revenue Departments on land matters. In Bolivia, various urban cadastres are being established as part of a policy of devolution ('Popular Participation')

but there is no coordination between them and other types of cadastres being implemented, such as an agrarian cadastre, a forest cadastre, and so on.

A further complication when considering decentralization is the difficulty of defining the actual boundaries of local or administrative areas. This becomes an issue when corner marks have to be placed, and a decision made on who approves them on behalf of the local authority. This often occurs in an environment where there is no agreement on local boundaries that can be

Table 15 Administration Features of World Bank Decentralization Models

Degree of Decentralization	Administrative Features	Southeast Asian Example
Deconcentration (minimal change)	• Provider staff working at local level are employees of center, and accountable to center, usually through their ministries, weak local capacity is compensated for by central employees. • Accountability remains distant: the short route of accountability may be weak if provider monitoring is weak, and citizens may have to rely on a weak. long route stretching to politicians at the center, a strong compact between policymakers and providers can compensate to some extent.	Thailand
Delegation (intermediate change)	• Providers could be employees of central or local government, but pay and employment conditions are typically set by center. • Local government has some authority over hiring and location of staff, but less likely to have authority over firing. • Both long and short routes of accountability are potentially stronger, greater local knowledge can allow better matching and monitoring of supply with local preferences, strengthening both the compact and client power.	Philippines, Laos
Devolution (substantial change)	• Providers are employees of local government. • Local government has full discretion over salary levels, staffing numbers, and allocation, and authority to hire and fire. • Standards and procedures for hiring and managing staff may still be established within an overarching civil service framework covering local governments generally. • Potentially strongest long and short routes of accountability, but now also more influenced by local social norms and vulnerable to local capacity constraints and politics.	Indonesia

Source: World Bank 2004:189, table modified.

plotted on medium-scale mapping. There are many reasons for the lack of clarity on administrative boundaries. In the Philippines, the revenue provided by central governments to local government units (LGU) is largely based on the geographical extent and population of the LGU, and the electoral roll is also based on population. There is substantial incentive for LGUs to extend their boundaries—and many attempt to do so. Also in the Philippines, IPRA makes provision for the formation of indigenous people's organizations (IPOs) and the delineation of ancestral domain. However, as noted by the Asian Development Bank (2002), there were many community-level disputes, which included suggestions that ethic identities and ancestral domains were 'imagined. The country case study for South Africa (Augustinus 2003b:5) notes that it has taken 15 years to reach agreement on the boundaries of chiefdoms in KwaZulu-Natal. These examples indicate that, when considering decentralizing land administration services, a careful assessment of how well boundaries are defined, and of what strategies could ensure that delays in defining administrative boundaries have minimal impact on the overall program, should be undertaken.

Another complication is the need to ensure that any plans for decentralization of services are financially sustainable. A classic example is the 1998 Land Act in Uganda, which created an array of Land Boards and oversight arrangements, which when costed with other measures proposed under the law, required an increase in government funding for the land sector from less than two percent of government revenue to approximately 33 percent (Augustinus 2003c:4). Clearly, this was not possible, and the requirements were reassessed. Another less dramatic example of the importance of carefully considering an appropriate model for decentralizing land administration services comes from Ghana. In the recent preparation for the proposed Land Administration Project, a request for a long list of survey equipment was submitted, costed in US dollars in the high seven figures, largely in units of 110, the number of districts in Ghana. This despite the Survey Department having no presence in many of the districts, in fact, little presence outside of Accra and Kumasi, and the fact that there was no clear model in Ghana for the respective roles and responsibilities of the central, local, and traditional authorities.

Having considered some of the complications, there is value in reviewing some examples: Thailand and Indonesia, for example, both of which are decentralized and include a comprehensive land administration function in one agency.[45] The Thai Department of Lands (DOL) has a very strong central office and an extensive network of regional offices, with the title register distributed among 76 provincial land offices and 272 branch provincial land offices. Lesser documents are maintained in 758 district land offices. There is a local reporting function to district heads and provincial governors, but the main line of reporting is from district to branch or province, and then to Bangkok (a deconcentration model). In many respects, the Land Titling Project centralized, rather than decentralized, functions, creating a large network of branch provincial land offices and generating about 8.5 million new titles by either field adjudication or transforming existing land records held at the district level. To support this network of land offices, there is a limited number

of office typologies, with standards for offices, staffing, and equipment, as well as clear criteria for establishing new branch provincial land offices based on the number of titles, projected levels of annual registered transactions, and the distance people have to travel. The Thai network was not built from scratch, but since 1901, when the Department was established, has gradually expanded from Bangkok to the rural cities and then into the rural areas, as the coverage of the title register has gradually expanded. Registration is very efficient, in part due to regulations that require registration on the day of application, and also because there are few, if any, prerequisites, such as compliance with planning regulations or payment of local taxes.

The land administration system in Indonesia is much less efficient than in Thailand. The National Land Agency (BPN) was only formed in 1988, when several different functions were brought together, and operates with a weaker central office than that in Thailand) and a network of 27 provincial offices and 273 municipality and regency offices. The main land registration function is undertaken at the municipality and regency level, while the provincial offices are largely restricted to oversight. BPN has nearly twice the staff of the Department of Lands in Thailand, but has a range of problems, including overstaffing, less well-educated staff, and lower morale. There is no clear typology of offices, equipment, and staff. The 1999 Decentralization Law is transferring increased responsibility to the municipalities/regencies, bypassing the provinces (moving from a deconcentration to a decentralization model).

Linkages to other Land Sector Functions. The linkage between the core land administration functions and other public agencies and requirements is a further challenge. One of the reasons for the efficiency of the Thai system is the lack of linkages to other systems and requirements. This is not the case in other jurisdictions. In the Philippines, there is a requirement to pay local and national taxes before registration; in Ghana proof of compliance with planning regulations is required prior to registration. These linkages should be carefully reviewed and one strategy might be to incorporate steps into the registration process. For example, the Department of Lands in Thailand collects a capital gains tax on behalf of the Revenue Department. In the developed world, concepts of multipurpose cadastres and spatial data infrastructure were developed (Williamson, Chan and Effenberg 1998:177). These efforts are relevant in the developing world to ensure there is an overall vision for developing the system and building future capacity. But there must be a clear understanding of project costs and benefits, and systems must be financially sustainable and user-friendly.

Private Sector. One last factor that needs to be considered is the role of the private sector. In most jurisdictions, land administration is purely a public sector role, but in many countries, a range of issues arise when using public sector resources to implement land administration projects. These include limited incentives and rewards, lack of skills, limited experience with new technology, and limited ability by government to adequately fund land administration services. One strategy to address these problems is to set up the registration system as a government trading enterprise. This strategy was

implemented in England, Hong Kong, and New South Wales in Australia, all of which operate off-budget. Another variant is to establish semi-autonomous agencies that operate under similar employment conditions to those of the private sector. This approach was implemented in Peru and Greece.

Another strategy to address the public-sector issues listed above is to involve the private sector in service delivery. In a limited number of jurisdictions, the private sector was formally brought in as a land administration service provider. In 1991, the Ontario provincial government reached agreement with Teranet, Inc. to undertake a major revamp of the land registry system. Under the agreement, Teranet was equally owned by the province of Ontario and a private company, Teramira Holdings Inc., with limits placed on individual shareholdings in Teramira. This arrangement seems to be working well. Teranet has since established a range of subsidiaries, offering land administration services internationally, and wider e-commerce services.[46] In the 1990s, New Zealand and the Australian state of Victoria attempted to enter into a partnership with the private sector to enhance their respective land administration systems. Both attempts failed, due largely to an inability to reach agreement on fee structures, revenue projections and the costs to be borne by the private partners. The Philippines is currently implementing a major upgrade of the land registration system under a Build-Own-Operate (BOO) agreement with a private sector consortium. This project, which commenced in late 2000 and early 2001, is seriously behind schedule and faces a number of difficulties, including the inability to agree on arrangements for government access to land records and an acceptable fee structure.

Another model for involving the private sector is to have the private sector provide a network of 'front offices' that can do either (or both) feed information back into—or access information from—a government-run central land-registration 'back office'. This was discussed in a number of jurisdictions, with options for the private sector partner to be an organization with an established network of offices, such as a private bank or utility company. Such an arrangement has many potential advantages, including: minimal public sector staff, most of whom would be specialists focused on the integrity of the registration system itself, fewer levels of checking and administration, and increased control over rent-seeking. We are not aware of any jurisdiction that has implemented this model.

Many jurisdictions have licensed private-sector surveyors because public-sector surveyors cannot service market demand. Surveyors can, however, represent a particularly strong vested interest, often pushing for high standards for survey and mapping, and often with limited policing of these standards. As the cost of survey and mapping can be a major element in any land administration system, this is a concern, particularly as most developing countries have great difficulty in supplying the human and other resources necessary to support an over-specified survey and mapping requirement. The survey lobby is particularly strong in a number of countries, including Malaysia, the Philippines, and Greece. In the Philippines, where the cost of survey is passed on to the public, participants in a recent social assessment

undertaken for the Land Administration and Management Project have expressed strong concerns about the cost.

Public notaries are also a powerful force in a number of countries, including much of southern Europe and former colonies such as Latin America and Indonesia. In Peru, for example, to overcome a range of problems, including high notarial charges and resistance to using simplified forms, legislation was introduced to broaden the categories of persons able to prepare and witness transactions.

In Greece, the system of deeds registration functions separately from the cadastre in regional and district offices, which are operated independently, on a private sector basis, by legally-qualified land registrars. A key strategy of the proposed EU- supported Hellenic Cadastre Project was the progressive transition of these deeds registry offices into Cadastral Offices with responsibility for all aspects of the newly established, parcel-based system of title registration.

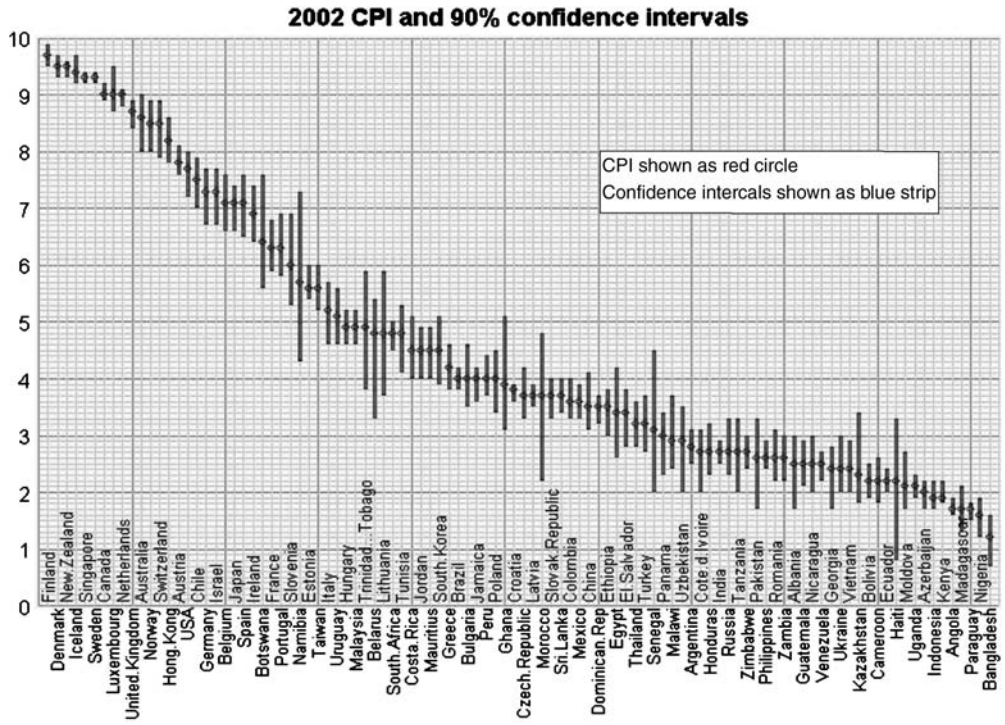
5.2.3 Corruption and Governance

'Senior politicians and public servants in cities all over the world manipulate or ignore the law and administration relating to land allocation and development so as to line their own pockets and those of their families, friends and political allies' (McAuslan 2002:27).

Land is a fundamental resource in all countries. Systems to administer rights in land, as McAuslan notes, can be subject to manipulation and corruption. A number of organizations prepare indices of perceived corruption, an example is set out in Figure 11. From the chart, there appears to be a high correlation between perceived levels of corruption and perceptions of efficiency in land administration systems.[47]

In many developing countries, the land sector is considered one of the most ill-disciplined. In 1999, it was reported that research into perceptions of corruption in Thailand found that the Department of Lands was perceived as the fourth most corrupt agency after the Customs Department, the Royal Thai Police, and the Revenue Department.[48] Thampi (2002:2), in reporting on public perception of corruption in seven public sectors[49] in five countries in South Asia, noted that land administration was perceived as the second sector most prone to corruption in Pakistan, and the third most prone to corruption in India, Bangladesh, and Sri Lanka. Surveyors and local officials (Tehsilders) were named as the major perpetrators of corruption in all countries except Sri Lanka, where respondents named deed writers as the major perpetrators of corruption. Lack of accountability and transparency were cited as the main reasons for corruption, although monopoly power was named as a major cause in Bangladesh and Sri Lanka (Thampi 2002:29). In 2002, Transparency International conducted a survey of companies in leading exporting countries. Asked to identify the business sector in which bribery is most likely to occur, respondents listed the "real estate/property" sector as the fourth of seventeen sectors where bribery was most likely (after "public works/construction,", "arms and defense," and "oil and gas") (Hodess et al., 2003:268).

Figure 11 The 2002 Transparency International Corruption Perceptions Index



Source: Internet Center for Corruption Research, a joint initiative of Goettingen University and Transparency International. Available at http://www.gwdg.de/~uwvw/2002graph.html.

The level of corruption and the scope of individual incidents vary greatly. In many countries, demands for facilitation fees are rife, and there is often some degree of cultural toleration. Isles (2002:18), in researching six recent recipients of titles in the Philippines, noted the comment by one participant that *'hardly anything moves in this country without lagay* [bribes],' and that there is some cultural basis for this. He did note, however, that for the usually infrequent users of the system *'. . . it is difficult to distinguish between what is illegal and what is just a part of "pakikisama," or maintaining good relations with others.'*

The types and incidents of corruption in many countries are significant with the political elite, and those with connections and an understanding of the system, using the land administration system to usurp the legal and customary rights of others, and create conflict and a climate of uncertainty.

There is a high level of perceived corruption in Indonesia, with estimates of the diversion of loan funds as high as US$13 billion (Harahap 1999:3). The land sector in Indonesia lacks transparency, particularly in Jakarta. Surveys indicate the primary causes in Indonesia are low civil servant salaries, lack of controls and accountability, and poor law enforcement (Partnership for Governance Reform in Indonesia 2002:35). It is suggested, however, that inadequate pay may be only one factor within an overall institutional environment that fosters corrupt behavior. This argument is supported by wider studies which show that the role of wages is ambiguous and the impact

of democracy and colonialism is unclear, but press freedom and the judiciary seem important elements in reducing corruption (Lambsdorff 1999:14). Harahap (1999:4) notes the following recommendations to address corruption in Indonesia:

- Establishment of a national Integrity Workshop as a forum for government and civil society;
- Establishment of a code of conduct for top officials;
- Declaration of wealth and income, including a provision for political leaders to place private interests in blind trusts;
- Focussed efforts to improve government programs in high-priority areas such as social safety nets; and
- Creation of new mechanisms for citizen oversight of government projects.

Various strategies were developed to address bureaucratic inertia and difficulties via staff reward and incentive systems. In Thailand, the department was able to substantiate generous budgets based on firm output targets. Initially, allowances for field staff were very attractive, perhaps too much so, as they impacted other activities in the department. Although these benefits were eroded over time, reward systems for field staff have never been a real issue in Thailand. In Indonesia, where the allowances were more rigid, a system linking staff allowances, budgeted on a daily basis to titling output, was implemented. This system provided sufficient incentives for field staff. In other countries, more radical approaches are required. In Peru and Greece semi-autonomous agencies were created outside the formal civil service, and although formally attached to Ministries, operated under more private sector conditions. This worked well in Peru, but was less successful in Greece, where the design was very weak and the agency had limited autonomy. This is a risky approach because it usually relies on having a senior political champion, so the whole agency and project are exposed if the champion loses power. Another strategy is to outsource or subcontract some or all of the activities to the private sector. This approach was adopted in Laos, Indonesia, and in the Philippines, although in Laos, where private contractors were hired to work with government officials, problems with the relative salaries of the contractors and the officials arose. In some countries, the only alternative is to seek some mechanism to improve staff conditions. In Latin America and ECA, several countries have contracted out large, systematic registration activity. In Cambodia, where government salaries are very low (US$15–20/month) and there is a well-established tradition of paying allowances of US$5–10/day to project staff, key staff working on the project must receive an appropriate reward. During loan negotiations in Cambodia, it was agreed that the government would fund a higher allowance for 70 staff during project implementation.

Another strategy to improve the transparency of land administration is to build in community oversight. In the Philippines, local advisory groups were formed to oversee prototype activity, with representation of local government, other agencies, and civil society. NGOs have also been engaged in a number of countries to undertake project activity such as social assessment,

community consultation, and public awareness campaigns. In Peru, the Institute for Liberty and Democracy, an NGO headed by Hernando de Soto, was responsible for the basic reform[50] that evolved into the World Bank-funded urban project.

5.3 Focus on Sustainability

When designing land administration interventions, it is imperative to ensure the system is sustainable. Sustainability has at least four dimensions. First, it must be technically sustainable, an issue that is particularly important in Africa. Second, it must be financially sustainable. Based on experience, systems that cannot fund their activities are at risk of future funding cuts, donor fatigue, or both.[51] Third, it must be sustainable from a community perspective and must gain and maintain public confidence. Both separate from and connected to these dimensions is capacity building, which is discussed as a fourth dimension, although it is considered integral to all activities for a sustainable land administration system, not an add-on (Enemark and Williamson 2004).

5.3.1 Technical Sustainability

'*The adjudication, sophisticated recording systems, precise boundary delineation, and the mapping requirements of land registration or titling are quite costly in the use of legal, technical, and managerial skills. These skills tend to be needed in a number of other high priority areas in many African countries*' (Atwood 1990:666).

Technical Tools. Technology is a useful tool for improving land administration systems, but there are many situations where technology has been pushed on the basis of capability rather than need. This has put projects at risk. One example is proposals in the mid-1980s to digitize and integrate digital topographic data for the whole country, in a GIS intended to computerize leases in Papua New Guinea. This was despite the fact that the PNG government had great difficulty in maintaining records for the leases themselves, which only covered the 3 percent of the country that had been alienated from customary tenure. Another example is proposals in the mid-1990s to establish a 1-millimeter-accurate cadastral GIS over the whole of Peru. This was despite the fact that the network of public registries was full of registered documents setting out legal rights over often very poorly described parcels of land, and the fact that the primary geodetic network in the country would have had trouble supporting a 1-meter GIS of the whole country. There are also many examples of technology gathering dust because an agency lacks the budget for materials and maintenance.

Technology has many applications in strengthening land administration. These applications include: digitization of alphanumeric data, data validation and verification, and generation of cross-indices, capture of spatial data and generation of mapping, linkage of alphanumeric and spatial data and building of spatial data infrastructures, computerization of valuation and tax rolls and development of computer-assisted mass-appraisal techniques. It is not possible to cover all these topics in this paper. Suffice to say that information and communication technology decisions require significant attention, and

should be seen as means to an end, not as ends in themselves. In the developing world, computerization of land records is often seen as a strategy in its own right that can make a quantum improvement, independent of process re-engineering—or more fundamentally, a shift in focus from processes to service delivery. Two recent examples of projects with a prime focus on computerization—that largely failed to deliver—are the Land Office Computerization Project in Indonesia and the Land Titling Computerization Project in the Philippines.

Developing an ICT strategy that is aligned with a long-term vision for the land administration system as a whole is seen as a more efficient and effective way of doing business (Todorvoski 2006). Todorvoski (2006) suggests that "as soon as Cadastral and Land Registration organizations recognize ICT as a discipline properly aligned with their businesses, they improve their business, business performance, quality of output and all this with return of investments in ICT." This ICT–business strategy for cadastral and land registration recording would greatly support the expansion of a land administration system's spatial-ICT based services, particularly in the area of land markets and valuation. However, conceptualizing is often easier than operationalizing these strategies, particularly where capacity and resources are low and institutional arrangements are weak.

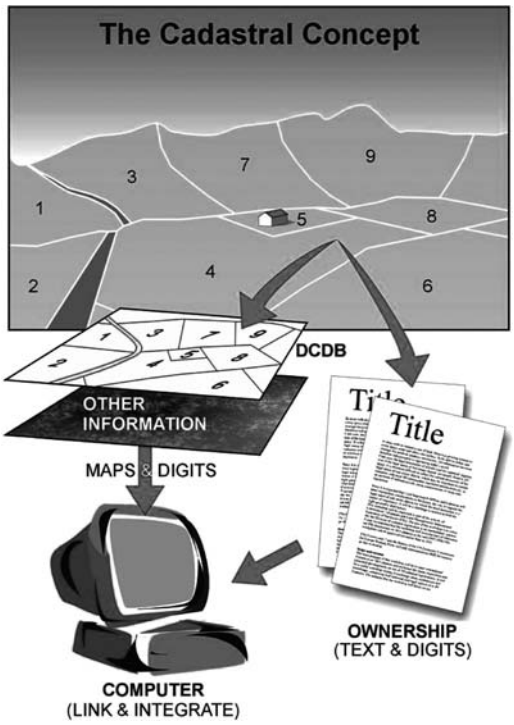
The capture and maintenance of spatial data is a major, high-cost component of most projects to strengthen land administration systems in developing countries. The following discussion focuses on this important aspect of technology.

Cadastral Concept. Efficient systems to officially record rights in land comprise two basic sets of information:

- Registers comprised largely of textual or alphanumeric data that record rights in land, and
- Maps or a spatial framework that define the boundaries and extent of land parcels over which these rights apply.

These two basic sets of information constitute the concept of the cadastre, which is illustrated in Figure 12. Under the cadastral concept there is a close, explicit linkage between the textual and spatial data. With this link in place, various search and access mechanisms can be developed to search information on rights in land. These searches can be from keys in the alphanumeric data or from queries in the spatial framework and reports can be produced in either or both domains. The spatial framework can also be a useful tool in validating the textual data, identifying, for example, parcels where numerical data is not available. An essential prerequisite for an efficient cadastral system is therefore ensuring that the two datasets are maintained and up-to-date. No set of rights should exist without a spatial parcel to assign them to, and all spatial parcels should be linked to a set of rights.[52] This is a simple concept, but can be very difficult to implement in practice. In many countries, there is a weak or nonexistent spatial framework and this is a major cause of uncertainty in rights in land.

Figure 12 Cadastral Concept



Source: Williamson 2002.

It is important to consider the social context of land boundaries in assessing the technical requirements for surveying and mapping. Where there is a simple, community-accepted system of defining boundaries, or where there is a low social cost in getting agreement on boundaries, there is reduced justification for accurate, but costly surveys, and comprehensive mapping systems. This is the situation in Thailand, where the prime emphasis in re-establishing boundaries is agreement by the parties rather than re-instatement from information recorded in the land records. Most surveys in Thailand are undertaken to lower accuracy but lower cost graphical standards. In other countries, such as Tunisia, there is a higher social cost in reaching agreement on boundaries. When agreement is reached on boundaries in Tunisia, accurate and costly surveys are undertaken and the coordinates determined from these surveys are used to re-instate boundaries.[53] In England, a general boundary system operates with strong community acceptance. The general boundaries are charted on large-scale topographic maps produced by a national authority, Ordnance Survey. Registry maps and file plans are produced from these maps. Land owners have the option to request accurate surveys to fix their boundaries, but few such requests are made.

The cadastral map record is a prime layer in supporting the development of national Spatial Data Infrastructure (Ting and Williamson 2000). In many countries, cadastral maps compiled to graphical standards that support the index aspect discussed below provide the foundation for SDI. Many users in

these countries express a need for higher accuracy. These users include utility authorities that want to chart their assets on the cadastral spatial framework, and typically express the need for 'spade-width' accuracy, something that approaches survey-accuracy in the cadastral framework. Few, if any, developed countries have been able to implement such a system, even with significant recent improvements in technology and a range of innovative approaches to phase the introduction of improved accuracy.

There are two broad aspects to the spatial framework that might support a land registration system. The first is a topological, or indexing, aspect that supports a range of applications, including:

- Identification of land parcels recorded in the register, including support for the subdivision or consolidation of land parcels;
- Identification of parties with an interest in a particular land parcel for a range of purposes, including the identification of adjoining owners for service of notice;
- Validation and verification of registered land, including the identification of duplicate or missing records and the identification of possible problems with overlapping parcels; and
- A spatial framework for data queries and access to the data in the register.

The second is a metric, or calculation, aspect that supports a second set of applications, including:

- Accurate re-instatement of parcel boundaries,
- Strong evidence to support the resolution of disputes over boundaries;
- Calculation of accurate parcel areas, offsets, and so on; and
- Accurate determination of updated parcel dimensions where land parcels are sub-divided or consolidated.

Many systems restrict the spatial framework to the first aspect. A term used in many jurisdictions is 'graphical cadastre,' meaning a cadastre compiled to cartographic or map standards rather than to survey measurement standards. Another term used is cadastral index maps. In England the cadastre is a graphical cadastre prepared on the basis of large-scale topographic maps. In other countries, there are accurate individual survey plans that record the information that supports the second aspect. This information can be used to compile a series of cadastral index maps that support the topological or indexing requirement of the first aspect. This is the situation in Australia and Thailand. There is a significant increase in the cost of implementing and maintaining a system that accurately defines parcel boundaries, so these systems are typically more expensive to establish and operate. In the case of Thailand there are two standards of cadastral surveys, first class surveys using electronic total-stations or GPS equipment and second class surveys using either square offsets from local control traverses or photo-identification on photomaps. Most surveys are second class surveys and this significantly reduces the cost of establishing the spatial framework. In other countries, the registry maps themselves define parcel boundaries, and go some way toward addressing the second aspect (although most still record more accurate survey

information for at least some properties on the register). This is the situation in much of continental Europe.

Costing Technology. Cost is an important consideration in looking at technology options. In reviewing international experience in strengthening land administration systems, Dale and McLaughlin (1999:46) provide the following indicative breakdown in costs where technical options can comprise a large percentage:[54]

- Institutional strengthening: 10–15 percent
- Mapping: 20–5 percent
- Adjudication and surveying: 30–50 percent
- Registration: 20–5 percent

The data from the case studies provides some information on the cost of various technology options. Table 16 sets out the unit cost breakdown for systematic registration in the countries studied. Overall, the unit costs range from about $10 to $55 per parcel, although there are some inconsistencies.[55]

Pre-field costs—mainly the cost of geodetic control and base mapping—can be significant, as indicated in the cases of Moldova, Thailand, El Salvador, and the rural project in Peru. The unit cost for pre-field activity in Thailand, mainly geodetic control, aerial photography, and photo-mapping, is relatively small, due to the large number of titles projected in the third phase of the project (over 4.77 million). In the earlier phases of the project, where the titling output was lower, the unit cost of pre-field activity was higher ($9.73 in Phase II with an output of 2.1 million titles, $14.86 in Phase I with an output of 1.6 million titles). Where a project involves significant expenditure on geodetic control and mapping, there is the risk that unit costs will blow out significantly if the planned number of titles is not produced. This happened with the Northeast Region Land Tenure Improvement Project in Brazil, which incurred significant expenditure on mapping, yet due to institutional and policy difficulties, was unable to issue the number of titles planned. This project was cancelled.

The unit cost in the field of boundary identification and surveying was a significant cost element in most projects (notably, Armenia, Kyrgyzstan, Moldova, El Salvador, and the rural project in Peru). In Armenia, significant savings for the survey activity were realized by contracting the activity to the private sector. Many countries seek to improve land administration by large-scale re-survey activity. Dale and McLaughlin (1999:53) quote the example of Poland, where after the move from socialism in the early 1990s, various interests pushed for a re-survey of cadastral boundaries to new standards of accuracy using new technology. This effort was costed at US$1 billion and did not proceed. This approach is also evident in various states in India. In 2004, it was noted that the Survey and Settlement Department in Karnataka was pushing for a full re-survey of the state using new technology, even though the legal basis of the new surveys was unclear, and despite the fact that several pilot projects had failed to develop efficient, cost-effective methodology. This effort was conservatively costed at US$200 million and did not proceed (Land Equity International 2004:18).

Table 16 Breakdown of Systematic Registration Costs from Case Studies (US$/parcel)										
		Armenia	Kyrgyzstan	Moldova	Indonesia	Thailand	El Salvador	Perú (urban)	Perú (rural)	Trinidad & Tobago
	Pre-Field					**4.89**				
1	Geodetic Network	-	-	5.66			-	0.39		
2	Cartography	0.20	-	7.08			7.05	0.24	11.26	
3	Compilation of existing records	0.02	0.03	1.53			1.30			31.00
4	Publicity Campaign	0.02	0.31	0.55			1.94	0.42		
5	Acquisition of Government equipment	0.68	0.91	-			1.50			6.00
	Field					**19.32**				
6	Collection of claimant information	1.00	0.30	3.77				0.23	3.62	341.00
7	Boundary investigation, survey, marking	4.57	2.09	7.64			9.67	1.61	10.50	215.00
8	Conflict Mediation	-	-	-			0.06	0.08		
	Post-Field									
9	Quality control	0.12	0.14	0.94				0.05	10.00	130.00
10	Legal validation	1.00	0.15						0.56	57.00
11	Public display of field results	0.02	-					0.02		
12	Conflict Resolution	-	-							
13	Prepare land record	1.00	0.04	2.92			2.89		1.40	238.00

14	Prepare cadastral maps/plans	0.82	0.04	1.98			1.44	2.37	1.68	13.00
15	Cadastral/Registry database design	0.50	1.06	3.77						
16	Data entry	0.10	0.03	0.19						
17	Register property rights in registry	0.05	0.14	7.55					5.44	
18	Issuance of titles to beneficiaries	-	0.01	0.94					1.95	2.00
19	Administration/management	3.25	5.30	1.89			3.89	7.27	9.28	31.00
20	**Total per parcel cost**	**13.35**	**10.55**	**46.41**	**16.30**	**24.21**	**29.74**	**12.68**	**55.69**	**#######**
21	**Amount paid by beneficiaries**	**-**	**-**	**-**	**-**	**2.55**	**-**	**-**	**-**	**255.00**
	Total Cost	**13.35**	**10.55**	**46.41**	**16.30**	**21.66**	**29.74**	**12.68**	**55.69**	**809.00**

Source: Authors.

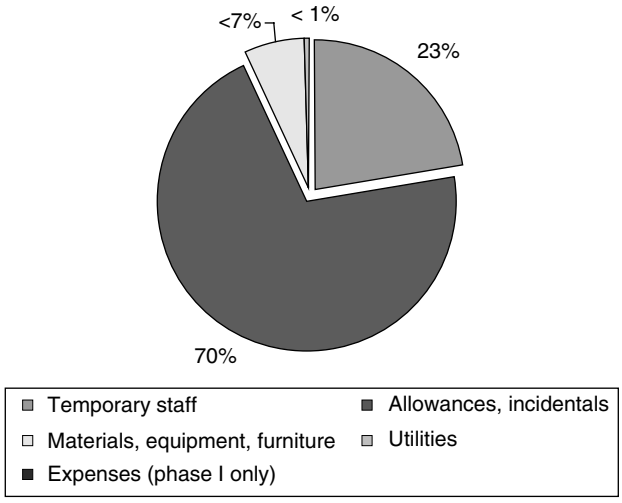
Note: This table has been prepared setting out the unit cost breakdown of systematic registration from the case studies. Latvia and Trinidad and Tobago have been excluded, as the title issuance in these countries has been undertaken on a sporadic basis, with substantial costs borne by the beneficiaries. In the case of Latvia, the process involves restitution of property nationalized under socialism. Information is not available from the case studies to provide a detailed breakdown for Indonesia or Thailand. The figures for Thailand are for Phase III of the project; the actual field costs of US $13.45 have been inflated by US $5.87—an estimate of the cost of the salaries of government officials. The figures quoted for Moldova are for the titling activity which was funded by the World Bank as part of the First Cadastre Project. The overall unit cost of the titling activity funded by a range of donors in Moldova is US$9.90, substantially less than that the unit cost of the activity under the World Bank, for which detailed activity costing is provided in this table.

Appropriate Technology. No project in the developing world has been able to implement and sustain high-accuracy surveys over extensive areas of their jurisdiction. Those countries that have been successful in registering significant numbers of titles have tended to concentrate on relatively simple, low-cost survey methods and have produced graphical standard cadastral index maps. This was the approach in the urban project in Peru. In Thailand, most land parcels were surveyed graphically as square offsets off break-down control traverses or photo-identified on rectified aerial photographs. A significant number of titles in Thailand were also produced by the office conversion of certificates of utilization that were adjudicated in a major program starting in the mid-1970s. The low-technology–low-cost approach in Thailand is reflected in the breakdown of cost components for the systematic registration activity for Phases I and II in Thailand (see Figure 13). Over 70 percent of the field costs that resulted in registered titles were spent on staff allowances and incidentals. A further 23 percent was spent on temporary staff salaries. Only 7 percent was spent on materials, equipment and furniture.

There are trade-offs in the various technical options available for cadastral surveying. Figure 14 maps four key technical options against the criteria of accuracy, simplicity, cost, efficiency, utility, and flexibility. The two map options (ortho-photos and maps) provide a base for cadastral maps. Cadastral maps can be produced from field survey diagrams by connecting to control points. It is more difficult to use sketch maps to produce cadastral maps. Sketch maps are very simple and low-cost, and are therefore used as the spatial reference in many developing countries. These maps, however, suffer from low accuracy and limited use beyond their immediate application.

An important factor in deciding on appropriate survey technology is the relationship between equipment cost and positional accuracy. Figure 15

Figure 13 Thailand Land Titling Project Ground Survey/Conversion Cost Components



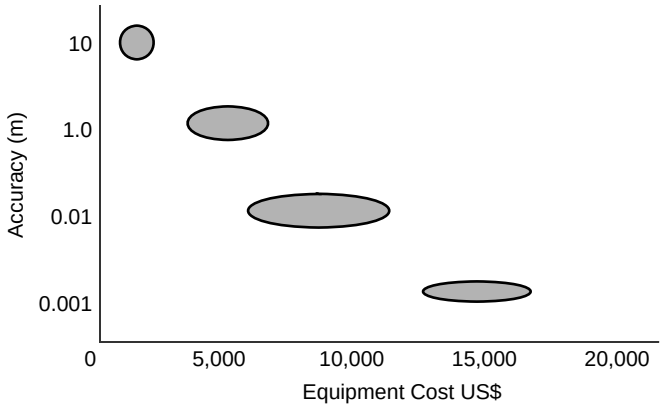
Source: Phase I and Phase II from Burns 1995.

Figure 14 Options for Cadastral Surveying

	OPTIONS			
	Sketch map	Ortho photo	Map from photo	Field survey diagram
CRITERIA				
Accuracy	**L**	**H**	**H**	**H**
Simplicity	**H**	**L**	**L**	**L**
Cost	**L**	**H**	**H**	**H**
Efficiency	**H**	**L**	**L**	**L**
Utility	**L**	**H**	**M–L**	**L**
Flexibility	**H**	**M**	**L**	**L**

Source: Dale and McLaughlin 1988:110.

Figure 15 Equipment Cost/Accuracy Matrix



Source: Dale and McLaughlin 1999:55.

illustrates the relations in 1999 (from Dale and McLaughlin 1999:55). With improvements in technology, the relationship is changing. For example, it is now possible to consider 1-meter positional accuracy with equipment costing about $1,000. Developments with other mapping technology, such as high-resolution satellite imaging systems and digital processing work-stations, increase the range of technical options.

Cost / Benefits. There is limited information available on the cost/benefits of various technical options in a developing country. Alemu (2006) has recently published an investigation of 8 technical options for a rural village of 154 land parcels, covering 120 hectares, about 35 kilometres outside Addis Ababa in Ethiopia. The technical options tested were:

- Hand-held GPS equipment to coordinate corner marks to define the parcel location and area;

- Traditional rope survey technique used at local government (Woreda) level in Ethiopia to measure parcel areas for registration;
- A combination of the traditional rope technique to determine parcel areas and hand-held GPS units to measure parcel centroids;
- A tape-and-compass technique to produce sketch maps and determine parcel areas;
- A combination of tape-and-compass surveys to determine parcel areas and hand-held GPS to map parcel centroids and corners;
- Surveys with electronic total stations to measure parcels corners and determine parcel areas; and
- Ortho-projected IKONAS high-resolution satellite imagery to photo-identify parcel corners and determine parcel areas.

A key constraint of the study was that the surveys were undertaken by staff at the local government (Woreda) level who had limited training in surveying. The economic life of the various items of equipment was estimated and the depreciated daily cost of the equipment was included in the cost analysis of the study, as were estimates for the salary costs of staff and other direct costs of the various methods. The results of the study are summarized in Table 17 and Table 18.

The use of hand-held GPS equipment is relatively cheap and quick, however, significant capacity building was required for this equipment to be used by Woreda staff. The use of tape and compass was the most expensive option, due to increased time in undertaking the surveys. The use of total stations was moderately expensive, largely due to the cost of equipment, and required significant capacity building. The use of high-resolution satellite imagery was very expensive, largely due to the cost of the ortho-projected imagery (equivalent to $12.11/parcel). If the imagery cost could be offset against other users, this had a significant impact on the cost of this option. The traditional rope survey method is clearly cheaper and requires no capacity building. This

Table 17 Summary of Cost and Time Estimates in Ethiopia

Methodology	Cost (US$)		Survey time/speed (hours:minutes)	
	/parcel	/ha	/parcel	/ha
Hand-held GPS	4.98	9.27	00:19	00:34
Rope only	0.81	1.50	00:15	00:28
Rope and hand-held GPS	0.97	1.81	00:17	00:30
Tape and Compass	18.18	33.66	01:34	02:53
Tape and Compass and hand-held GPS	18.29	33.80	01:36	03:00
Total Stations	7.27	13.54	00:23	00:44
IKONAS satellite imagery	14.23	26.52	00:17	00:31

Source: Alemu 2006.

Table 18 Summary of Performance Assessment in Ethiopia

Methodology	Cost	Speed	Appropriateness	Flexibility
Hand-held GPS	L	F	Massive CB	Very flex.
Rope only	L	F	No CB	Very flex.
Rope and hand-held GPS	L	F	Massive CB	Very flex.
Tape and Compass	H	S	Mod CB	Very flex.
Tape and Compass and hand-held GPS	H	S	Massive CB	Very flex.
Total Stations	M	M	Massive CB	Inflexible
IKONAS satellite imagery	H	F	Massive CB	Mod. Flex.

Key: L = low, H = high, M, Mod. = moderate, F = fast, S = slow, CB = capacity building
Source: Alemu 2006.

process however will not result in any cadastral maps and will provide limited information to settle any future disputes over boundaries. There is a clear difference in accuracy among the seven methods, with rope the least accurate and total stations being the most accurate (assuming that the equipment is used and the surveys undertaken to generally accepted standards). The analysis of the relative accuracy for the survey pilot in Ethiopia is not available, but all techniques except the rope surveys will result in a graphical cadastre and support the topological requirements of a spatial framework (see page 92).

Decisions on technology made in land titling can have a major impact on the successful integration of the records into the land administration system and its long-term sustainability. Other factors in the overall success of projects have been the review of existing manual procedures, such as simplifying a dealings form, and the streamlining of administrative procedures. Experience also shows that investment in technology will also require significant effort in training, and may require support for the education sector (Toulmin et al. 2005). The following factors should be in place:

- The agency concerned has the ability to fund ongoing materials requirements and maintenance of the technology, can fund outsourcing to the private sector, or both;
- There are adequate resources in the public and private sectors to supply the engineers and technicians necessary to support the technology, or there is a viable, funded plan to ensure that resources are available;
- The agency can recruit and keep the necessary staff to use the technology or alternative strategies are in place, such as outsourcing work to the private sector, and there is a backup strategy if the technology fails.

In summary, the following factors should be considered in selecting a cadastral survey approach:

- The social context and legal framework for defining parcel boundaries;
- Whether boundaries are fixed, which tends to favor ground survey, or general, which tends to favor mapping from aerial or satellite imagery;

- The land titling strategy, with mapping tending to be more cost-effective with mass, systematic land titling and ground survey tending to be more cost-effective with sporadic, or geographically dispersed, activity;
- The land use and land cover. Aerial photography can be very useful in some types of terrain, such as paddy fields and agricultural pastures, but less suitable in other types of terrain, such as some plantations, forests, and mountainous terrain;
- The availability of technology;
- The ability of the government, users, or both to fund the initial purchase and ongoing operational cost of using the technology; and
- The human capacity in the country to support the initial use and continued operations of the technology.

5.3.2 Financial Sustainability

'While the initial creation or re-engineering of land administration systems may require subsidies, there is in many jurisdictions increasing pressure to fund some or most of the ongoing operations through services sold to the public. This is the case in both developed and developing jurisdictions.' (Dale and McLaughlin 1999:140)

As demonstrated in the quantitative tables in Appendix 4, Table 37 and Table 38, a land administration system can generate significantly more revenue for government than the costs required to fund the various land-sector agencies. But this is not the case in all countries. In much of Africa, governments are reliant on donor support for the ongoing operation of land administration. Several countries have undertaken studies of the financial sustainability of their land administration systems (for example, the Philippines and Peru). These studies typically involve investigation of a number of factors, including:

- Appropriate fee and tax structures,[56] including the balance of transaction-based and annual fees and taxes;
- The effectiveness of collecting fees and taxes;
- Fiscal policy concerning the raising of revenue at the various levels of government;
- Alternatives for land administration service delivery and the costing of these alternatives, looking at options such as decentralization, which facilitates access and participation, but increases costs; and
- Budgetary support for land administration at the various levels of government, and the availability of funds from government and donors to support the initial development of the land administration system.

In reviewing the financial sustainability of a land administration system, not all services in a system may be sustainable, and there will usually be geographic variation in the ratio of revenue to expenditure. It has been suggested there is usually a cross subsidization from the urban sector, where property is usually higher in value and there is more market activity, to the rural sector. However it is very hard to get figures to substantiate this. Table 19 attempts to set out the situation in Thailand, noting the impossibility of getting a definitive

Table 19 Land Office Revenue/Allocated Budget in Thailand (year ending 30/09/01)

	'Urban'	'Rural'	Total
Revenue (US$m)	219.404	130.280	349.684
Allocated Budget (US$m)	16.358	21.377	37.735
Ratio revenue/expenditure	13.4	6.1	9.3

Source: Director of the Land Titling Project Office.
Note: Converted into US$ at the average rate for the year ending September 2001 of 44.2805, as published by the Bank of Thailand.

breakdown of the total urban figures.[57] Based on these figures, the 'return on investment' in Thailand for the expenditure allocated for maintaining land offices in urban areas is at least twice that of the return in rural areas.

When comparing revenues from land administration in the developing world (Table 37 and Table 38) with those in some of the developed world (Table 39), one notes that some developing countries have collected significantly higher revenue from land administration than the cost of supplying the service (Karnataka and Thailand). The trend in the developed countries is to break even or aim for cost recovery, as proposed by Statement 6 of Cadastre 2014 (Kauffman and Steudler 1998). This largely reflects the greater revenue-raising options and effectiveness of tax collection in developed countries, and the general policy in the developed world of setting fees for service to recover costs. As the private sector gains importance, the inflexibility of the public sector requires better strategies for cooperating and integrating services and functions. Creating a business environment within public sector operations would aim to improve efficiency through better planning, management, and operational standardization.

5.3.3 Participatory Sustainability

'All the photographs and computer inventories in the world cannot tell anyone what local rules enforce rights or what networks of relationships sustain them.' (de Soto 2000:202).

While concentrating on the development and implementation of efficient, streamlined procedures, a major challenge for land administration projects is to communicate to beneficiaries the benefits of maintaining up-to-date records in order to ensure that the improved system is sustainable. In major projects to formalize rights, participatory sustainability is a twofold process, requiring initial awareness education and a subsequent shift in attitudes towards a culture of registration. Systematic registration programs will generate an initial register of rights in land, but unless the system captures the subsequent dealings in these rights, the register quickly becomes out-of-date, and takes on the characteristics of the Doomsday Book[58]—little more than an historical record or census.

Initially in these projects, it is necessary to ensure the personal benefits for participation in the formal system outweigh the costs. The benefits have been

identified in a number of studies, in addition to improved tenure security, they include the benefits flowing from:

- Increased property values (Jimenez 1984, Alston et al. 1996, and Landjouw and Levy 2002);
- Increased agricultural investment (Besley 1995, Jacoby et al. 2002, Brasselle et al. 2002, and Do and Lyer 2002);
- Increased household investment (Galiani 2005);
- Enhanced employment opportunities (Field 2003);
- Increased access to credit (Place and Migot-Adholla 1996, Carter and Olinto 2002, Field and Torero 2003); and
- Increased education opportunities (Field 2003, Galiani 2005).

Feder's (1988) benefit-to-cost studies in Thailand revealed that providing secure ownership for agricultural land produced an extremely high social rate of return under the assumption of risk aversion. Recent Argentinean and Peruvian studies in the urban sector continue to strengthen initial predictions of the benefits (Galiani 2005).

The privileges of title are not without their costs. After initial title adjudication, which is often heavily subsidized under large-scale titling projects, subsequent registration typically incurs fees. Registration can also provide the basic information for improved land-tax rolls. Registering changes to the title guarantees tenure security and ensures subsequent market activities remain within the formal market, thereby protecting the value of the title. Experience shows that transaction costs exceeding 5 percent deter people from registering property transactions or providing under-declared property values (Burns 2006). Maharashtra and Karnataka experienced greater than 20 percent increases in participation of registration after reducing transaction costs to 5 percent and 8 percent respectively (World Bank et al. 2006a and Land Equity International 2004). In Karnataka, this equated to a total revenue increase from stamp duty and fees of more than 20 percent compared with previous years (Land Equity International 2004).

However, as de Soto (2000:155) notes *'. . . operating in the underground is hardly cost-free . . .'* Convincing people to formalize their rights, and to keep their rights in the formal system is not a question of convincing them to move from a costless informal system. Despite some very inefficient systems, there is evidence that individuals will put up with a lot to obtain formal recognition of their rights. A survey of six individuals who had sought to register transfer of title in a registry in Metro Manila was recently undertaken. The shortest time required to obtain title was two weeks, three managed to get a title in four to eight weeks. Another took over 74 weeks and the sixth person required over 115 weeks. The official estimate for the time required for the process is five days. 'Facilitation fees' were asked in all cases, and paid in at least four of the cases. One applicant in desperation wrote to the President and two months later was surprised to be advised by telegram that her title was ready to be collected.

There is a range of reasons why people may not be inclined to register subsequent dealings, including:

- Perception of high fees and charges;
- Confidence that informal rights are secure. For example, there is no need to register an inheritance, or there are competing customary or informal systems for enforcing rights;
- Difficulty in gaining access to the register;
- Perception of complex rules and procedures; and
- Lack of awareness of laws, rules and procedures.

There are a number of strategies that can be and were developed to address these reasons, including:

- Review of fees and charges;
- Reduced fees for registration of inheritance;
- Decentralization of registers or registration lodgment points;
- Simplification of laws, rules, and procedures, both in the register itself and in prerequisites for registration; and
- Public awareness campaigns.

Public and institutional awareness campaigns should be aimed at educating potential title holders and key institutional agencies, such as the financing sector. Public support and understanding are essential during initial title adjudication and registration. To be successful and sustainable, a land administration system also needs to foster a 'registration culture'—a culture where registration is undertaken as a matter of course, something that is taken for granted in the developed world. Education must involve information about benefits and obligations for registering subsequent title transactions and changes in title, and the risks associated with unregistered interests. Experience in Peru demonstrated that different methods of communication and interaction with the formalized population were required, as it requires changing attitudes and practices related to property registration (World Bank 2006), not just information dissemination.

A range of tools and techniques was developed to foster participation, including: posters and leaflets, mass media campaigns (radio, television), mobile displays and announcements, public meetings, web sites, and so on. Temporary field offices in project areas are also a good means of developing close contact between the community and field staff at times suitable to the community—generally not during working hours. Often a range of meetings is required, initially with key local leaders, then village meetings and at times special meetings. For example, separate meetings were arranged with women in Indonesia. Publication of notice for systematic registration in official gazettes or newspapers is also required in many countries, often with limited impact, and sometimes there is a requirement for public display of notice. In Thailand, public notice is required in the Provincial Office, district office, village office, and in some cases, on the land itself.

5.3.4 Capacity Building for Sustainability

'There is no point in introducing a system of title registration, for example, where the capacity continuously to update the registers does not exist.' (Feder and Noronha 1987:164)

Capacity building within the government sector is critical to sustainability, as often land administration projects are designed where major resource and capacity voids exist. Capacity building can be directed at societal, organizational, and individual levels (Enemark and Williamson 2004). Capacity building at the societal levels was dealt with in the initial sections of this publication that looked at issues and principles of policy and legal frameworks, tenure and administration systems.

Capacity building at the organizational level looks more closely at enabling good governance, institutional strengthening, consideration of spatial data infrastructure principles, and development of a professional body (Enemark and Williamson 2004). Sustainability of these elements typically requires a strong mandate, commitment, and good management from the lead agency. Organizational-level efforts will generally return better results where transparent and reciprocal relationships exist between the concerned agencies. Deficiencies in areas such as customer relations and surveying were identified early during the Lao Land Titling Project design. As a result, formal links were developed with the Lao Women's Union and National Geographic Department, respectively, to meet demands and provide ongoing services within the project (Virachit and Lunnay 2005). Forging links between development partners for networking and implementation contributes significantly to organizational-level capacity building, yet this should not be confined to the government sector. The strengths of involving the private sector also need to be realized, and supported by capacity-building programs. The political and bureaucratic environment will largely affect capacity building at these two higher levels, whereas individual level capacity building can be more directly applied as discussed below.

Enemark and Williamson (2004) use three indicators to assess capacity building at the individual level: professional and technical competence, capacity needs, and educational resources. Strengthening capacity to record, maintain, and deliver land administration services requires short-term training approaches for introducing new systems and technology, as well as longer-term education opportunities to ensure there is a stream of skilled personnel to maintain the system. Short-term training courses that directly apply new skills or theories in the workplace are a rapid response to capacity building. These should be followed up with refresher training, or training reviews, to ensure the new skills or theories learned are being applied in the workplace correctly, and have improved processes or performance. This is particularly relevant where new technology is introduced, such as GPS or Total Stations, as most users may not have strong computer skills or a survey background that enables the troubleshooting of problems.

Projects often commence with a small group of dedicated people. This was the case in Lao PDR, which commenced with pilot projects in 1995 through the

central level government department with eleven staff, of whom three were technically trained (Virachit and Lunnay 2006). Ten years later there is over 600 staff, and nine provincial land offices and one central office have been established to deliver land adjudication, survey, and registration services. Thailand, while building from a higher base, needed comprehensive training and education programs to support the introduction of modern technology. A considerable success factor for both projects, that maintained a strong impetus on human resource development and training, was to establish divisions within the government department responsible for the management and monitoring of training programs. Amhara National Regional State in Ethiopia, in a smaller-scale rural land-administration project with few experienced staff, took a low-cost approach to establishing initial tenure security measures. The project invested much energy in training regional and district officers in a strong participatory process, with locals using lost-cost survey technology and a paper- based registration system. Over a three-year period, the project was able to train 1000 staff and register 2.4 million certificates, while recognizing the need for upgrading the system for follow-up activities (Backstrom 2006).

Who benefits from the training is important. While managerial training is very important, capacity-building opportunities should not be given only to by higher-ranked officials, up-skilling and information dissemination must get to operational staff. This may be cost-effectively implemented through training-of- trainer (TOT) courses. These double as leadership and managerial training, while subsequently providing cost-effective training to lower-level staff or those in remotely located offices. Having staff trained as TOT is also useful where retraining or refresher training is needed, as is typically the case on long-term, mass programs of systematic registration.

Long-term, substantial financial commitments to establishing education institutions for land administration, cadastral surveying and computer training are encouraged by donors as demonstrate government's commitment to developing a sustainable industry base. In Lao, a lack of national expertise to support the development of the project's key initiatives was a serious concern, resulting in development of an In-Country Course in Surveying and Land Administration through the existing Polytechnic School. This higher diploma course provides an internationally recognized professional qualification and meets national needs for a skilled workforce to operate a modern land registration system. Institutional education is more than just training, it develops the ability of personnel to identify problems relating to the provision of land services, to analyze these problems, and to formulate solutions (Lunnay 2006). During such a course, it is important that there is sufficient time to provide personnel with an understanding of social and economic objectives and an overview of the processes necessary to achieve them. The need for education opportunities for sustainable capacity building in the area of land administration and surveying is receiving more attention internationally. Institutions are expanding existing programs and courses, and establishing schools, to respond to the demand for formal land administration education. The recent agreement to establish the School for Land

Administration Studies in the Netherlands, in association with the United Nations University, is one example (van der Molen 2006).

However, a consequence of capacity building at the individual level is often problems with staff retention. Long-term educational opportunities are attractive for staff, especially where higher educational opportunities to study abroad are offered. ILAP had provisions for 40 overseas positions emphasizing development of management skills, and the majority of staff attended a specifically-tailored course in land administration for developing countries. This often leaves positions of responsibility vacant for a significant period of time. In addition, retaining returned staff in low-paying government positions can be troublesome, even where contractual agreements are made to prevent such situations. In both Thailand and Indonesia, staff trained during major projects at national and international universities have a bond that can be as high as twice their education costs if they leave service early. While these bonds are a disincentive to leaving, in a booming private sector in Thailand in the 1990s, many private companies paid out the bonds in order to employ trained staff. In the long-term, the leakage of trained staff to the private sector will help lift the overall service standards of the land sector, so it is often important to make allowance for such leakages when designing training programs for land administration projects.

Staff retention can also be problematic in governments that are unstable or regularly change leadership positions. Other staff retention issues occur due to systematic land titling procedures that can involve staff spending long periods in the field, working from temporary offices, over many years. Attention to staff rewards and incentives is important. In Thailand, staff are assigned to the field for periods of up to ten months and many have been involved for more than five years. The work is production-oriented, unlike the usual land office situation, so field staff are required to work to stricter time constraints. There is a higher level of responsibility and risk in the work, and therefore adequate reward is expected. Where field procedures are kept simple, it may be appropriate to contract local staff that expands a core mobile field team when entering new or remote districts. The Lao Land Titling Project has been quite successful at maintaining quality work and expanding field teams through incentive and local hiring approaches. Thailand, on the other hand, is experiencing difficulties staffing field teams, as allowances that were originally set at twice the base salary have become less attractive over time.

From the issues and examples raised, we can summarize a number of strategies for sustainable capacity building, including:

- Ensure a sustainable capacity-building strategy is considered in all design components, particularly where new systems and technologies are introduced;
- Use refresher training and training reviews to assess the effectiveness and sustainability of training and newly applied systems or technology;
- Use Training of Trainer courses to improve leadership and develop training base;

- Ensure institutional educational facilities are accessible, preferably in-country; and
- Design staffing strategies with reasonable incentive schemes and with the expectation of staff leakages.

5.4 Land Tenure Policy

To this point, the main emphasis has been the identification of practical approaches to improving land administration system efficiency. The final section, on future challenges, is dedicated to tenure policy issues that can form a critical platform for land administration systems. Land tenure policy issues are some of the most highly debated areas of land administration. Friction between customary and formal tenure systems is often caused by regularization that is attempted in full or in part with an inadequate recognition of the potential social implications. The following section deals initially with the common confusion between land administration and land reform. It then looks further into the social issues of customary tenure systems, particularly focused on African examples, followed by options that explore alternative tenure regimes to title registration.

5.4.1 Land Administration and Land Reform

'*A land tenure system can be likened to a prism through which government policy must pass on its way to delivering a product or service to the recipient farmer. In traditional Latin American land-tenure systems the government policy is so refracted that most benefits go to an elite group – the larger and more capitalized landowners. . . . Agrarian reform changes the shape of the prism so that the rays fall on a wider group of people, including at least some of the poor'* (Thiesenhusen 1995:12).

In the context of this paper, land reform is a blanket process covering the key issues of production relationships, socioeconomic structures, the role of institutions, and vertical sociocultural divisions. Land reform involves the redistribution of land holdings, while land administration reform is restricted to changes in the system of recording rights in land—without changes in the rights themselves.

Prosterman et al (1990:3) note that the term 'land reform' in the agricultural sector is often misunderstood, that its meaning is limited to referring to the transfer of agricultural landholdings to landless tenants, hoping it will alter inequitable power structures, encourage long term investment and increased agricultural production, and assist greater economic growth. It is important to recognize that redistributing land assets is not complete without supporting measures to build on land reform, so providing secure ownership is, in itself, generally not enough to achieve the goal of increased and diversified agricultural production (for example, Mexico). To achieve agrarian reform, it is essential that complementary services such as access to credit and access to inputs are offered and a supportive marketing environment is created.

There are numerous examples of countries where agrarian reforms were carried out on an institutional basis and failed disastrously, leaving the poor in a worse position (for example, Nicaragua, Peru, and Mexico). Other

countries have difficulties because inadequate compensation for expropriation is a major factor in tenure insecurities. In the majority of failed reform examples, the driving force for the planning of agrarian reforms was redistribution of agricultural land and the amalgamation of small plots (Dixon-Gough 1999:7). Christodoulou (1990:xv) quotes Paul Baran, who noted many dangers in agrarian reform and warned that it may 'retard rather than advance' the economic development of some countries.

Even where there may be benefits associated with agrarian and land reform, such benefits may not necessarily be distributed evenly, as was the case in Peru. Following the 1968 revolution, large-scale expropriation of large enterprises such as farms and processing plants took place, and large commercial enterprises were turned into workers' self-managed cooperatives. But only those people who already had a stake in land benefited, mainly those who were permanent employees of the large estates. Others, such as seasonal laborers, were not made members of the new cooperatives. Their position markedly deteriorated as they ended up working longer hours and for 'considerably lower wages.' Ethnic communities, such as the Indians living in the highlands, benefited least from the post-revolutionary land reforms (Christodoulou 1990:148).

The term 'land reform' is less commonly used when referring to urban settlements. Reform of urban land areas also aims to increase market opportunities, although rather than production improvements, it is typically linked to housing policies and income-generation strategies. Urban settlements requiring reform are typically dealing with illegal and informal occupation of public land, informal construction on agricultural land, and better planning for the densification of urban land use. Two common urban reform programs that deal with some of these issues are land readjustment, used to convert rural land to urban use, and land regularization, the expropriation of private land to public use, which is a process of formalizing property rights. Urban land readjustment was used in the United States as a planning mechanism as early as 1791 (Atterhög 1995). Different forms of land readjustment have occurred since in Germany (1902), the Republic of Korea (1988), Japan (1987), Indonesia, Turkey and Taiwan (Atterhög 1995). Land readjustment was used to reform 30 per cent of the urban land supply in Japan. In some cities, such as Nagoya, 77 per cent of all habitable land was developed using this method (Atterhög 1995).

Urban reform programs that improve tenure security among the poor are critical for poverty alleviation, particularly in today's climate of increasing urbanization. In 2001, 31.6% of the world's urban population lived in slums, with the highest proportion in Sub-Saharan Africa and South Central Asia (UNHabitat 2003. This trend is expected to increase, as population predictions show that by 2030, 85% of the world's population will be in developing countries, with 15% of these in least developed countries.[59] The United Nations strongly supports a number of programs and campaigns that specifically address the tenurial concerns of the urban poor. There is a range of innovative strategies emerging in terms of pro-poor land tools.

A response to increasing informal, illegal, and irregular[60] settlements is to use tools that gradually upgrade levels of tenure security. These often require innovative adaptations to administration and legal systems, as well as infrastructure improvements, as part of the reform process. Tenure-upgrading programs include regularization of property rights and strategies for protective administrative or legal measures against forced evictions. Complementary reform includes improved access to credit and essential utilities for the poor. Examples of upgrading include: the Community Mortgage Program in the Philippines, which is a mechanism for informal settlers to negotiate and purchase the private land that they are occupying, in Porto Alegre, Brazil, a systematic municipal program to regularize tenure through the Concession of the Real Right to Use, which successfully registers rights and pre-empts eviction, but does not lead to full ownership (Payne 2002), and a Community Land Trust model introduced in Kenya, where the community owns the land and individuals own the development on the land, where the rights in the development are transferable (Payne 2002). There are further examples of upgrading techniques presented in Section 5.4.3 (page 118).

Land-titling interventions are aimed at providing tenure security as a basis for improved access to investment credit and fostering commercial land markets. The process of adjudication which underpins a titling program is specifically, and by definition, employed to recognize an existing right to land. The process results in the issuance and registration of a title, and is generally performed in an environment where there is minimum disputation surrounding the land parcel being adjudicated. Land Reform, on the other hand, usually seeks to re-assign rights to land, a process which has far greater potential for disputation, and usually attracts a significant degree of political attention and community sensitivity. It may be driven from the top down, through expropriation and nationalization of land by the state (ECA) or by peasant mobilization in a bottom-up approach to correct inequitable land distribution (Latin America). In either case, land-reform objectives are inherently more problematic and the track record is universally poor. For example, the long-running land-reform programs in Thailand and the Philippines (Comprehensive Agrarian Reform Program—CARP) are yet to impact distribution or recognition of informal occupation by communities over many generations of forest or other protected land areas. It was no accident that the land-titling programs that address land-administration reforms in these countries were implemented at arm's length from the respective land reform programs.

Notwithstanding the undesirability of linking land reform and land administration in a project intervention, the former clearly relies on a determination of the existing formal and informal rights to land that result from the latter. In cases where the reform involves a restitution of rights, such as in some of the former communist countries of ECA, the rights that previously existed need to be established.

Thus the system of land administration provides a foundation upon which successful land reform can be built without necessarily offering a solution to the problems of rural development in itself. For example, governments may

use tools such as land ownership ceilings to break up large holdings and distribute land to small producers and prevent accumulation by re-aggregation of smaller holdings. These tools obviously rely on good ownership records. In a similar way, the title registry can be used to impose and enforce restrictions on land transactions by the beneficiaries of land reform, to prevent selling or mortgaging their land prematurely. While the effectiveness of land-ownership ceilings, transaction restrictions, and the like may be open to debate, the tools, effective or otherwise, demonstrate the inherent links between the system of land administration and land reform.

Finally, on the link between land administration and land reform, the 1992 Divisional Working Paper on the World Bank's Experience with Rural Land Titling (Wachter and English 1992:9) made some interesting observations. In a comparison of rural titling projects undertaken in various regions up to that time, the paper concluded that only a small handful had successfully achieved their objectives. The paper observed that in all cases except one, the land tenure objectives were attached as an adjunct to the primary objective of a larger multi-component project, often aimed at productivity improvement or a wider agrarian/land reform outcome. The exception was Thailand, where the titling effort itself was the primary objective of the project. This is seen as a major factor that contributed to the success of the Thai project. There were, of course, other characteristics of success, such as political will, institutional focus and capacity, and so on. However the separation of programs remains a basic platform for successful intervention in land administration.

5.4.2 Customary Tenure

"The key to understanding the apparent contradictions between what is said to be customary and what is actually practiced under the guise of 'customary' land tenure lies in the difference between custom as unconscious, generally understood and accepted practice, and custom as objectified, codified and proclaimed as part of the essential character of one body of people against others." (Ward and Kingdon 1995:251).

There is ongoing debate in the development community about the relationship between formal land administration systems—which have traditionally focused on the formal recognition of individual rights in property—and customary systems of land tenure. Much of this debate has centered on the situation and experience in Africa (see Toulmin and Quan 2000a and Juul and Lund 2002a), but also involves other regions such as Latin America, Asia (de Janvry et al. 2001a), and the Pacific (Ward and Kingdon 1995). The focus of this analysis is land administration systems, not land policy, so it is not proposed that a detailed review of the background, history, and current status of the policy debate be undertaken. However, it is important that an overview of the current debate, focusing on land administration aspects and on Africa, be set out.[61]

The situation in Africa is colored by the long history of the interaction of formal Western systems and customary systems. McAuslan (2000) identifies

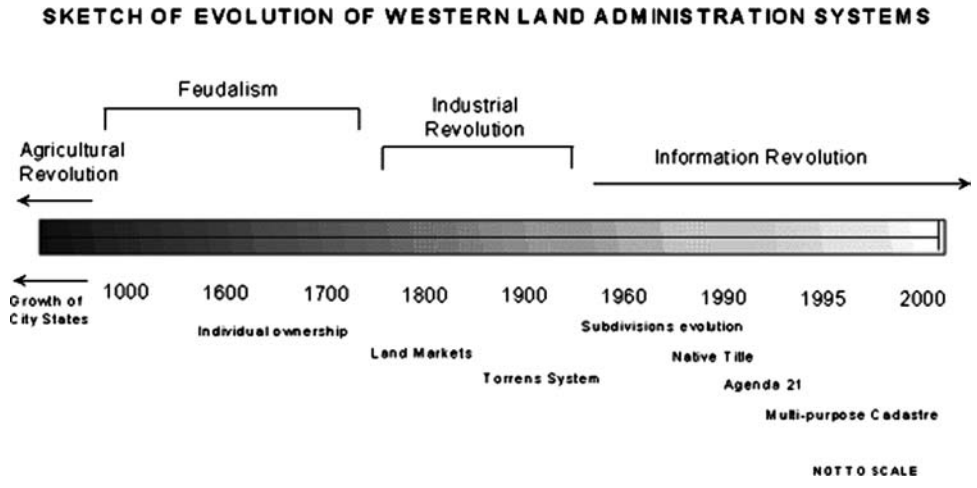
five overlapping phases in the introduction into Africa of Western land law and concepts regarding property rights:[62]

1. **Acquisition** in the 19th century of territory and the allocation of individual rights to this territory under *'a semi-feudal process'* (McAuslan 2000:80).
2. **Destruction** of the indigenous law and its partial displacement by the received western law.
3. **Reconstruction,** a term used by McAuslan to describe a phase where *'colonial authorities attempted to adapt customary law largely for their own ends'* (McAuslan 2000:84).
4. **Substitution,** dating from the mid-1950s, where policies were adopted to rapidly move to a system of individual tenure for indigenous populations.
5. **Integration,** the attempt to develop a new, common land law in a country based on the disparate parts of existing law.

Post-independence initiatives to rearrange land administration matters have tended to add complexity to the administration of land. Peters (2002:49) notes that the *'post-independence years of the 1960s and 1970s have been described as "the land reform decades", . . . a period when often more problems were caused than solved.'* In Ghana and Mozambique, there were unsuccessful attempts to assert state authority over land administration in place of traditional authorities. Revolutions in a number of countries have also added complexity. Lund (2002:25) notes that in Burkina Faso, *'the revolution meant a period where both "traditional" and "bourgeois" institutions had to keep a low profile and "revolutionary" institutions had tremendous discretionary powers.'*

The evolution of western land administration systems and land markets is illustrated in Figure 16. An increased focus on individual rights was suggested as necessary for economic development. It was argued that as land scarcity

Figure 16 Evolution of Western Land Administration Systems



Source: Ting and Williamson 1999:2.

increases, society will demand greater security of tenure and as a result private property rights will emerge.[63] Various arguments were presented to suggest that economic efficiency requires individual rights to be recognized in a way that provides sufficient security (Feder and Feeny 1987:136) and arguments were presented in the past that suggest that customary tenure arrangements are a constraint to agricultural intensification in Africa (Dorner 1972, World Bank 1974). These earlier studies provided a policy framework for various government initiatives to introduce formal land-administration systems. Unfortunately, the introduction of formal land administration systems in Africa has become associated with 'mass, systematic land titling.' Criticism of the initiatives to introduce formal land administration systems tend to focus on the words 'systematic' and 'title', rather than on process and implementation, or more fundamentally, policy. The economic arguments for individual rights were reassessed, and it is now suggested there is little evidence that customary tenure arrangements are a constraint on agricultural productivity (Migot-Adholla et al. 1991:155). As noted by Lavigne-Delville (2000:118), '[o]*nce the allocation of formal title is no longer seen as absolutely vital to the process of agricultural intensification, the tenure issue shifts from the economic to social arena.*' A number of studies have highlighted the adverse social effect of programs that formally register individual rights, including the impact on, or exclusion of, holders of secondary rights in land, such as migrants, pastoralists, women, and young men (Hilhorst 2000, Platteau 2000 and Toulmin and Quan 2000c), increased landlessness as land markets develop: the fact that people may be encouraged to sell their land for short-term returns, and 'land grabbing' by the social elite or those with privileged access to information and formal institutions (Peters 2002:57).

Much of the current debate therefore focuses on the integration of informal and formal land administration systems, rather than replacing the former with the latter. When comparing customary tenure systems with modern land administration systems, it was noted that there is not a dichotomy of rigid, ancient customary systems and modern, adaptable formal systems. Peters (2002:51) notes that *'. . . the actual patterns of landholding in Africa have not been static or rigid but have been dynamically transformed over time by rural people through hard work and social creativity*'. The informal systems have evolved to support land markets (Feder and Noronha 1987:163, Platteau 2000:64). However, there have also been examples where customary systems have failed to provide adequate protection. Toulmin (2000:236) cites examples where customary chiefs in Cameroon have sold land held in trust for the larger clan to outsiders, and cases in peri-urban areas in Ghana where customary chiefs have colluded with developers to take land for commercial purposes with little or no compensation. The deficiencies of formal land administration systems are noted by many (Lavigne-Delville 2000:97, Cousins 2000:170). Cousins (2000:170) notes that '[l]*and administration structures in Africa suffer from the same weaknesses as other components of the state: they are often highly centralized in structure and attempt to implement decisions in a top-down manner, yet are ineffective in practice because of resource constraints, corruption and "capture" by private interest groups.*' In reviewing the current policy debate, Cousins suggests there is general agreement to the need for: (i) greater legal

recognition for rights under customary systems, (ii) strengthening of local institutions for land administration and management, and (iii) support for institutions and procedures for mediation, arbitration, and negotiation, particularly at the local level. However, he also notes there is no consensus on how these objectives might best be achieved. McAuslan (2003:16) notes that the following policies are of particular importance when addressing land issues in traditional societies:

- Investigate and record customary rights to assist with administration;
- Encourage group and cooperative rights to make clear what land is available;
- 'Graft' on to customary law ways to make it more acceptable for one ethnic group traditionally occupying and using land in a certain area to accept people from other ethnic groups entering that area for the purpose of occupying and using land; and
- Ensure that land-related policies do not operate in isolation.

Despite significant reform efforts, land administration systems in much of Africa remain dual tenure systems characterized by ambiguity and inconsistency (Cousins 2002:68). As Shipton (2002:x) notes *'. . . more often* [the norms and procedures under imported land administration systems] *seem to crowd together with* [indigenous systems] *to produce a wider range of options and strategies for the wealthy or well-connected, and new vulnerabilities for others.'* Lavigne-Delville (2000:102) argues that one cannot really contrast "traditional" local practices with formal systems as '[s]*takeholders are often opportunistic, and make use of various systems to back up their land claims.'* It was argued that the negotiability of rules and relationships is one of the fundamental characteristics of African societies (Juul and Lund 2002b:5) and Lund (2002:33) details a case in Burkina Faso that supports the statement that '[a]*pparently fixed titles, rules, rights, and authorities are constantly negotiated and re-interpreted.'* Others suggest that placing an emphasis on ambiguity and negotiation downplays the role of the state and perhaps we need look at limits on these and aim toward claims to property that "stick" or have priority over traditionally negotiable customary rights (Peters 2002:47). Lavigne-Delville (2000:104) notes that it is the possibility of conflicting claims, not uncertainty in customary tenure systems, that is responsible for the unpredictable nature of land disputes in Africa. There are therefore considerable challenges in formulating policy to clarify rights in land and in particular *'. . . to move beyond the safe, reliable conclusions that (whatever the problem) it always depends, or that every local community is unique. Such conclusions seldom help real decision makers, be they bureaucrats, revolutionaries, or humble farmers or herders'* (Shipton 2002:x). Nonetheless, there is considerable interest in land matters in Africa due to a range of factors, including mounting evidence of conflict over land, concern with increasing inequity in access to land (Peters 2002:45), and declining agricultural productivity.[64]

A critical question in the ongoing debate is the form of tenure that may best ensure access to and achieve efficient use of land. De Janvry et al (2002b:2) suggest there is no dominant form of tenure in terms of efficiency, and that all

major options—common property resources, usufruct licenses through community and lineage, tenancy agreements, and ownership—have relative merits under varying circumstances. While the benefits of ownership may have been overstressed, it is the best option, where feasible. However, due to high cost, market failures and institutional gaps, the option of titles is unlikely to be available to most rural households. This question relates particularly to the strategic approach in strengthening a land administration system through either the formal system or the customary system. The World Bank attempts to answer the question in the World Development Report (1990a:65), where it states '*. . . this shift toward individual rights tends to undermine the ability of traditional systems to ensure that all members of the extended family have access to land. This feature of their land system has helped some countries in Africa to avoid the extremes of poverty and landlessness that are common in much of Asia and Latin America: traditional systems have provided secure land tenure and encouraged farmers to invest in their land. In such cases, encouraging individual land registration and titling may be undesirable. Where traditional systems have failed to provide clear land rights, land titles and registration are useful*.' This advice lacks clarity, and as Quan (2000a:36) notes, two questions are critical in reforming tenure arrangements:

- Under what circumstances do existing tenure arrangements fail? and
- Where there is failure, what sort of intervention is appropriate?

These two questions are considered in the following paragraphs.

When Have Existing Tenure Arrangements Failed? The circumstances in Africa where existing tenure arrangements (usually a blend of formal and customary systems) fail have been discussed by a number of authors (Quan 2000a:34, Platteau 2000:51, Toulmin and Quan 2000b, and Cousins 2002), and include:

- Where there was a breakdown in customary tenure systems, or when traditional lines of authority were severed and loyalties to lineage and communal groups eroded;
- Where land encroachment by outside interests is common or increasing;
- Where defensive registration is needed to safeguard individual or group rights;
- In areas where there are high levels of fragmentation, disputation, and inheritance problems;
- Where there are inter- or intra-ethnic conflicts over land; and
- Where there is a demand for titles, as a result of a range of reasons, including changing social norms, the need for credit, and so on.

These indicators of failure are likely to be evident in areas subject to resettlement or colonization, or in development programs, such as projects improving irrigation infrastructure, and in areas subject to acute land pressure, such as urban and peri-urban areas. These indicators are not definitive, but provide some guidance. A discussion on the general failure of existing systems in Greater Accra is set out in Box 2.

Where There is Failure, What Sort of Intervention is Appropriate? A range of strategies were identified in the literature, many of which have at some time

Box 2 Land Administration in Greater Accra

Greater Accra, with about 10 percent of the population of Ghana, was estimated in 1990 to have produced about 17 percent of GDP. There is considerable dispute over land in Greater Accra. About 20 percent of Ghana has been alienated from customary tenure and most of this is in Greater Accra. However, much of this land is not being used for the purpose for which it was alienated by the State, and in many cases compensation has not been paid. A considerable amount of vested land has been informally reclaimed, and there is much informal settlement in Accra. Customary authority over land in Accra is unclear—late in 2001, nine of the nineteen Stools covering Greater Accra were unoccupied, one due to a dispute of of nearly 25 years. In addition, and many clans, families and individuals claim rights over land independent of the Stool authority.

In 1986, the Land Title Registration Law was put in place to improve tenure security and provide certainty about land ownership and land transactions. The existing process operated by the Land Titles Registry is a sporadic rather than systematic process—despite the fact that the 1986 law specifically sets out the basis for a systematic process. Some 20 districts have been declared under the 1986 law covering most of Greater Accra, and this widespread coverage requires the survey department to cover large areas with cadastral survey plans to meet the sporadic applications for title registration. In the past 13 years, some 348 section maps have been plotted, comprising the survey and mapping of more than 400,000 parcels. The process of land titling is also overly complex and not well understood by the various actors involved. There have been about 45,000 applications for title since 1986, and just over 11,000 titles have been issued, all except one in Greater Accra. In a recent survey of the landholding public, two-thirds of respondents were unaware of the Land Titling Law, 30% had land applications outstanding for more than one year, with 20% still awaiting registration after 10 years. Dispute resolution took between 2–10 years in most cases. Thus public perception is that acquiring land in Ghana through formal channels is a daunting task.

Systematic land titling seems appropriate for Greater Accra:

- Customary authority has broken down;
- Although there is sound legislation, the formal system is inefficient, not understood by users and not responsive to their requirements;
- There is demand for titles and much of the survey and mapping work has been completed to support a systematic registration activity.

Source: Author.

been implemented. Central to many proposed approaches is the focus on the community and the devolution of responsibility for tenure administration to local levels. As Quan (2000b:197) notes, one strategy for devolving responsibility is to establish local Land Boards. This was tried initially with success in Malawi and Botswana, and more recently in Namibia and Uganda. Land Boards have a number of advantages. They provide a vehicle for decentralizing land policy and a means of balancing the role of traditional chiefs—without rejecting customary tenure systems. They also provide the flexibility to devise simple methods that serve both formal and customary tenure systems, and can facilitate a gradual means to implement a local, rather than central, focus to land-tenure administration. However, experience indicates a number of weaknesses. Land Boards can be subject to bureaucratic

intervention and domination by local elites, and can be poorly equipped to resolve overlapping claims and claims between different ethnic groups. They also can be very costly to establish. The cost of Land Boards was a real issue in Uganda, where the cost of implementation of the 1998 Land Law was not properly considered as the law was finalized. Subsequent investigations indicated that the cost is neither viable nor sustainable, and changes in the legislation had to be developed.

Another key strategy identified in the literature is the integration of customary and formal land tenure systems. McAuslan (2000:94) identifies two approaches to doing this: (i) the enactment of a unified national law, perhaps supported by strengthened dispute resolution procedures at the local level, and (ii) leaving it to the grass roots and replicating the evolution of English common law. As Lavigne-Delville (2000:107) notes, there are difficulties in codifying customary law, and failure to reflect the diversity evident in customary law in the Rural Code of Niger has increased the risk that the new law may be deemed inappropriate.

The registration of local rights is another strategy that was identified. Toulmin and Quan (2000b:35) note here that careful consideration needs to made of the cost/benefit case for establishing such systems in all areas, and that there may be a better case to register rights at a community level, with individual registration reserved for areas of conflict. One means of providing legal recognition for customary rights is to offer the option for the legal and administrative registration of transactions (Lavigne-Delville 2000:115). As Lavigne-Delville notes, such a system would provide great flexibility, cover a wide range of rights and could be implemented at significantly less cost than a land-title system. However, such a system raises a number of questions, including the legal status accorded to registered rights and the process for assigning priority to rights registered at various levels of traditional authority. A system to register transactions is also basically a registration of deeds system, which suffers from many of the same potential difficulties: inadequate spatial reference to the parcel covered by the registered rights set out in the deed, inconsistencies with previous deeds, and lack of certainty in rights. These and other difficulties could be addressed by a range of initiatives, including surveys or mapping to provide a spatial reference for the deeds, establishing and maintaining indices, and examining deeds against prior deeds (Dale and McLaughlin 1988:23, and discussed below on page 119). These initiatives, however, will add to the overall cost of the system.

Difficulties with programs to implement mass titling through a country have been noted by several sources, including Atwood (1990:668). However, such programs may be appropriate for part of a jurisdiction, as noted above in Box 2 for the case of Greater Accra. In addition to the indicators listed above, systematic land titling should only be considered where the costs are affordable and acceptable to beneficiaries, where there are appropriate incentives to register subsequent dealings in rights, and where there are appropriate institutional arrangements to register subsequent dealings in rights. Implementing systematic titling in only part of a jurisdiction will mean

there are at least two tiers in the land administration system—a structure that has been managed, however, in most other jurisdictions as land administration systems have evolved.

As previously noted, the above discussion of customary tenure has focused on the situation in Africa. Customary land tenure systems are also widespread in Latin America, and constitute an important form of community tenure (Barnes 2002:2). The 2001 census in Bolivia reveals that approximately 67 percent of the population is of indigenous origin, indigenous tenure may be formalized as a TCO (*Tierras Comunitarias de Origen*) or simply as community property titled collectively to an indigenous group. Most of the 8 million indigenous people of Peru live in "*comunidades nativa*," many of which have been titled to indigenous groups. Although there has been increasing recognition of indigenous people and their rights, much more remains to be done to resolve overlaps with protected environmental areas and encroachments by private farmers seeking land.

Customary tenure is also a feature in Asia (Brits et al. 2002:2). However, the land administration system in most countries, which frequently covers only that part of the country deemed non-forest, does not usually or explicitly recognize customary rights. Thailand, which has a good land administration system, only covers the 47 percent of the country deemed non-forest, even though satellite land classification shows that Thailand only has 20–26 percent tree-canopy cover. The rights of hilltribes are not recognized under the Land Code. In Indonesia, the Basic Agrarian Law, although theoretically based on the customary 'adat' law, only covers that part of Indonesia that is deemed non-forest, and the rights of customary groups have been eroded by encroachment on forests, forest concessions, and other programs such as transmigration. The Philippines is one of the few countries in the region with a law explicitly recognizing customary rights, but the Indigenous Peoples Rights Act (IPRA) has not been fully implemented and many issues remain to be resolved, including how the rights recognized under IPRA fit within the already complex and conflicting policy, legal, and institutional framework for land administration in the Philippines.

Customary tenure is common in much of the Pacific and Melanesia. Many Pacific Island nations are undergoing transformations to their socioeconomic and political environment in the face of globalization. In all this, land remains a central aspect in many Islanders' lives, and therefore traditional land tenure arrangements are heavily affected. The transformation, involving a shift from subsistence to market economies, encourages a move away from communal modes of life, reliant on trading-based on reciprocal obligations of goods and services, to wage–labour or monetary exchanges. While Vanuatu has taken steps by changing the constitution to protect customary practices, other countries, such as Fiji and Tonga, are being more flexible and absorbing new conventions into tradition (Ward and Kingdon (1995:2). Discrepancies emerge between traditional ideals and practice, particularly during privatization of communal land, particularly when access to land for all is not met (Ward and Kingdon 1995).

5.4.3 Alternatives to Titles

'. . . there is not one dominant form of tenure. Common property resources (CPR), access to land in usufruct via community membership and lineage, tenancy contracts, and ownership (private, community, corporate, or public) all have their relative merits under particular conditions.' (de Janvry et al. 2001a).

At least three basic types of systems to formally record rights in land exist: (i) private conveyancing, (ii) registration of deeds, and (iii) registration of title (Dale and McLaughlin 1999:36). Under a system of private conveyancing, deeds recording dealings in rights in land are handled by the parties involved, and witnessed by an independent intermediary such as a public notary. In some countries, the intermediaries are restricted to geographic areas, and maintain registries for these areas. This, for example, is the case in Greece. There is limited security in such a system and the role of the state is typically limited to registration of the intermediaries.

Registration of Deeds is a system administered by the state under which documents setting out dealings with respect to rights in land ('deeds') are officially registered. A registration of deeds system has a number of limitations. The deed in itself does not prove rights of ownership or possession, it is merely a record of an isolated transaction. If properly drawn up, the deed is evidence that the dealing took place, but it does not prove that the parties to the dealing were legally entitled to carry it out, and without further investigation, it does not prove that the dealing itself was valid. Also, systems to register deeds often do not efficiently enable individuals or the government to readily ascertain rights in land. Despite these difficulties, efficient systems to register deeds were developed—in South Africa, for example. There is a range of strategies for improving a registration of deeds system (based on Dale and McLaughlin 1988:23):

- Standardized forms and procedures;
- Improved indices for deeds, possibly including the generation of a spatial index;
- Better records management, document storage and access to records;
- Backup of records for archival and access purposes;
- Simpler and more flexible arrangements for survey and mapping;
- Partial examination of surveys and dealings;
- Compulsory registration of dealings;
- Automation of indices and the computerization of abstracts.

Registration of Title systems were introduced in many countries to overcome the limitations of systems for registering deeds. The main characteristics of a registration of title system are:

- It is based on parcels of land (that is, the register is divided into units of property, with a record for each individual land parcel);
- Transactions are set out in simple documents and are recorded with reference to the land parcel; and

- Registration of transactions is essential for their validity and a transaction becomes valid and effective by virtue of registration.

Title registration systems are generally based on comprehensive survey and map records (often called a 'cadastre') which provide a spatial framework and index for the registration system. These systems readily enable rights in land to be ascertained simply and with certainty. The title registration system introduced by Sir Robert Torrens in South Australia in 1858 was a model for many such systems in other jurisdictions and is based on three main principles (Dale and McLaughlin 1999:38):

- The 'mirror principle,' where the register reflects accurately, completely, and beyond all argument the current facts that are relevant to the rights in a parcel of land;
- The 'curtain principle,' where the register is the sole source of information for interested parties in ascertaining rights in land;
- The 'insurance principle,' where, if through human frailty, the register fails to give an absolutely correct reflection of rights in land, anyone who suffers a loss is entitled to an indemnity from the government.

A term that Torrens introduced with his legislation was 'indefeasibility of title', used to describe the indestructibility of the title (Hepburn 1998:212). There are exceptions to indefeasibility of title,[65] but this aspect, and the application of the insurance principle, is among the major benefits for users of title registration systems. Harpum et al., (2000:278) observe that one *'. . .of the attractions of registration of title is the general principle (nowhere made explicit in the Act* [the UK Real Property Act of 1925]*) that the registered proprietor has a title which is indefeasible without compensation. In other words, there is State guarantee of title, so that the registered proprietor and those dealing with him may rely on his title being as it appears on the register, and will normally be able to claim compensation if it is not. But the principle as it emerges from the Act, is a principle of partial compensation rather than indefeasibility.'*[66]

Where it is applied, the 'insurance principle' is usually funded by either an Assurance Fund (funded in turn by a levy on registered dealings), or out of operational funds. In New South Wales, in Australia, the Assurance Fund is funded by a levy of A$2 (about US$1.64) per registration and is comfortably in surplus.[67] The Land Registry in England and Wales maintains an Indemnity Fund of £4 million (about US$7.95 million) which is replenished annually from fee revenue.[68] A number of less developed countries have indemnity funds. The Philippines has an Indemnity Fund limited by budget allocation, but the fund has never successfully been claimed against and therefore has limited effectiveness. Ghana has provision for an Indemnity Fund under the 1986 title legislation, but this fund has never been put into operation. A number of other countries have looked at setting up Assurance Funds, including the Ukraine and Kyrgyzstan, but this activity has not been implemented.[69]

In the United States of America, a model of title insurance evolved in the 19th century in an environment of poorly organized state-run deeds registries at county level and rapidly expanding settlement. Private insurers entered the

market, offering insurance against defective title. The private insurance industry expanded greatly after the Second World War, largely in response to the demand for title guarantees by institutional providers of credit, and particularly by private buyers of securities in the secondary mortgage market. The U.S. title industry seeks global expansion.[70] In countries with effective title registration systems, title insurance is often marketed to lenders through existing intermediaries,[71] but the insurance industry faces a number of difficulties including potentially higher costs and the fact that title insurance will not cure a defective title (Morgan 1999: 176–177).[72] The U.S. title insurance companies have sought business in developing countries.[73] However as noted by Jaffee and Kaganova (1996:18), in comparing the European/Torrens model of title registration and the American model of private title insurance as options for Russia, the perception is that the American system is *'fast but expensive for users.'*[74] With increased cost, a title insurance system increases the risk of the exclusion of disadvantaged groups. In addition to cost, a difficulty faced in many developing countries is that of assessing risk in an environment of very poor land administration system and limited rule of law.

It is also worth noting that there tend to be few 'pure' deeds registration or title registration systems. There are deeds registration systems that operate with very good spatial frameworks and provide certainty in rights (South Africa, Netherlands). The American system is a deeds system that operates well with the support of title insurance and without a cadastre, although surveys are required in most states. There are title systems that operate without state guarantee. In Indonesia, registration of rights is only 'strong evidence' of rights. The Thai title registration system operates without a state guarantee and a dealings file is maintained for every parcel. This information is often referenced in court proceedings so it has elements of a deeds registration system. As previously noted on page 36, it is difficult to classify the systems in ECA as either registration of deeds or registration of title systems. Therefore, one needs to be careful in advocating one model against the other, albeit there is a general trend towards title registration. Implementing titling approaches is considered even more difficult than implementing institutional design components in land administration projects, as they are highly conditional to their social and cultural context (Fukuyama 2004).

The apparent emphasis on titles in many initiatives to strengthen land administration systems has been criticized by some (Augustinus 2003a:4, Payne 2002:9, de Janvry et al. 2001a:2). Some of this criticism has resulted from experience in Africa and the adverse social impact, and lack of economic impact, of mass titling in countries such as Kenya. Others take issue with Peruvian economist Hernando de Soto, who, in his latest book (de Soto 2000), is seen as advocating individual titles as the foundation of capitalism (Payne 2002:10, Home and Lim 2004). Payne (2002:9) seems particularly concerned about the impact of titling (formalization) on the ability of the poor to access land close to employment centers in major urban areas.[75] Other commentators note that in the last half of the twentieth century, informal settlers benefited from weak governments and legal frameworks and speculate whether the

projected 2 billion increase in the urban population over the next 30 years will confront more rigid and better enforced property rights systems[76]. This point is taken up later when pro-poor emphasis is discussed. Payne (2002:18) documents investigations of innovative alternatives to full titles throughout the world. Examples, some of which are interim steps in obtaining a full title, include:

- Accretion of rights in Cairo through the acquisition of documents such as receipts for payment of property taxes;
- Intermediate rights such as 'Declaration of Possession,' 'buying and selling rights for future use,' and 'communal tenancy' in Colombia, supported by a program to supply services based on the ability and willingness to pay for services rather than tenure status;
- Dynamic informal land-delivery systems tolerated and partly controlled by the state in Benin;
- Occupancy Permits in Burkina Faso that can be upgraded to titles;
- Ten-year licenses granted to residents of unauthorized settlements in New Delhi;
- Appropriating and building on state land in Turkey;
- The 'anticretico' tenure system in Bolivia, where a property owner grants the use of a property for a fixed period in return for a sum of money refunded at the end of the period;
- Certificates of Rights in Botswana;
- Concession of the Real Right to Use land in Brazil;
- Temporary Occupation Licenses in Kenya; and
- Land rental systems for low-income communities occupying private land in Bangkok.

Of the options mentioned above, it should be noted that it is usually more difficult to establish and maintain a system to record leasehold or temporary occupancy rights. Such a system requires that leases and licenses be renegotiated as they expire, and typically requires ongoing oversight to ensure that lease and occupancy conditions are observed. These additional steps, which are not required in a system that recognizes ownership, will increase the risk of system failure. In Papua New Guinea, where a leasehold system operates in the approximately 3 percent of the country that has been alienated from customary tenure, there are a number of significant problems, including lost and duplicate records.

A comparative study conducted by the International Food Policy Research Institute of six African land-reform processes analyzed the opportunities and constraints of rights characteristics, as presented in Table 20. The paper suggests that titles offer the most flexibility and security, and contentiously adds that "land resources managed under customary tenure must evolve toward titling in a stepwise process, transiting through the registration of customary rights" (Ngaido 2004). This is contrary to the African-based land debate that requests a greater focus on options for alternative titles based on

Table 20 Land Reform Processes and the Values and Characteristics of Associated Land Rights

Characteristic	Land reform process					
	Maintaining customary rights	**Registering land rights**	**Titling land rights**	**State ownership / redistributing land rights**	**Subsidized land ownership**	**Market-based land access**
Role of the state	None or limited intervention			Strong state intervention		
Objective	Improving bundle of land rights			Reducing imbalances in landownership		
Land Rights	Customary use rights	Registered private rights	Titles	Registered use rights (titles)	Limited titles	Titles
Tenure Security	Yes	Yes	Yes	Yes	Yes	Yes
Sales	Limited	Yes	Yes	Very Limited	Yes	Yes
Rental and Sharecropping	Yes	Yes	Yes	Limited	Yes	Yes
Credit Access	Informal / Parastatal	Yes	Yes	Cooperative / parastatal	Yes	Yes

Source: Ngaido 2004.

customary tenure systems. There are some who wish to avoid any grey area in title, and ask 'why should legitimate people receive rights to their land that are lesser than a full title?'[77]

While tenure systems in developing countries attempt to create full rights for their citizens, the private property rights movement in developed countries, typically used as the model, is gaining momentum, as people have to challenge authorities to retain their full complement of rights and freedom of decision-making in land use (Jacobs 1998). Private landowners in developed nations are holding fewer rights in the complement, as authorities from the federal to local levels increasingly impose regulations over private property ownership, through restrictive covenants, land-use zoning, and environmental and planning regulations.

Payne (2002:17) reviews the results of two conventional approaches to increasing security of tenure by issuing titles, including the urban project in Peru, where COFOPRI has issued over 1 million titles to informal households in the peri-urban areas of major Peruvian cities. Payne considers the experience in Peru not an appropriate model for other countries, as most of the titles were issued to informal households occupying public land, despite an earlier observation that ground-breaking studies indicated that,

globally, informal settlements generally *'consisted almost completely of organized invasions of peri-urban, often state-owned, land.'* (Payne 2002:5). Recent studies also indicate that significant informal settlement occurs on public land. A recent Asian Development Bank study, for example, suggests that only about 15 percent of the informal settlement in Metro Manila is on private land.[78] Perhaps there is some relevance in the Peruvian experience for other countries. However, an important point made by Payne is that there is a continuum of rights, ranging from illegal occupation through to full titles, and many of the innovations or alternatives listed above are entry points along a continuum to avoid the social, economic, and environmental penalties of illegality.

McAuslan (2002:36) notes that Namibia is considering legislation to provide for 'starter' titles and landholder titles. Starter titles are rights held in perpetuity by an individual to a parcel within a larger block, administered by a defined community, under the rules of the community, while a landholder title is more formal, approaching the formality of a full title. In some jurisdictions, there is the possibility of issuing titles that are provisional with respect to boundaries, titles provisional with respect to rights ('provisional titles', or both There are usually procedures for provisional titles to mature into full titles, typically by subsequent survey, if the provisional nature of the title relates to boundaries, or by the passage of time without conflicting claim, if the provisional nature relates to rights. In other jurisdictions, a lesser document may be issued which may mature into a full title under specified conditions. For example, in Thailand, the district land offices, under the authority of the district head, can issue a pre-emptive right (NS2) which is not transferable except by inheritance and is not accepted as collateral by institutional credit providers. NS2s are issued with very simple, local surveys. If an NS2 holder uses a specified percentage of the parcel for a specified period of time, then an application can be made for either a certificate of utilization (NS3/3K) or title (NS4), both of which are fully transferable and accepted as collateral by institutional providers of credit. Both the NS3K and NS4 parcels are mapped onto cadastral maps. There are thus alternatives to titles within established formal systems, but 'starter' titles, provisional titles, and pre-emptive rights are only real options within the framework of a functioning system that supports full titles.

Lavigne-Delville (2000:115), as an alternative to titling, advocates a 'lighter approach,' where plots are mapped and a land-tenure register and system for recording dealings in rights is created over time, particularly in areas where customary rights might exist. Toulmin et al. (2005) also supports this view for upgrading rights of the urban poor over time, as they become increasingly vulnerable to market forces. Lavigne-Delville's system may have merit, but funding must be established for the survey and mapping activity, which can be a major cost element in establishing any registration system. Lavigne-Delville also suggests that an alternative to titling might be to grant some legal recognition to transactions, or a registration of deeds system. This lower-cost alternative to titles that has some weaknesses, some of which could be addressed by having survey/map records available.

5.4.4 Pro-Poor Emphasis and Safeguards for Vulnerable Groups

'Tenure also means different things to different people. For the very poor, it is primarily a matter of being able to access any space where they can obtain a basic livelihood, such as street trading, without fear of eviction. Location is therefore more critical than the form of housing they occupy and long-term security of tenure may be less important than the ability to move when livelihood changes' (Payne 2002:300).

There is considerable discussion and debate in the development community on the impact on the poor of initiatives to improve land administration. There are arguments that restrictions on land rights reduce land values, and therefore their asset endowment.[79] There are arguments that reducing restrictions and securing rights with titles will increase land values and thus restrict the ability of the poor to access land (Payne 2002:9). However, as Payne (2002:300) notes, secure tenure, while an essential condition, is not sufficient in itself to achieve the broad policy objectives of benefiting the poor and ensuring they have access to affordable shelter under reasonable conditions. The following policy actions are suggested by Payne to benefit the poor:

- Taxing land at market value to increase the cost of holding land for speculative reasons;
- Creating a legal framework that protects the rights of all citizens, including the poor (including dispute resolution and improved registries);
- Simplifying planning, building, and other administrative regulations;
- Mandating that utility companies supply services irrespective of tenure status;
- Setting objectives to encourage social and spatial integration of urban areas; and
- Strengthening the capacity of public sector agencies to perform their roles.

Using tax as an instrument of land policy has been suggested many times, but this strategy has difficulties. It has been argued that such policies had little impact where they were introduced in countries such as the Philippines and that *'. . . the time and effort devoted to designing land taxes intended primarily to achieve non-fiscal purposes has detracted from the more important task of implementing an effective and efficient revenue source for local governments.'* (Bird and Slack 2002:33).

A number of countries have implemented schemes to protect informal settlers from eviction and to provide some tenure security, as in the Philippines.[80] Payne (2002:18) quotes the case of Colombia mandating that utility companies provide services based on the ability and willingness of residents to pay for services rather than their tenurial status. Land titling was reported as increasing the availability of land for lease by reducing landowner concerns that the land would be granted to tenants Sadoulet et al. 2001:224). It is also noted that land titling can lead to land concentration and the expropriation of common property. Therefore it is recommended that titling be undertaken systematically, with broad publicity campaigns, rather than sporadically in response to individual request for title. This runs counter to the approach

advocated for Uganda that land tenure should be systematically mapped and adjudicated with titles issued only on individual request (Augustinus 2003c:6). Issues concerning common property resources (CPR) in rural areas are often caused by overlapping land classification, and just as often by their having been neglected in terms of formal land administration and management. Where CPR systems exist, they can be critical for the poor, failures to engineer secure tenure systems for community-based regimes are often caused by lack of clear legal frameworks for recognizing community group rights in the national law (Bruce 2006:228).

There is strong momentum to continue developing innovative tools and experiences focused on the needs of the poor, through The Global Land Tools Network (GLTN)[81] recently established by a UN Habitat–World Bank–Swedish International Development Agency initiative. With over 13 African countries introducing new types of tenure, it is important that appropriate land administration approaches are developed. Working through 17 partner organizations with local to global research, documentation, and dissemination capacity, the GLTN focuses on pro-poor land tools that improve the security of tenure for the poor. During the launch of the GLTN, six themes on land-tool development were introduced: land rights and records, land information and planning, land management and administration, land law and enforcement, land tax and valuation, and crosscutting issues (GLTN 2006). Mechanisms that address gender, eviction, conflict, and Islamic-specific land were raised as requiring immediate attention in the tools typology (Fergus 2006).

Gender. Although the legal status of women is the subject of considerable attention in many studies, few deal extensively with the rights of women to land. *'Failure in creating gender equity is often rooted in the assumption that laws that are gender-neutral on their face are sufficient.'* (Bruce 2006:228). Similar assumptions and arguments on the gender impact of land administration can be found, particularly where governments are granting new property rights. Some, noting the adverse impact in Laos of issuing forms in the name of 'head of household' rather than land holder (Viravong 1999:159) and others noting (in the African context) that the *'. . . registration process may also run the risk of maintaining and reinforcing the traditional male dominated control of access to land'* (Hilhorst 2000:189). Yet others advocate that any project should be gender neutral. Hilhorst notes that "gender- aware" land-tenure policies may also mean changes in constitutional rights and reform in family law. Women in Africa, particularly those divorced or widowed, often suffer from limited protection and increased vulnerability because of gaps in land ownership laws that are typically a legacy of colonial administration and inheritance traditions under customary laws (Gopal 1999). However, legal reform is not the full answer. In India, where women's right of inheritance were significantly strengthened by the Hindu Succession Act of 1956, there was limited impact on actual inheritance practice, largely because of very strong local customs (Agarwal 1994:175). Religious law can also have a gender impact. For example, under Islamic law, women are entitled to a lesser share of an inheritance than any children of the marriage, which often conflicts with modern civil law that is generally gender neutral. This is the case in Indonesia.

The arguments presented by Agarwal (1994:27–42) for ensuring that women have a 'field of their own' are:

- A welfare argument that increasing women's rights in land reduces a woman's own and her family's risk of poverty;
- An efficiency argument, based on a range of evidence, including the experience of microcredit agencies, that women have higher rates of loan repayment; and
- An equality and empowerment argument.

Agarwal (1994:478–493) presents a range of strategies to address the issue of women's access to land. Some, such as dowry reform, are specific to South Asia, but others have broader implications, including:

- Law reform—both in land and family law, supported by community awareness campaigns;
- Strengthening land claims through channels other than inheritance;
- Exploring joint management and promoting infrastructural support; and
- Building group support among and for women.

Some progress was made in improving women's access to and control over land during the past twenty years. Table 21 from Deere and León (2001: 185–187, 294) summarizes the main changes in favor of women's land rights incorporated in recent agrarian codes in Latin America. It was found that seven countries now state that the land rights of men and women are equal. In four of these (Brazil, Bolivia, Costa Rica and Nicaragua) land rights are considered independent of marital status, while in Peru, Ecuador, and Mexico this is only implied. The authors acknowledge that important advances were made in achieving gender equity, and note that in six of the countries they studied (Brazil, Colombia, Costa Rica, Honduras, Nicaragua and Guatemala) provision for joint allocation and titling of land to couples was among the most important. Deere and León (2001:187) note that *'. . . the joint allocation and titling of land to couples is an advance for gender equity for it establishes explicitly that property rights are vested in both the man and woman forming a couple . . .'* and that *'. . . it serves to reinforce the principle that both spouses represent the family and may administer its property.'*

In Ecuador, joint titling to couples was adopted in a rural development project in twelve different zones of the country. In Chile, female household heads were given priority in the country's titling program, despite there being no legal provision for joint titling to couples. In Honduras, where land titling projects have been ongoing since the 1980s, a primary factor preventing women from obtaining titles was lack of awareness of their rights, due to scant publicity regarding the rights of women under the 1992 Law for the Modernization of Agriculture (Deere and León 2001:294).

The 1994 Colombian law gives priority to rural women without protection because of internal political violence. Another country where special attention was given to women within vulnerable groups is Ecuador, where there was a strong focus on women who fought in the civil war, as well as female informal

Table 21 Changes in Agrarian Codes with Respect to Gender

Country	Explicit equality	Non-Sexist language	Joint titling	Priority to female household heads	Special groups
Bolivia, 1996	Yes	No	No	No	-
Brazil, 1988	Yes	No	Optional	No	-
Chile	No new code	-	-	Land titling project	-
Colombia 1988 1994	 No Yes	 No No	 Yes Yes	 Yes Yes	 - Unprotected women
Costa Rica, 1990	Yes	No	Yes	No	Women in consensual unions
Ecuador, 1994	Natural persons	No	PRONADER project	No	-
El Salvador	No new code	-	-	-	Women combatants
Guatemala, 1999	Yes	Yes	Yes	Women refugees	-
Honduras 1991 1992	 Yes Yes	 No Yes	 Yes Optional	 No No	 -
Mexico 1971–92 1992	 Yes Natural persons	 No No	 No No	 No No	 -
Nicaragua 1981 1993	 Yes Yes	 No No	 No Yes	 No Yes	-
Peru, 1995	Natural persons	No	No	No	-

Source: Deere and León 2001:186.

settlers in conflict areas. The land rights of women in this country were honored irrespective of their civil status, so individual allocations were made to men and women who formed a couple.

The Lao PDR studies commissioned by AusAID (among others) for the Lao Land Titling Project focused on the legal aspects of the names noted on the existing land documents. It was initially established that *'men may be over-represented and joint titles under-represented'*, but later figures suggest a move towards a *'truer recording of land ownership'* (Lao Land Titling Project 2002:40). There were practical problems to recording the ownership of a jointly owned

parcel of land on forms, but this was identified and the format of the titles was reviewed. Considerable attention is also now being given to informing women of their legal rights relating to land.

Gender equity has not been a specific objective in the agrarian legislation of a number of countries including Peru. Deere and León (2001:303) contend that women who own land are often disadvantaged in the land-titling process because among other things, they have a low level of literacy and do not possess legal documents. To participate in the land-titling program in Peru one must also be a registered voter, and many women are not registered.

In most Latin American countries, women's organizations have not pushed hard for independent land rights for women in couples for three main reasons (Deere and León 2001:226):

- Structural, in view of the limited land available for distribution in most countries in the region, and in view of political constraints;
- Strategic, joint titling is in principle supported by all sides because to some extent, it seems to promote family stability; and
- The development level of women's organization in rural areas, most of which is still fairly low.

There was considerable discussion on using the name appearing on registration records as a safeguard for women and vulnerable groups. There is the criticism mentioned above of the term 'head of household' rather than 'land holder' on the land tax declaration forms in Laos. Various people have suggested that the use of joint names is a way of protecting the rights of women, and similar proposals are advocated for land owned by customary groups. These steps are appropriate in some jurisdictions, but other strategies were adopted elsewhere. In Kenya, there is an insistence on the agreement of family members before the title-holder sells or mortgages land (Platteau 2000:63). This practice constrains the market and delays land transactions, and in some respects harks back to the complex nature of English land law before the late 19th century, when family members could block land transactions (McAuslan 2000:78).[82] A simpler approach is the situation in Thailand where, to affect registration, a married person has to produce approval by the spouse to the land transaction, regardless of whose name appears on the title.[83] This provides some protection and does not seem to impact on a very efficient land registration system.

Inheritance Rights of Women. Deere and León (2001:284) noted that in Peru and Bolivia, widows are in a relatively strong legal position regarding inheritance rights. W within peasant and indigenous communities, usufruct rights are governed by traditional customs and practices enforced by the governing board of 'comuneros,' chosen by and consisting of a group of male household heads. When the head of a household dies, the usufruct parcel normally reverts back to the community as a whole, and the governing board decides whether to give the rights to the widow or the eldest son. Although widows in the highlands of Peru have mostly been treated favorably, there were cases where the widow's rights had been restricted by being given access

to less land than had previously been the case, or to the poorest land. Widows in many of the indigenous communities of Bolivia were not treated as well, with many permanently losing their rights as the land rights reverted back to the community.

Plaza's 1999 study (Deere and León 2001:284), which discussed changes in inheritance patterns over the past 30 years, established that wives and partners are increasingly designated as the main heirs after the head of the household dies. This change was partly attributed to the increasing recognition of the role of women in agriculture, brought on because sugar cane is increasingly being replaced with coffee production in the Veracruz region where the study was conducted. It is argued that *'. . . in these circumstances, the titling of a parcel to a woman is not just a formal affair but rather, gives her real prerogatives. Once a widow is in possession of the agrarian certificate, she effectively assumes control of family production.'*

Deere and León (2001:284) note the difficulty of identifying ancestral inheritance practices in view of the many different forces of change impacting on indigenous communities. It is also difficult to isolate the impact of 'gender-equitable civil codes' in fostering more equitable inheritance patterns over time. Furthermore, in Peru, Ecuador, Bolivia, Mexico, and Brazil it was found that inheritance of land becomes more equitable as agriculture becomes less important as the main source of household income.

Customary Tenure. In Africa, there was a push for recognizing and formalizing customary systems (rather than introducing new systems) despite the fact that the rights associated with such systems generally favor males. Toulmin and Quan (2000a:23) note that *"gender issues loom large in the current policy debate, cutting across discussion of customary and formal tenure systems, both of which have marginalised women's rights*." They acknowledge that women *"tend to have subordinate roles in relation to land in both customary and statutory systems"*. In customary systems, women are normally relegated to secondary users, with access rights to land closely related to their social connection with those who hold primary rights. Toulmin and Quan (2000a:24) however, also note that there is evidence of changing conditions, with women obtaining firmer rights under traditional systems. Although women are generally treated more favorably under statutory law than under customary law, there is often an implementation problem. Toulmin and Quan note that issues such as access to services and economic opportunities (credit, markets) are also very important, and that it may be necessary for a government to consider affirmative action toward women to ensure they are informed about legal changes in formal processes.

In the African context, Tinker and Summerfield (1999:17) note that during discussions about the new constitution in South Africa, there was conflict between customary rights over women and civil rights, giving women equality with men. The authors (1999:16) argue that many programs intended to aid women have in fact increased the burden on them. They refer to the example of Julius Nyerere's Ujamaa village efforts that increased the workload of women but did not better their financial situation, as men continued, in

effect, to control the sale of their produce. They also note that in this example that *". . . women tried to save their access to land by appealing to customary rights, which were considered stronger than land titles.'* Such rights were considered *"malleable and responsive to power'*.

In Latin America, there is evidence of indigenous female leaders increasingly challenging the structure of decision-making within traditional communities, demanding greater input into how 'customary' rules are determined and defined. As the land rights of women are closely connected to the broader struggle for indigenous land and territory, it is perhaps understandable the demands have not yet had much impact (Deere and León 2001:262). Recognizing indigenous territories was one of the main demands put forward by indigenous communities in Latin America. Deere and León (2001:236) note there is a distinction between this and the concept of land rights, as a territory is associated with the right to 'self-determination and self-government.'

Indigenous groups in Latin America have mainly focused on obtaining recognition for their historical land claims, collective property rights and the inalienability of collective property, including recognition of customary law. Indigenous women in turn focused on establishing equality between the sexes regarding adjudication and titling of land. This was mainly by way of joint adjudication or titling to couples "irrespective of their marital status,' as well as prioritizing female household heads (Deere and León 2002:53).

Table 22 Collective Land Rights in New Constitutions and Agrarian Codes

Country	Constitution	Recognition of collective indigenous lands	Recognition of customary law	Possibility of privatizingcollective land
Bolivia	1994	Yes	Yes	No
Brazil	1998	No	No	No
Chile	No	No	No	Yes (1979) No (1993)
Colombia	1991	Yes	Yes	No
Costa Rica	No	-	-	-
Ecuador	1998	Yes	Yes	Yes (1994) No (1998)
El Salvador	No	-	-	-
Guatemala	1998	Yes	Yes	No
Honduras	No	Yes	No	No
Mexico	1992	Yes	Partial	Yes
Nicaragua	1987	Yes	Yes	No
Peru	1993	Yes	Yes	Yes

Source: Deere and León 2001:238.

Deere and León (2002:53, 54, 67) argue that countries with some of the largest indigenous populations in Latin America (Mexico, Guatemala, Peru, Bolivia, and Ecuador) have made the least progress regarding land rights of women. They also acknowledge there is some tension between the rights of women and the rights of indigenous communities, the future of which is arguably first and foremost based on communal access to land. "*To question how that communal land is then going to be distributed . . . is seen to be divisive and a threat to indigenous unity*' and '*The primary demand of indigenous women must be for the defence of the community, which they see as being based on collective access to land. . . .*'

In many rural areas, women's lack of legal rights to land was highlighted because many men work elsewhere as migrant workers, while the women who remain close to the land have no access to technical assistance or credit. Indeed, their insecure position is exacerbated because seasonal male migration often turns into permanent migration, and abandoned women do not necessarily retain usufruct rights to the land they work (Deere and León 2002: 72). Women are increasingly beginning to address not only 'practical,' but also 'strategic' gender issues within women's organizations at the local and/or regional level, and have raised concerns about their access to land (Deere and León 2002: 71).

Table 22 summarizes the main 'gains and losses' of indigenous peoples in Latin America. Much has been achieved since the late 1980s in recognizing historic indigenous land claims and collective property rights, with the exception of Brazil, where, although indigenous communities have been granted collective land use rights, their land has remained federal property.

6. Conclusions and Guiding Principles

6.1 Conclusions

The following conclusions are put forward regarding the indicators and the methodology used to determine the indicators.

6.1.1 Indicators

The efficiency and effectiveness of land administration is constrained by the political and social environment within a regime, and largely determined by the ability of the civil service and local authorities to implement policy. Key elements in assessing the environment for land administration are:

- Clarity and social congruence in formally recognized rights, and the ability of the regime to implement systems which recognize these rights, as indicated by the proportion of the population and jurisdictional area that benefits from formal land administration services, recognition afforded by the state to informal settlers, and the safeguards afforded to vulnerable groups;
- Recognition afforded by the regime to populations living under customary arrangements; and
- The level of disputes over land rights, the formal and alternative dispute resolution mechanisms available to resolve these disputes, and the efficiency and effectiveness of these mechanisms.

Section Four of this publication presented detailed indicators that can be used to systematically assess the land administration environment. A comprehensive framework of quantitative indicators was developed for formal land administration systems. However, a subset of the indicators can be used to assess the efficiency of a land administration system from five different perspectives. These nine indicators are:

- Policy and context perspective: percentage of country covered by formal rights recognition, level of disputes over land, time taken to resolve land disputes;
- Customer perspective: time required, cost as a percentage of property value;
- Community acceptance/market activity perspective: number of registered transactions as a percentage of registered parcels;
- Internal efficiency perspective: number of staff days per registered transaction, annual running costs per registered parcel; and
- Sustainability perspective: ratio of revenue to expenditure.

A number of compromises have been taken in arriving at this subset of nine indicators. There is insufficient data to support an indicator expressing the

percentage of population benefiting from formal recognition of rights. There was also no data available in the case studies to support the Doing Business indicator of the number of steps to register a transfer, and in any case, it was felt that this indicator was highly correlated to the indicator of the number of days required to register a transfer. Despite these compromises, the final subset of nine indicators provides a clear picture of the situation in the countries studied, within the constraints of the available data.

Based on the data from the country case studies and wider experience in the sector, indicative 'mean' values were developed for these indicators. These 'mean' values provide a basis to assess the efficiency of a land registration system, and provide some metrics that can be used in the design of land administration projects. Table 23 summarizes, where available, data from the country case studies. The light gray cells in Table 23 show indices that are around the 'mean' value. Cells with medium gray show indices that are significantly better than the 'mean' value. Those cells with the dark gray highlight indices that are significantly worse than the 'mean' value.

While very useful for formal land administration system settings, it is notably more difficult to make comparative assessments of customary systems. The behavior and components of these systems, while considered responsive and fluid within the heterogeneous environment in which they exist, are far less predictable when based on regulatory assessment indicators.

It is clear from Table 23 that even though the set of indicators was prepared within the constraint of the data available from the country case studies, there are some gaps in the data. In particular, two of the first three indicators, which relate to the policy and legal context, have insufficient data available to determine indicators for most countries. The situation in Thailand, where formal rights are only recognized over 47% of the country, highlights definitional issues with the first indicator. Although formal rights only cover 37% of Thailand, this is a substantial proportion of the area within the country where private rights can be issued. It has not been possible to determine, based on the case study data, an indicator that expresses the percentage of the population that benefits from formal recognition of property rights. There is also a regional variation in data, with little data in the African cases studies available to support the determination of quantitative indicators. There are also a few gaps in the data from the case studies from the Latin America and Caribbean region. Key points that come from this analysis include:

- Armenia, Kyrgyzstan, and El Salvador all have a high cost of operations, when expressed as annual operating budget per registered land parcel.
- Armenia, and to a lesser extent, Moldova stand out for the relatively high levels of staffing and the resultant low internal efficiency.
- In Asia, with the exception of Thailand, the indicators show difficulties in the policy, customer, and community and market activity perspectives, even though the systems show strong internal efficiency and sustainability. In the case of Karnataka and the Philippines, a high percentage cost of transfer would appear to be a major factor. A similar pattern is evident in Trinidad and Tobago'

Table 23 Indicators for Land Administration System Efficiency

	% formal rights coverage	Level of land disputes	Dispute resolution time	Time required to register transfer (days)	Transfer cost as a % of property value	Annual registered transactions as a % of reg'd parcels	# of staff days / reg'd transaction	Ratio of annual running cost / registered parcel	Ratio of revenue / expenditure
'MEAN'	**100%**	**low**	**<1 yr**	**<5 days**	**<5%**	**>15%**	**<1**	**<$5–$10**	**>1**
Ghana	~2%	high							
Mozambique	~10%	high							
Namibia		low							
South Africa	80–90%	low				17.7%		$2.76	1.3
Uganda	12–15%	high	3.5 yr						
Indonesia	5%	high	long	14	0.5%	5.8%	0.9	$0.79	
Karnataka		high	2–25	20	13.0%	3.9%	0.6	$0.16	20.7
Philippines		med.	long	14	8.2%	11.0%	1.6	$1.17	2.4
Thailand	37%+	low		1	4.5%	21.2%	0.5	$2.10*	5.1*
Armenia		low	3 mths	15	1.5%	0.8%	10.0	$49.62*	1.6
Kyrgyzstan		low	1 day	10	5.0%	3.1%	0.8	$17.00*	0.3
Latvia	70.4%	low	6 mths	3	0.6–4%	7.7%	0.6	$7.00*	1.6
Moldova		med.		3–4	1.5%	4.0%	2.5	$2.46*	
Bolivia	~20%	high							
El Salvador				30		17.8%	1.2*	$27.47	

Peru		med.		4-7		13.8%	0.8		
Trinidad and Tobago			long	90		6.7%	1.8*	$2.70	
Developed Land Administration Systems									
South Australia	100%	low		7	4.2%	24.4%	0.4	$20.50*	2.1
West. Australia	100%	low		5.2	3.3%	30.3%	0.2	$35.14*	0.8
New South Wales	100%	low		0	3.2%	26.7%	0.9*	$19.76*	1.0
Victoria	100%	low		5	4.2%	25.8%	0.1	$22.72*	1.2
Queensland	100%	low		2–5	3.3%	41.8%	0.1	$28.55*	1.0
Northern Territory	100%	low		1		39.8%	0.2	$9.83	2.7
Aust. Capital Territ.	100%	low		1		35.8%	0.1		
Tasmania	100%	low		1	3.25%	30.0%	0.2	$54.73*	
Hong Kong	100%	low		20		24.0%	0.2	$15.96	1.3
New Zealand	100%	low		15		22.6%	0.2	$11.15	1.0
England and Wales	100%	low		5		20.5%	0.5*	$26.23	1.0
Scotland	100%	low		27		19.1%	0.9*	$25.64	1.1

Source: Author

Note: The superscript '*' indicates the fact that information for both the cadastre and registry has been used to determine the index. The superscript '+' for Thailand, indicates that the the titled area of 37% of the country is a substantial proportion of the 47% of the country that is legally eligible for titling, as the remaining 53% of the country is reserved as forests, national parks etc.

- The systems in South Africa, Thailand, and Latvia stand out as the most effective, although in the case of South Africa, this excludes the land held under customary tenure.
- With the exception of ECA, all of the developing countries in the case studies have problems in the policy perspective.
- The time to register a transfer in Hong Kong, New Zealand, and Scotland all substantially exceed the 'mean' of less than five days. This may be due to the fact that the time required by intermediaries such private lawyers or financial institutions is built into the case study estimates.[84] This delay may indicate that the nominated 'mean' value of less than five days is conservative and that a longer period may be acceptable to users.
- The annual operating cost per registered title in many of the developed land administration systems is substantially in excess of the nominated 'mean' of USD$5–$10, although the systems in Australia's Northern Territory and New Zealand are close to the upper range of the 'mean' value. There may be value in adjusting this indicator to reflect differing purchasing power (the case studies collected information on average annual salaries).

There is a strong temporal nature in the indicators. This is evident in the changes in the annual Doing Business indicators. It is also evident in the change in the case study status for Armenia, which is based on data gathered in 2002. Doing Business 2007 rated Armenia as the second most efficient land administration system (see Figure 7 on page 60).

The indicators set out in the table above are an important outcome from this global analysis. The data provide the metrics for designing land administration systems and developing measures of success for monitoring and evaluation of projects. The metrics will also support the preparation of financial models for land administration systems (see section 5.3.2 on page 100). The indicators of land administration efficiency set out in the table above can also be adopted by governments and the wider community.

6.1.2 Methodology

A key factor in completing the global analysis was ensuring a sound methodology was in place. Founding the investigations on a detailed concept note was a very effective starting point. The concept note provided a comprehensive rationale and context, and clear instructive advice for gathering the country and regional information. The only downfall was that an attempt was made to gather too much data, a possible consequence of which was a lack of attention to data quality and data verification. There are clear inconsistencies in the data (for example, the data on the unit cost of systematic registration of titles in Moldova and the urban project in Peru). In hindsight, there might have been benefit in reducing the number of data items collected and spending more time vetting the data. The consultative process to gather information was a major task, yet it was essential for reporting on the wide range of countries and issues with minimal bias. Using such a wide contribution of authors was, however, one of causes of data inconsistency.

Although a limited set of indicators is useful in undertaking a global analysis and comparison, there will always be the need for substantial contextual data to substantiate, clarify, and explain the performance of the individual systems. Given the widely varying country contexts, this may always be a fact of life. Despite this qualification, the limited set of indicators in Table 23 does provide a clear assessment of system effectiveness, without requiring major effort to gather data to attempt to measure all the aspects that may seem relevant in assessing system performance. The key constraint in using these indicators is the focus on formal systems.

Substantial qualitative information has been collected, particularly in support of the assessment of customary tenure systems. This information can be reviewed to some extent in tabular form, but there will always be difficulty using qualitative indicators to assess effectiveness. Regardless of whether the indicator is quantitative or qualitative, the indicators should focus on policy formulation, rather than attempt to assess outcomes.

6.2 Guiding Principles

The following guiding principles are put forward to assist in future efforts to strengthen land administration systems.[85] There is some overlap in the rationale for the principles, so these should be viewed as a framework for achieving an efficient and sustainable land administration system, rather than a suite of individual guiding principles.

6.2.1 Approach to Land Administration Reform

Principle 1: Prepare a framework for the long-term development of the land administration system.

Efforts to strengthen land administration systems typically occur over long periods of time. This framework should set out a 'vision' for the system, preferably expressed in terms of service delivery or outcomes for users of the system, rather than the perspective of land-sector agencies or inputs to support service delivery. The framework should also identify strategies and actions required to achieve the vision, in the near-term, mid-term, and long-term, and thus provide a guideline for government and donors to plan specific interventions. A critical element in the development of the framework is an assessment of the 'foundation' for the land administration system, in at least the areas of policy, legislation, institutional arrangements and capacity, human resources, funding and finance, and stakeholder engagement (see Figure 10 on page 70). In many developing countries, there is a weak legal framework and limited capability for dispute resolution. In developing the legal framework, a realistic assessment of the current social environment and the government's ability to implement laws in a manner that is acceptable to the general population needs to be undertaken. With limited capacity and credibility in the court system in many countries, efforts to develop efficient and responsive alternate dispute resolution procedures are often a necessary part of strengthening land administration systems (page 78).

Principle 2: Broaden the geographic extent of land administration services only where the legal framework reflects reality on the ground, and where there are appropriate dispute resolution mechanisms.

Some countries have developed a comprehensive land policy (for example, Ghana), often with extensive stakeholder consultation, which can be an important input into the framework for the long-term development of the land administration system. Reform in land administration faces many vested interests and requires strong political will.

Principle 3: Raise the institutional profile of land issues in formal political and administration structures.

In Cambodia, there is a Land Policy Council comprised of the Ministries concerned and chaired by the Minister of Lands. Malaysia has a similar arrangement. Forming a Ministry of Land, with the head holding a seat in Cabinet, is one of the best ways to raise the profile of land matters and have a strong impact on policy formulation. In the ECA countries reviewed, it was critical to have support at a high political level and to have directors of projects or agencies that were influential and motivated to achieve good results.

Principle 4: Before implementing a formalized, systematic registration activity do the following:

- Determine whether there is a demonstrated demand for registration,
- Ensure the registered right will reflect the existing social tenures,
- Ensure the process will not have major adverse social impacts,
- Ensure the costs are affordable and acceptable to beneficiaries,
- Ensure there are appropriate incentives to register subsequent dealings in rights, and
- Ensure there are appropriate institutional arrangements to register subsequent dealings in rights.

Generally, land rights and obligations exist, but are not supported by the formal system, thereby turning the system into one of *'formal illegality'* (McAuslan 2003:18). Although a land market exists, official laws are often ignored because they are seen as too complicated, subject to official interpretation, and generally do not accommodate user needs. For the policy to be effective and enforceable, it must reflect reality on the ground, and therefore should be fixed on the basis of consultation, while in accord with the considered input of the community. In many Asian countries, for example, forest boundaries are based on jurisdictional control rather than reality on the ground. It is a simple technical matter to determine boundaries based on macro land use classifications or technical standards relating to features such as topographic slope. Resolving this issue calls for a political decision and the political will to determine and adopt a policy of land classification that removes doubt in determining rights, and guides land administration in a fair

and just way. The guidelines for formalizing informal rights should specify a fast, efficient, and participatory methodology that reflects reality on the ground, without necessarily compromising accuracy.[86] As demonstrated in the global analysis, many jurisdictions were able to develop efficient and cost-effective methods to systematically register rights in land. Systematic processes have a number of distinct advantages. They are cost-effective, and when implemented with strong community participation, they are more transparent than traditional sporadic registration procedures. However, as demonstrated in many countries in Africa, systematic registration is not appropriate in all situations. In planning land administration interventions, the question of support for sporadic registration will often arise. Some jurisdictions adopt a policy of 'user-pays,' others provide infrastructural support for sporadic registration (buildings, equipment, operations, etc.), and others support sporadic registration activity.

Principle 5: Adopt a customer-rather than process-focus, and where possible, make clear promises on quality, time, and cost of key procedures.

A mass program to systematically register rights in land is only a first step in strengthening a land administration system. It is essential that an efficient, community-accepted system be developed to register subsequent dealings in rights in land. The limited impact of the first phase of the Indonesian Land Administration Project was largely due to the failure of the Indonesian project to develop an efficient, community-accepted system for the registration of subsequent dealings in land. This was despite the fact that the project exceeded targets in issuing titles.

It is important that a registration culture is fostered, where the community appreciates the benefits of keeping their record of their rights within the formal system. This will involve public awareness campaigns and assurance that the benefits of registration outweigh the costs. Simple, cost-effective procedures and accessible lodgment points will also be important. There also needs to be a shift in focus from internal processes and workflows to a focus on service delivery, with individuals seeking to register dealings in land considered as 'customers,' rather than merely 'applicants' at the beck and call of officials.

Customer focus can be developed in a number of ways, including simple posters in land offices explaining registration processes and prerequisites, customer help desks in waiting areas, the public display of fees and process times, and suggestion boxes in land offices. These can be assessed in a number of ways, including customer satisfaction surveys. The customer's expectations of land administration are security, clarity and simplicity, timeliness, fairness, accessibility, reasonable cost, and sustainability. A major concern for most users is cost and time. Much can be said about customer focus by the preparedness to display clear promises regarding cost and time. As previously noted, the registration system in Thailand is very efficient because all registrations must, by regulation, be completed on the day they are lodged. This promise of timely response takes the discussion away from a rationale for

delay such as problems with process, staffing, working hours and so on to the steps needed to ensure the promise is honored.

Principle 6: Where possible, adopt administrative rather than judicial approaches for formally recognizing rights in land.

In most developing countries, the judicial system is overloaded and struggling to cope with the number of cases presented to the courts. In many countries, disputes over land rights are a major proportion of court cases. In Vientiane, Lao PDR, 60 percent of cases in the court were land disputes. Often there are separate judicial reform projects to address issues of transparency, access for all, wide-scale legal education, and efficiently operating legal systems. Land projects should therefore seek to reduce the need to use the court system, by determining rights and resolving disputes through administrative, rather than judicial, processes.

Clear and simple administrative processes aim to encourage participation in the formal system, rather than avoidance. Administrative procedures should be implementing government policies using trained and qualified staff. An example of this is establishing systematic registration, using an administrative approach which permits flexibility and ease of implementation, with a participatory community focus. South Africa can attest to having success using administrative procedures for upgrading titles. However, administrative procedures in the Philippines and Bolivia remain complex and conflicting. It is therefore essential that administrative procedures, with the objective of reducing the delays and expenses that the public typically experiences in judicial processes, impose reasonably set fees and charges while aiming for cost recovery.

6.2.2 Institutional Challenges

Principle 7: Form a single land administration agency or coordinate policy between existing government agencies, with concrete mechanisms to support and encourage coordination. This coordination should define the charter of the respective agencies, clarify roles and responsibilities, define lines of communication, set a framework for coordination with land management agencies and lay a foundation for institutional reform.

Many jurisdictions have struggled with a lack of integration, at the information and institutional levels, between the property registry and the cadastre. Experience has demonstrated the benefits of having a single agency—Thailand, El Salvador, Armenia, and Kyrgyzstan for example. In other jurisdictions there is a complex web of overlapping institutional roles and responsibilities. In the Philippines, for example, 19 agencies have some role in land administration and at least four agencies issue documents evidencing rights in land.[87]

Decentralization can be a major factor in facilitating access to the land administration system but can also affect the cost of providing land administration services. Having flexible arrangements for decentralization

and linking decentralized offices to the level of expected demand for services is usually better than adopting a blanket policy of providing land administration services at a set administrative level (see the discussion of the potential cost implications of the latter approach in Ghana on page 84).

Principle 8: Make an early policy decision on the level of decentralization of service and the devolution of decision-making responsibility.

Decentralized service delivery requires interagency coordination between lands, local government and (sometimes) the courts, as well as vertical coordination. Generally, the responsibility for decision-making should be devolved to the lowest practicable operational level, leaving the central level responsible for policy, legal issues, standards and quality, personnel training, and discipline. It is not easy to arrive at a policy consensus in these matters, and political will, backed by a strong resolve to change, will be needed in the face of entrenched interests. While land administration is invariably a public sector activity, the private sector has a role in most jurisdictions.

Principle 9: Develop a framework for private-sector involvement in land administration services, including arrangements to regulate and oversee private-sector service suppliers.

There is almost universal acceptance of the role of professional intermediaries who serve as the interface between the public land administration agency and the customer community. Through careful quality assurance (licensing and so on) the private sector can assume much of the burden of maintaining the spatial and other records necessary to sustain the system. Using the private sector to prepare documentation for registration with legal liability can dramatically lower the costs of land registration to the state. However, it can also make the system unaffordable to the poor if land professionals undertake routine clerical tasks in addition to their professional tasks as is the case in Namibia.

6.2.3 Focus on Sustainability

Sustainability is a critical issue with land administration interventions. It has at least three dimensions: (i) technical sustainability, (ii) financial sustainability, and (iii) community participation (see page 89). To develop these elements requires a carefully planned capacity-building strategy. It is important that technology does not drive the process, and that the technology proposed is appropriate in terms of the available human and financial resources and also is affordable by users. Mistakes made during policy development—by not tying policy development sufficiently closely to technical implementation strategies, and not costing this implementation properly—can potentially derail the entire land reform process (Uganda). Systems should be financially sustainable in the near to medium term.

The importance of costing land administration services, particularly for decentralization or where significant new resources are proposed, is illustrated

in the cases of South Africa and Uganda. Major changes in land administration policy were costed, and as a result, South Africa stopped a draft Bill and Uganda scaled back implementation to pilot activity. In some countries, land administration services are being provided by independent agencies running on a self-supporting basis. In Moldova and Kazakhstan, the registry offices had to be self-funding from the start, the business plan for Moldova even provided for repayment of the World Bank loan. The 'independence' of these agencies means they can provide many different types of service, maximize income, and pay staff well enough to substantially decrease corruption.

Principle 10: Make a decision very early in the design stage on the registration model and the approach to the cadastre, this may be a hybrid model, perhaps with a title registration system supported by a graphical cadastre being developed in project areas, and less sophisticated systems operating elsewhere. Adopt simple, low-cost survey mapping technology depending on sustainability of capacity and resources.

Registration systems, particularly registration of deeds and title registration, were reviewed (see page 118). As noted, there was criticism, particularly based on experience in Africa, that land administration interventions have tended to concentrate on registration of titles. One strategy suggested in Africa is to set up systems to register transactions (page 123), basically a form of deeds registration. In ECA, it was observed that the development of land markets was impacted more by systems that allow transactions to occur quickly than by systematic titling efforts (page 23). Some countries that currently operate deeds registration systems are looking at moving to title registration (for example India, Peru, El Salvador). As systems have developed over many decades, taking into account the country's own particular laws and history, there tend to be few pure 'deeds' or 'title' registration systems (page 119). There is, however, an almost universal emphasis on using property identifiers to link legal and spatial records to minimize errors and provide better information to users.

A spatial framework or cadastre, supported by appropriate surveying and mapping methodology, is essential for title registration and is a key strategy for strengthening deeds registration (see page 118). Survey and mapping, however, are usually major cost elements in establishing and maintaining a land administration system, and are considerations for assessing technical sustainability (refer to page 173). Despite advances in survey, mapping, and computer, one needs to avoid over-specifying technology. No country has implemented a digital cadastre in support of a mass systematic titling program. Most titling systems were introduced on the basis of graphical cadastres. This has happened in the developed world, for example England, Australia, Sweden, and in the developing world, for example, in Thailand and Indonesia. Graphical cadastres provide adequate spatial frameworks in many jurisdictions and can be upgraded at a later stage on the basis of careful cost-benefit analysis.

This will almost certainly mean that there may be two or more tiers in the registration system, but this should not be a concern because all existing well-developed land administration systems have developed in this manner. Close

consultation with key stakeholders is often necessary in making decisions on registration models and cadastres, particularly with lawyers and surveyors who usually have strong vested interests. Although some assessments of land administration systems emphasize a jurisdiction-wide cover,[88] it is important to ensure that interventions are implemented within the framework of a long-term development plan and where more than one registration process operates, be clear about what process applies in a given case or situation.

Principle 11: Prepare a financial model of the land administration system under a range of market and service delivery and technology scenarios before basic parameters are agreed on.

In looking at financial models for land administration (see page 100) it is important to model the geographic phasing of interventions. When preparing financial models it is important to ensure that the schedule of fees and charges are not a major barrier to on-going community participation in the land administration system. The country case studies provide some information on what people seem prepared to pay.[89] It is important to acknowledge the social impact of land administration projects and the need for maximum community inclusion at all stages of the project. In some jurisdictions it can be critical to look at oversight arrangements and governance issues. Public support and understanding is essential and to be successful a land administration system needs to foster a culture where registration is undertaken as a matter of course, something that is taken for granted in the developed world.

Principle 12: The design must consider the human and technical resource capacities of the implementing agency, of potential service providers, and of its users. Appropriate land administration system design and capacity-building strategies involving short- to long-term training and education are necessary from project inception, preferably using local solutions (see page 104).

One of the major challenges in developing countries is implementing systems that are sustainable once external assistance has pulled out. Three key areas of human resource development need to be addressed including the implementing agency staff, both, higher authority and local decentralized levels, the private sector, and the users. Societal and organizational capacity building should be underwritten in the project design, however individual capacity building typically requires additional programs to train and up-skill providers, suppliers and users operating the system.

Short term training and up-skilling inputs address immediate short-comings but the design should also seek to develop or tap into more sustained avenues of education in the field of surveying and land administration that will supply both the government and private sectors with trained and qualified employees. Leveraging off existing education institutions as was the case in Lao (see page 104) will be easier than establishing an entire new facility. In addition engaging existing skills in the private sector can help fill service and resource deficiencies as long as reciprocal capacity building opportunities exist to support new systems or technology.

Participation and capacity building in the community through awareness and education programs can be effective at ensuring they play an active role in using the system.

6.2.4 Land Tenure Policy

Principle 13: Assess the need to intervene in customary tenure by understanding the community's needs and concerns, to ensure tenure certainty for all.

Countries where customary land tenure systems operate face a number of challenges. There are examples such as Indonesia and Ghana where developing countries have sought to dismiss traditional forms of tenure and customary land practices in the belief this would speed the path to development. This fails to recognize reality and ultimately presents more problems than solutions. As previously discussed (page 114) where customary systems operate two key questions need to be addressed:

- Under what circumstances do the existing tenure arrangements fail? and
- Where there is failure, what sort of intervention is appropriate?

In many countries in Africa an important issue that often needs to be addressed is land that has been alienated by the state from customary tenure regimes, often without appropriate compensation. This is a significant issue in Ghana. Some countries have recognized customary tenure, but the systems that were implemented to recognize this have limited integration with the formal land administration system (Bolivia, the Philippines). Other countries do not formally recognize customary rights (Thailand). The experience from the global analysis shows that customary and state systems of land tenure are not necessarily mutually exclusive and the evolution of a land administration system can be based on co-existence or the integration of the two. Integrating customary and formal land tenure systems is one intervention approach but it must ensure there is certainty in what rules apply in a given situation and ensuring any attempt to codify customary law must reflect the diversity evident in customary law. Customary practices relating to marriage, divorce and inheritance should not be codified for the purposes of a land registration system because even a superficial overview indicates various existing approaches as well as modifications stemming from the pressure of urbanization and the legal framework of the country in relation to gender etc. (Namibia, Mozambique, Uganda).

Strategies to integrate customary and formal land administration systems include:

- Registration of rights at a community level, with individual rights reserved for areas of conflict;
- Registering rights at a local or community level through local institutions such as Land Boards, but this strategy needs to be cost-effective; and
- Granting legal recognition of transactions, perhaps supported by cadastral mapping, the 'lighter approach' (page 123) proposed by Lavigne-Delville,

but such systems need to address the issue of assigning priority to customary transactions undertaken at the various levels of customary authority. Again, these systems need to be cost-effective.

Principle 14: Build into the design the capacity to collect gender-disaggregated data and data related to other disadvantaged groups, and monitor gender impact during project implementation.

Consideration of sensitive social impact issues such as women and vulnerable groups is important to project success and sustainability. "Gender aware" policies, family, inheritance and land law reforms and active support groups and networking are important strategies, however these require monitoring and evaluation of their impact. Without the need for additional social impact studies, recording of data which reflects the involvement of women and vulnerable groups in registration processes would be beneficial. Having this gender disaggregated data and data related to disadvantaged groups will enable the development impact on these vulnerable groups to be monitored and ensure these groups are appropriately targeted. It is important that evaluations consider what a fair representation of these groups are, recognizing demographic variations from war widows, the impact of HIV (particularly African women forced into divorce) and gender distribution, for example total female populations in Laos are recorded at 51 percent.

Principle 15: Adopt a phased approach to recognizing rights that help poor and vulnerable groups, in both urban and rural areas, gain security of tenure.

It is often a real challenge to design a project that addresses the issues of the various stakeholders, poverty alleviation, gender equity, environment sustainability, in a country that cannot adequately fund government services and where the land sector is often perceived as one of the most corrupt government sectors. One strategy to build a sustainable system is to target areas of potential development. However, such strategy can be difficult to defend against the criticism of designing projects to benefit the urban elite rather than the most vulnerable in society. An important point to note is that improvements in land administration infrastructure are part of a long-term strategy. What is often being debated is the initial emphasis or starting point, not the overall rationale for the activity. However, strategies can be developed to focus on the needs of the poor, including:

- Creating a legal framework to protect the rights of all citizens, including the poor (including dispute resolution and improved registries);
- Simplifying planning, building and other administrative regulations;
- Mandating that utility companies supply services irrespective of tenure status; and
- Setting objectives to encourage social and spatial integration of urban areas.

7 Appendices

- Appendix 1 – Policy/Legal Framework Indicators
- Appendix 2 – Customary Tenure Indicators
- Appendix 3 – Land Administration Parameters
- Appendix 4 – Formal Land Administration Effectiveness Indicators

Appendix 1 – Policy/Legal Framework Indicators

- African Country Case Studies – Table 24
- African Country Case Study (Uganda) – Table 25
- Asian Country Case Studies – Table 26
- European and Central Asia Country Case Studies – Table 27
- Latin America Country Case Study – Table 28

Table 24 African Country Case Studies

Indicator	Ghana	Mozambique	Namibia	South Africa
Types of rights formally recognized	There is a deeds and title system in place, with the latter only in Accra and Kumasi cities. The registration of titles has not been very popular—most people appear to find the system of registration of deeds adequate. Only the title system has legal liability. Some 78% of land in Ghana is under customary tenure, with the remaining 22% belonging to the state. Generally, customary law and statutory law operate alongside one another in the customary tenure areas.	No freehold is available. All land belongs to the state and cannot be sold, transferred, mortgaged, or offered as collateral. However, improvements on the land may be mortgaged, and may even be sold, provided approval is given by the public administration. Fifty-year leases (renewable for a further fifty years) are available for commercial investors and small holders (for Mozambicans and foreigners who have resided in the country for more than five years and for companies registered in the country). Inheritance of such right is possible, provided customary and occupancy rights have already been taken into account.	Most of the population lives in the north of the country under customary tenure. An inferior colonial relic system termed 'Permission to Occupy' exists in the north as the only tenure available apart from customary. Most of the remaining land is registered in full ownership (freehold) in a deeds registry system, for which the private sector has legal liability. One part of the country—Rehoboth—has a local-level deeds registry system where full ownership (freehold) is registered, also in undivided shares with no cadastral boundaries.	South Africa has a deeds system with compulsory registration. Title to land and other real rights is not guaranteed by law. Liability for compensation for errors is assumed by private sector land conveyancers and land surveyors, who produce documents that are registered. The system is sophisticated and highly accurate. It primarily registers full ownership (freehold), title in land and sectional title units, long term leases, leasehold rights, servitudes, mineral cessions, mineral leases, prospecting contracts, and so forth.

Types of rights informally recognized (including customary systems)	Customary land ownership rights are recognized. In areas of customary tenure, land management is community-based, with communities ranging from small families to entire tribes (Stools/Skins). Customary law does not prevent land sales to strangers but does not encourage it. A few informal settlements have been recognized, but squatter rights are generally not recognized.	The new 1997 Land Law holds that customary rights and land-use rights acquired through 'good faith' occupation over a minimum of 10 years are recognized (though not yet in urban areas). Customary rights and unregistered occupancy rights can be registered, but a registered customary right is not stronger than an unregistered one. Group customary rights can also be delineated as community land. This is recorded in the Surveyor General's office, not as a registered right, but as a land use designation.	Customary land ownership rights are recognized in some parts of the country. Namibia does not recognize occupancy rights and does not have anti-eviction rights in urban areas.	After the 1994 reforms, the following rights are recognized: customary tenure, informal settlement rights, the rights of squatters, occupancy rights (under certain circumstances), adverse possession, anti-eviction rights. The Interim Protection of Informal Land Rights Act (1996) has given informal occupants land rights, including a right to compensation if moved (state retains freehold title).
Percentage of the country and population covered by the formal system	Not available 78% of the country is under customary coverage.	About 10% Customary tenure accounts for roughly 90% of land tenure rights.	Not available	Estimated to be about 80–90% of the area and about 70–75% of the population nationally.

Table 24 (*Continued*)

Indicator	Ghana	Mozambique	Namibia	South Africa
Characteristics of population without formal rights	Squatter rights are generally not recognized under the law and no particular provision has been made for their registration. There are no gender specific provisions in the law and no restrictions on women who wish to register interests in land.	The 1997 Land Law has incorporated customary rights into the formal legal framework. The need to protect the rights of poor occupants has been recognized by law, and the new Land Law notes that women could be land use right holders.	Most people live in the north of the country under customary tenure. In rural areas where people have not settled according to prior planning, authorities did not give residents legal land rights. Around towns in commercial areas, squatting informally on land belonging to the local authorities or private individuals has become common. Around 10% of the population lives in urban areas on land to which they have no formal rights.	In urban areas, inferior titles to land owned by Blacks have been upgraded to freehold through administrative processes. Rural land in the former homelands must still be addressed. The Communal Land Rights Bill currently under discussion (in its 8th draft) can significantly affect the land registration system and customary tenure in the former homelands.
Level of disputes over land	Land disputes are considered to be numerous, but data on conflict resolution is not reliable. Between August 1999 and the end of 2001, 17 disputes were recorded in the Accra title registry, but the title	Conflict over land appears to be a problem. Conflict stems mainly from numerous overlapping land requests and land use concessions, most of which were competing with existing community lands. Such concessions cover	Information not readily available, but the level of disputes relating to land is thought to be reasonably low.	There have been only three court cases in 46 years in relation to the records of the Deeds registry. Of 67,314 restitution cases since 1994, 35,137 were settled through a separate judicial mechanism (the Land Claims Commissioners Court).

	registry only covers about 13,000 properties. The most common source of conflict appears to be boundary disputes. The nonperforming nature of the Land Title Adjudication Committee is probably the main obstacle to dispute resolution.	large parts of the best land in the country. Many applicants have exploited them of resources and so on after only submitting an application (that is, without prior approval). This has resulted in confusion, and exacerbated existing conflict between them and local communities.		Although the number of disputes over registered land records is low, there is estimated to be a fair number and range of disputes over land in general.
Time taken to resolve land disputes	Various mechanisms are in place to enhance speedy dispute resolution. The ability of traditional authorities to resolve land disputes appears to be good but adjudication procedures of the Land Title Registry need improving.	Information not readily available. Note: The 1997 Land Law did not include a special body to undertake conflict resolution, because customary institutions and judicial and community tribunals already exist and are adequate. Conflicts are resolved by judicial tribunals, other tribunals, and local level structures.	The Court system in the urban areas is fairly efficient, so the time to resolve disputes is estimated to be reasonably short. In traditional areas, local authority and traditional authorities resolve land disputes. Disputes are thought to be resolved fairly quickly, but no statistics are available.	Information not readily available.
Safeguards for vulnerable groups	Squatters who illegally occupy lands to which they have no title were	Customary rights are firmly entrenched in the new Land Law of 1997. There is	In the north, among the Oshiwambo– speaking people (40% of the	South Africa has numerous large informal settlements in urban areas.

Table 24 (*Continued*)

Indicator	Ghana	Mozambique	Namibia	South Africa
	virtually unknown until recently. Squatting has not become a common occurrence because of the diligence of landowners. Only one example of squatters being evicted from state land has been noted: in late 2001, to make way for a road, the Accra Metropolitan Assembly ejected squatters who camped and established an informal settlement on a road reservation in the city	ongoing donor-assisted work to ensure that tenure security is given to customary rights holders. The 1997 Land Law specifically notes the rights of women to be land use rights holders.	population), there is conflict between the law and what happens in practice in relation to matrimonial property regimes. This should be considered in any future system that may replace the customary systems. The rights of women are protected in the Constitution. This has encouraged a move away from, for example, evicting widows from family land in the Oshiwambo-speaking areas in the north. Social land tenure issues regarding, for example, inheritance, marriage, informal unions, group rights, and the role of customary functionaries in land designated as urban should be considered when changing the system.	Notwithstanding the progress the state has made in upgrading settlements, many people continue to live in shacks, without formal land rights, but protected to some extent under anti-eviction laws. After 5 years they may obtain adverse possession rights. Safeguards for vulnerable groups, such as the poor and women, are presently being incorporated into the system. More needs to be done to accommodate the poor, those living with customary tenure, occupants of the former homeland areas, those living in family groups, and those without any personal documentation, many of whom are illiterate or women.

Source: Augustinus C. 2003a, 2003b, 2003c.
Note: Information taken directly from relevant case studies compiled by Clarissa Augustinus; additional information for Ghana taken from Seth Opuni Asiama's paper, which formed part of the World Bank Project Preparation Report for the Ghana Land Administration Project 2002.

Table 25 Uganda Country Case Study	
Indicator	**Uganda**
Types of rights formally recognized	Uganda has a title system in place, but no deed system. The registration of titles (Torrens) was first introduced in 1908. The state has legal liability for the title system. Only about 40% of the Torrens titles (roughly 280,000) are thought to reflect the rights of the current owners and lease-holders. There are four types of land tenure in Uganda: customary, *mailo*, freehold, and leasehold. The following rights are recognized: occupancy rights, anti-eviction rights, group/family titles, modern 'starter' type titles, informal settlement rights.
Types of rights informally recognized (including customary systems)	Uganda has a range of forms of legal pluralism, which also contributes to land disputes. Theses include customary and/or statutory forms of evidence, customary kings and/or public land owned by the state, pastoralists and/or land gazetted as game reserve, customary rights holders, and public land.
Percentage of the country and population covered by the formal system	Freehold and leasehold covers about 12–15% of the country. Customary tenure covers about 62% of land. About 5–6% of the country has current titles, mostly concentrated in urban areas. Only about 40% of titles (280,000 of the roughly 700,000 titles issued) realistically reflect the rights of current owners and leaseholders. Customary tenure covers ±68% of the population.
Characteristics of population without formal rights	Rights obtained by the poor include the right to sell, lease, mortgage and inherit, and to claim compensation if moved (not an individual right, but that of a family/group). There is partial protection of the rights of women in that transfers can be prevented.
Level of disputes over land	Implementation of the Land Act of 1998 has been slow, and the delay between the removal of old mechanisms and structures, and failure to introduce new measures in a timely manner, have left a vacuum, in particular with regard to dispute resolution. Land disputes that were previously settled quickly at local level are now being drawn out. Disputes have become numerous and long-lasting. A total of 48% of all plots are in some way being disputed at present, with about half of all disputes relating to boundaries, and roughly 35% relating to issues of tenancy. Over 70% of conflicts that have been resolved have been subject to formal processes.
Time taken to resolve land disputes	The average dispute has a duration of about 3.5 years, with family conflicts estimated to last about 2.5 years on average. Disputes involving the government could take up to 5 years to resolve.

Table 25 (*Continued*)

Indicator	Uganda
Safeguards for vulnerable groups	LA98 initially focused on providing a basis for the emergence of a functioning land market, but as public interest grew, the focus shifted towards a more equitable system in which the rights of the poor and vulnerable were protected. Today the law protects tenants, communal land-holding women, and minors. Although rights are noted in LA98, the law has not been fully implemented because of budgetary constraints (the full implementation of the law would have cost government about a third of the national budget). Following pressure by women to include a provision dealing with land ownership rights between spouses, an amendment to LA98 was proposed, stating that land acquired by either spouse before marriage remained the property of that spouse. Although published for debate, the amendment was never passed in parliament and therefore not included in the published version of LA98.

Source: Augustinus C. 2003a, 2003c.
Note: Information taken directly from relevant case studies compiled by Clarissa Augustinus; additional information for Ghana taken from Seth Opuni Asiama's paper, which formed part of the World Bank Project Preparation Report for the Ghana Land Administration Project 2002.

Table 26 Asian Country Case Studies

Indicator	Indonesia	Karnataka	Thailand	Philippines
Types of rights formally recognized	Land rights are recorded in two systems: private conveyancing, and registration of deeds. The Indonesian system of title registration is not guaranteed by the state. The tenure system provides for a hierarchy of ownership/use rights. There are five basic forms of tenure, each with levels of restrictions: • *Hak Milk*—ownership; • *Hak Guna Usaha*—cultivation only; • *Hak Guna Bangunan* (HGB)—nominally a renewable 20–30 year lease; • *Hak Pakai*—use only; • *Hak Pengenolaan*—land management only. Ownership (*Hak Milik*) is confined to the individual, while corporate entities and foreigners are restricted to lesser forms of tenure.	The land registration system in Karnataka is a registration of deeds system. There is a fairly high participation rate, despite a fairly high transaction tax, but there are problems with under-declaration of values. There is a separate system of registration of rights based on old systems implemented by the British to raise revenue. They record tenancy in rural areas (RTC) and rights in urban areas (Property Cards), supported by reasonably complete survey map records. The technology for survey and mapping is very low and there are problems with completeness, particularly in areas subject to development. There are linkages between the registration system and the rights systems (RTC/Property Cards), but there are gaps.	A titling system was introduced in 1901, based largely on the Torrens title system operating in the state of New South Wales, Australia. The tenure regimes recognized in Thailand under the Land Code (NSL) include: • NS2—private rights recognized under the Land Code are pre-emptive rights which are not transferable: • NS3/3K and NS4—certificates of utilization and titles (NS4), both of which are transferable and accepted as collateral; • State land. There are other rights that are not recognized under the Land Code, including rights issued to land reform beneficiaries (ALRO 4-01), and usufruct, renewable 5-year licenses issued to agricultural land users in forests (STK).	The judicial-based Torrens system was introduced to the Philippines through the Land Registration Act 496 of 1903. Approximately 20% of privately owned land is now "registered land" under the Torrens system, with some of the balance relying on deeds to establish rights in property, and most of the remainder relying on informal systems.

Table 26 (*Continued*)

Indicator	Indonesia	Karnataka	Thailand	Philippines
Types of rights informally recognized (including customary systems)	A differentiation is made between squatting and extralegal occupation. Squatting applies to occupation on land where a right had been granted, but the rightful owner has neglected the land, or the person trusted to watch the land has informally leased it to other persons. Extralegal occupation concerns cultivation or occupation of state land, where in certain cases the occupants are given the opportunity to apply for the land right. Extra-legal tenure is an issue, especially in forest areas where there has often been occupation for generations. Forest boundaries are unclear and often gazetted without consultation with 'residents.' Possession (adverse possession) is not considered a legitimate source of title or a cure for title defects.	Karnataka has a number of tribal communities that live in varied environments, including the forests. The tribal communities view the concept of property differently and have difficulty in substantiating claims under law, which have been based on old revenue laws. However, squatters in the forests may get land ownership under special considerations. In north Karnataka, a Tibetan refugee colony was given 'permanent residence' status.	Rights under the Land Code cannot be issued systematically in forest land,this includes most of the land held by hilltribes and indigenous groups.[90] Although there is local recognition of the rights of hilltribes, there is no official recognition under the Land Code.	Communal claims can be made on land, resources, and rights thereon, belonging to the whole community within a defined territory. Individual claims can be made on land, and rights thereon which have been devolved to individuals, families, and clans, including, but not limited to, residential lots, rice terraces or paddies, and tree lots. There are two types of Certificates that may be issued: 1) A Certificate of Ancestral Domain Title that formally recognizes the rights of possession and ownership over ancestral domains identified and delineated according to the law; and 2) A Certificate of Ancestral Lands Title that formally recognizes rights over ancestral lands.

Percentage of the country and population covered by the formal system	Private rights in land can only be recognized on non-forest land. About 70% of the total area is legally classified as forest land, with the land administration system only covering about 30% of the country. Registered parcels represent about 5% of the total land mass of Indonesia, but cover a significantly higher proportion of the population—the island of Java, which has about 60% of the total population of Indonesia, constitutes only about 6% of the total area of the country. There are about 17 million registered parcels.	not available	It is not known what percentage of parcels is held with rights that are recognized as eligible for title deeds. DOL records show that in December 2001, there were 18,629,088 titles covering 11.3 million ha, 1,894,960 NS3 covering 2.69 million ha, 7,332,669 NS3K covering 6.34 million ha, and 368,033 NS2 covering 0.576 million ha (some duplication in these numbers likely). Earlier records[91] show about 37% (189,120 km^2) is eligible for private rights and of the above total 209,100 km^2—about 110% of eligible land—is covered by a registered document indicating that there is significant double-counting in DOL records.	Private rights in land can only be recognized on non-forest land. Forest land covers about 16 million ha of the total land area of about 30 million ha (about 53%). There is uncertainty about issuing rights to occupiers of forest land. There are about 10 million registered titles but problems with duplicate and overlapping titles exist, particularly in urban areas. About 6% of the Philippines remain unclassified, including much of Quezon City in Metro Manila, where rights are uncertain.
Characteristics of population without formal rights	Squatting is considered illegal and treated accordingly. There are no specific limits on land ownership by women. Property brought to a union by the woman can be registered solely in her	Squatters present a big problem in Karnataka. The State Assembly (on the recommendation of the Cabinet) can, however, legalize squatters and allow them to obtain rights.	A substantial number of people in rural areas have the legal status of squatters occupying state land – predominantly land considered legally forest land. Due to sociopolitical constraints, it is very rare for	Has had a long history of agrarian reform and redistribution of land to assist landless farmers. The Comprehensive Agrarian Reform Law (CARL) of 1987 covers the redistribution of all public

Table 26 (*Continued*)

Indicator	Indonesia	Karnataka	Thailand	Philippines
	name. Some parts of Indonesia (for example, South Sumatra) are matrilineal, and inheritance is affected accordingly in favorfavor of women family members. Joint registration of property acquired during marriage is possible and encouraged.	Two categories of Tribals (nomads and forest dwellers) coexist in Karnataka without private ownership on communal land. Tribal people are badly affected by the loss of land and by restricted access to forest produce. By law, women have been granted rights concerning land. However, there is proof that these seldom translate into effective control over land in practice.	squatters to be evicted. Squatting also exists in urban areas, and it is estimated that in 1993, there were about 1.256 million informal settlers in Bangkok (Mohit, 2002). These squatters also have no legal recognition, but evictions can be difficult.	and private agricultural lands suitable for agriculture to farmers and regular farm workers who are landless. "Landless" is now defined as owning less than 3 hectares. Rapid urbanization is causing squatter problems. The informal settler population in MetroManila is estimated to total 4 million, with about 80% of these settlers illegally occupying public land.
Level of disputes over land	There is a fairly high level of land-related conflict in the country (60% of court action involves land issues). Disputes arise mainly from cultivation by communities on plantation/state and forestland, noncompliance with land reform rules, land acquisition for development	There is a high level of litigation in the courts (particularly the High Court) related to land disputes. Statistics on the number of land dispute cases are not available.	The level of land-related disputes is considered to be low. Generally, Thai people tend to avoid social conflict. Under the systematic land registration program that forms part of the Land Titling Project, very few disputes arise that cannot be settled in the field, and	The level of land-related disputes is considered to be medium to low. Generally, about 15% of court cases are land-related. Conflicts in rural areas are few in number: in the project area in Leyte, about 4.5 % of the parcels in the pilot of 850 lots have been

	and excessive allocation of "location permits," an exclusive right to acquire land to develop large tracts, civil claims about entitlement, customary rights issues, failure to recognize long occupation as a right, and level of compensation.		few, if any, appeals are made to the court system.	noted as being involved in some form of dispute.
Time taken to resolve land disputes	Most disputes are handled by the General and Administrative Courts, with a limited number being handled by Civil Court. Appeals can proceed to the High Court and ultimately the Supreme Court, contributing to long delays and very high costs. Only the best informed and the wealthy can avail themselves of the court system to resolve disputes.	Court cases over land can take many years to resolve—some family disputes have even taken decades to resolve. The "average" time taken to resolve a land dispute in court is anything between two and twenty-five years. (Informed sources from the Court have indicated an average period of seven years).	Statistics are not available. The standard procedure is for a ruling to be made by the Provincial Land Officer, with parties then given 60 days to take the matter to the court.	Although the Registration Act notes set periods for matters to be dealt with by the courts, these specifications have little bearing on what actually happens. Land matters typically have low priority in the courts. Routine matters can take years to complete and disputed cases decades to resolve. The court process also lacks transparency.
Safeguards for vulnerable groups	There are not many safeguards for vulnerable groups. Persons who occupied state land since the early years of	The provision of legal assistance to poor farmers and the protection of socially disadvantaged groups, including Scheduled	Landless squatters may acquire rights over private land after 10 years of peaceful and open possession of the land.	IPRA provides significant protection for indigenous people when it is implemented and operational issues resolved.

Table 26 (*Continued*)

Indicator	Indonesia	Karnataka	Thailand	Philippines
	independence may apply for Hak Milik (freehold), except in DKI Jakarta where they may only be issued HGB ('building only'). To underpin the systematic registration program of ILAP, an amendment (regulation PP24 /1997) was made recently, the 1st amendment in 30 years. It provides for right to title after proof of 20 years occupancy. The occupancy must be in 'good faith', and recognized by the adat community.	Castes and Scheduled Tribes, form part of one of the four phases of land reform and are currently receiving attention. However, as noted above, this assistance is limited. Land held as 'common property resource' (CPR) is essential to support the rural poor.	There are no restrictions on land ownership by women. The Civil and Commercial Code protects women from their husband's selling property without their consent. Registration also enhances protection of spousal rights, as the DOL registration processes require spousal consent for a transfer of rights, regardless of who is registered on the actual title.	The Philippines has had a long history of agrarian reform and redistribution of land to assist landless farmers. The Comprehensive Agrarian Reform Law (CARL) of 1987 covers the redistribution of all public and private agricultural lands suitable for agriculture to farmers and regular farm workers who are landless. "Landless" is defined as owning less than 3 hectares. The law and its implementation are strongly supported by the public.

Source: Case studies prepared for the Comparative Land Administration Study by Land Equity International Pty Ltd.

Table 27 Europe and Central Asia Country Case Studies

Indicator	Armenia	Kyrgyzstan	Latvia	Moldova
Types of rights formally recognized	Land ownership rights can belong to the state, private individuals or be communal rights. Rights to land and property include full ownership, lease, permanent use, mortgages, easements and other restrictions. Land and buildings may be owned separately.	Land ownership rights can belong to the state or private individuals, or be communal rights. Rights that must be registered include full ownership, leases (more than 3 years), mortgages, easements, and other servitudes. Land, the buildings on the land and the apartments in a building may be owned separately.	Land ownership may be private, municipal, or state. Private ownership rights may be registered in the name of a private or legal person, joint ownership is also often registered. Rights include full ownership, lease, mortgages, easements, and other restrictions. Land and buildings may be owned separately.	Land ownership may be by private individuals, by community, or by the state. Rights include full ownership, lease, permanent use, temporary use, mortgages, easements, and other restrictions. Land and buildings may be owned separately.
Types of rights informally recognized (including customary systems)	Tenure is governed purely in accordance with formal laws and regulations. Informal tenure is not recognized.	Tenure is governed in accordance with formal laws and regulations. Informal tenure is not recognized. There are many areas where people occupy land to which they have no legal right. Informal tenure may be through squatting (fairly rare), erecting unapproved buildings, or encroaching into adjoining land. In rural areas, there are traditional and customary	Tenure is governed purely in accordance with formal laws and regulations. Informal tenure is not recognized and any form of informal occupation is very rare. Squatters and extralegal tenure are very rarely recognized. Extralegal (or nonregistered) land occupation law permits 10-year acquisitive prescription. Squatters are considered to be mainly a matter of strict policing.	Tenure is governed purely in accordance with formal laws and regulations. Informal tenure is not recognized.

Table 27 (*Continued*)

Indicator	Armenia	Kyrgyzstan	Latvia	Moldova
		processes which may be utilized in the transfer of immovable properties.		
Percentage of the country and population covered by the formal system	Not available Urban land comprises 36,620 ha, 6,987 ha are in private ownership. Most urban land is privately occupied, but not officially privatized.	Not available	99.7% of the total area of Latvia is registered in the state land cadastre. The total number of real properties and land use registered in the cadastre is 829,205. Ownership rights are registered for 70.4%.	Urban land comprises about 316,000 ha,approximately 30,000 ha are legalized in private ownership. Most household land is privately occupied but not officially privatized and registered.
Characteristics of population without formal rights	Encroachment into neighboring land and illegal construction of buildings will prevent registration. Occupation is recognized, but cannot be legally transacted. This is a serious problem on private and public land but 10-year 'acquisitive prescription' is permitted. During systematic registration, up to 20% of land encroachments are regularized free of charge to the owners. Others acquire the land they have encroached by sale or lease.	There are many areas where people occupy land to which they have no legal right. Someone who openly, continuously, and in good faith possesses immovable property as an owner for 15 years shall obtain ownership rights. There are no limitations on land ownership by women. Rights are protected through normal notarial practice. However, in some rural areas, women are reluctant to use official procedures to claim their rights (after divorce or	Squatters are allowed to acquire land and buildings through 'acquisitive prescription' after 10 years possession. Illegally constructed buildings must be legally regularized or removed. There are no limitations with regard to the rights of women to own land.	There are no problems with squatters. There are no limitations on the rights of women to own land. Spouses are protected by law and through notarial practice.

	There are no limitations with regard to the rights of women to own land. Spouses are protected by law and through notarial practice.	separation) because of social pressure.		
Level of disputes over land	Conflict over land is not a serious issue in Armenia. There are very few court cases relating to land.	There are few serious disputes over land. Over 95% of disputes are resolved at the local registration office or Centres for Land and Agrarian Reform (CLAR) without the need for legal counsel. During 2001, over 20,000 cases were resolved by CLAR, and a similar number by GosRegister, the state Agency that deals with registration of rights to real property.	Conflict over land is not a serious issue in Latvia. During the early stages of the land reform process, conflicts were resolved early in the process by the Land Commission.	The rapid mass registration program meant that several hundred thousand cases needed resolving because of minor problems with name spelling or with matching documented parcel boundaries with the existing ground situation. Courts are not well equipped to deal with more serious cases, but the large number of less serious cases is being corrected administratively.
Time taken to resolve land disputes	Disputes are normally dealt with by the local community within a week. Court cases are normally resolved within a three-month period.	Most conflicts are resolved within hours at the local registration and CLAR offices. A very small number of disputes are taken to court.	The local government deals with land conflict prior to land registration. Disputes are normally resolved within a week to a month. If taken to court, it may take up to six months for a case to be judged. The decision of a judge may be appealed in the Senate of	Cases involving technical problems are dealt with locally by registration offices and local mayors. Nevertheless, most take a long time to solve. Cases that go to court take even longer.

Table 27 (*Continued*)

Indicator	Armenia	Kyrgyzstan	Latvia	Moldova
			the Supreme Court. There are few appeal cases – only five to six on average per year and they are normally quickly resolved.	
Safeguards for vulnerable groups	Not available	Not available	Not available	Not available

Source: Case studies prepared for the Comparative Land Administration Study by Gavin Adlington, with the assistance of Daninge Danielson, Baiba Ziemele, and Elisabeth Lundgren.

Table 28 Latin America and the Caribbean Country Case Studies

Indicator	Bolivia	El Salvador	Peru	Trinidad and Tobago
Types of rights formally recognized	Bolivia allows private ownership of land through the issue of an original title. Titling has, however, been a slow and complicated process (on average, it used to take up to 12 years to process a title). The Agrarian Reform Law of 1953 provides the legal framework for rural land ownership and administration. The Law identifies five forms of legal land tenure:[92] 1) Small holdings; 2) Medium-sized holdings: farms larger than (1), capable of producing for the market; 3) Commercial farms: large farms with wage employees, modern technology and equipment and so on; 4) Community holdings: legally recognized Indian community land worked by them;	El Salvador is one of the most densely populated countries in Latin America. The Government acknowledged the importance of land issues in the late 1970s, but rather than taking a comprehensive view, it focused only on one aspect: land redistribution. Although roughly 14% of the land in the country was subsequently redistributed, it did not markedly improve tenure security, as incomplete land records prevented the formal completion of many transfers.[93] Private ownership of land is allowed. Possession rights can be registered.	Rapid and unplanned urbanization has resulted in large informal settlements in Peru. About two thirds of the population now live in urban areas. The country does have a formal titling system, but many of the established areas of the country are covered by a separate registration of deeds system. Since the early 1990s, and in particular since 1996, there has been a strong push for mass titling. Private ownership of land is allowed through the issue of an original land title. A title may also be acquired through a supplementary title. Possession rights can be registered. Peru has done more to consolidate its (confusing) land laws during the past decade than any other country in Latin America, but the formal legal	A Torrens title system (through a Real Property Ordinance-RPO) was introduced in 1895, 10 years after the introduction of a Registration of Deeds Act that regulated the registration of deeds. Given the high costs and administrative problems associated with the RPO, most land transactions continue to take place under the 'old law' deeds system. Land can be classified as state, state-enterprise or privately owned land. Actual tenure is in fact quite complicated, and private individuals have strong legal claims to state lands through adverse possession. Approximately 55% of farmers have no formal, documented rights to their land.

Table 28 (*Continued*)

Indicator	Bolivia	El Salvador	Peru	Trinidad and Tobago
	5) Cooperative land: land worked jointly by individual farmers. The vagueness of these descriptions has confused administration of the law.		framework does not cope with the large and consistent influx of people to the urban centers.[94]	
Types of rights informally recognized (including customary systems)	The Agrarian Reform Act of 1953 determined that those who had been working land prior to the reform program would be the new owners. In this way, land invasions prior to and just after the 1952 revolution were ultimately legitimized. Land was not given to its rightful owner and landlords lost those parts on which peasants were raising subsistence crops. There were many problems with the process, for example, the target for expropriation was 'areas which inefficient landlords hold in excess,' but 'inefficiency' was never clearly defined.[95] The Agrarian Reform Act was replaced in 1996 by the	Not available	Property rights associated with informal arrangements were not recognized until fairly recently. It is now possible to obtain legal recognition of informal settlement and clear title (registered in the Property Registry), although the process is protracted. Between the 1930s and 1960s informal settler rights were strengthened by shortening the prescription period from 30 to 10 years. Officially, settlers were given 'expectative' property rights, that is, the state acknowledged the validity of their rights and took responsibility for resettling them but prohibited the establishment of new	There are parcels of land occupied under commonly accepted tenure regimes, especially family land that is not recognized by law. Many occupiers of state lands without valid leases have strong legal claims to land. The number of 'illegal squatters' on private land is considerably less, most not having documentary evidence to support claims of ownership or tenancy. Only 10% of agricultural (state- owned) leasehold parcels are estimated to be occupied by lessees with valid leases. Many are squatters with informal rights, but there are a significant number of

	INRA Act (Law for the National Agrarian Reform Service). This new law made conceptual progress, eliminated land gifts, separated administration and justice, created automatic mechanisms based on taxation instead of visual inspection of land use, and established procedures for public auction of lands and preferential access for those belonging to indigenous groups.[96]		informal settlements. Since the late 1980s, the law has been amended to simplify the formalization of informal settlements. About 1.2 million titles have been issued to informal settlers in urban areas under a World Bank project commenced in 1997.	landholders with either expired or irregular leases.
Percentage of the country and population covered by the formal system	A 1984 census, about 20% of land in the country (22 million ha) was identified as having owners.	Not available	Not available	Not available
Characteristics of population without formal rights	Peasants and Indian indigenous people are in a weak position in regard to access to land and land rights. It has been estimated that native groups claim about one-third of the eastern lowlands of the country (the government recognizes less). Since the late 1980s, there have been many	In the late 1800s, a landless class was 'purposely' created by government to provide workers for coffee plantations. The expansion of plantations and the subsequent foreign exchange earnings through coffee export were seen as a solution to the economic problems of the country. This resulted in the transfer	The state regularizes the rights of those living in informal communities on state-owned land. Recognition is only given where the community has already accepted the situation, or given the impression that it will. Regulation of informal rights on state-owned land has given some legal safety for	There are no limitations on land ownership. Women's rights are protected under the standard constitutional provisions (rights to enjoy property etc.).

Table 28 (*Continued*)

Indicator	Bolivia	El Salvador	Peru	Trinidad and Tobago
	problems there with regard to government concessions to forest logging companies. Settlers often move in when the loggers move out and there has been trouble between loggers and indigenous groups living in the forests.	of much Indian land, and that of other peasants, to private framers, as well as communal land being outlawed. Rural landlessness and skewed land distribution are still serious problems. In the early 1970s, 2% of the agricultural population owned 60% of agricultural land. It was also established in the early 1970s that 65% of the rural population were landless or land poor. Following the civil war, and a land reform program, about 54% of the agricultural work force have remained landless, land-poor or without work.[97]	those living on 'collectively owned' urban land parcels, without granting a right to ownership of the land. Squatters on state land may also be relocated.[98]	
Level of disputes over land	A consolidated map of land ownership (based on descriptions registered in the cadastre) suggests that there are overlapping claims on about 40% of the total land resource. This has contributed to disputes.	Not available	There are a fair number of disputes among informal settlers and between informal settlers (living on state- owned land), and the state.	There are none of the structural conflicts between landlords and tenants that prevail in the rest of Latin America. The most common conflicts are between neighbors over boundaries. Statistics are not available.

	Various groups claim rights and interest in the ownership and use of land. The main groups are logging companies, land title holders, large and small scale farmers, environmental groups, and indigenous people. As economic activity increases, conflict over land, and in particular forest resources, is intensifying.[99]			
Time taken to resolve land disputes	Tenure insecurity is less prevalent in traditional areas where community organizations have remained strong. Land disputes there are less frequent than in other areas, and are resolved relatively quickly through community mechanisms. Officially, land disputes are resolved by officers of the National Land Institute, and on appeal by the Agrarian Judiciary (which still has many shortcomings). Municipalities and natural authorities have no role in dispute resolution.[100]	Not available	Not available	Disputes can only be resolved through the court system, leading to severe delays. Legal disputes over land often take years to resolve, in part as a result of congestion of the ourt system.

Table 28 (*Continued*)

Indicator	Bolivia	El Salvador	Peru	Trinidad and Tobago
Safeguards for vulnerable groups	Agrarian reform resulted in land being granted to approximately a million peasants. Although peasants were given parcels, they did not receive inputs, credit, or any technical assistance, which limited the economic impact of the land reform. Following protests in 1986 against the government's granting of lumber concessions on forest land where indigenous tribes lived, land on the outer fringes of the forests was conceded to the Indians. This was not accepted by the Indians, and led to the government complying with native territorial demands and a cessation of the awarding of logging rights, in 1990, until more studies were conducted into the impact of forest reserves and policies.[101]	Not available	The rights of urban squatters were recognized in 1988 with the introduction of three novel concepts into the legal framework surrounding land administration: 1) Provisions for the registration of possession rights; 2) Creation of a new registry system with simple procedures to register ownership and possession rights; 3) Legalization of the concept of a mortgage based on possessory rights. In 1991, Decree 653 was passed, removing many remaining restrictions, most notably those on the free transfer of land.	Not available

	Due to lack of enforcement, the INRA Act (Law for the National Agrarian Reform Service) of 1996 has been criticized for not radically changing the pattern of access to land. It has significantly changed the distribution of Original Community Lands for lowland indigenous groups. Ethnic communities have been given land for free, and awarded rights similar to permanent usufruct. Land has not yet been given to individuals, nor has the mechanism of 'public collation,' necessary to create a transparent land market, been implemented.[102]			

Source: Barnes, G. 2002.
Note: The information has been taken directly from the relevant case studies. As the case studies for Latin American countries are only available in Spanish, the main source of information was the regional paper on Latin America compiled by Grenville Barnes. The case study for Trinidad and Tobago was written by Thackwray Driver. Information was also extracted from various other sources as specified in the endnotes.

Appendix 2 – Customary Tenure Indicators

- African Country Case Studies – Table 29
- African Country Case Study (South Africa and Uganda) – Table 30
- Asian Country Case Studies – Table 31
- European and Central Asia Country Case Studies (no relevant issues) – Table 32
- Latin America Country Case Study – Table 33

Table 29 Customary Tenure Indicators for African Country Case Studies			
Indicator	**Ghana**	**Mozambique**	**Namibia**
Legal recognition of customary rights	Traditional authorities own and control nearly 80% of land resources. In the customary system, traditional norms and practices are recognized as the legal basis for land rights and relationships among land users.	Customary tenure accounts for over 90% of land tenure rights. Under the new land policy, participatory approaches and the variety of customary land rights are recognized. The customary land tenure administration system was given formal recognition in the 1997 Land Law.	Most of the population lives in the north of the country under a range of customary tenures. Rights are recognized in some of the customary areas.
Clarity in the general community of identity of customary authority	The identity of customary authority as such seems reasonably clear. In urban areas, customary authorities no longer administer land on behalf of communities. They have virtually become the owners, as they take all decisions and retain benefits. In customary areas, traditional leaders also remain very influential, although there are often disputes within groups about leadership, leaders/chiefs may be challenged and so lose their position. In such an event all land grants made by the departing chief may be annulled by his successor and re-negotiations would need to take place. In some cases, even when the state has acquired customary land, customary tenure still prevails because compensation has not been paid.	During the socialist period (1975–90), the national government pursued a policy of reducing and abolishing the power of indigenous leaders and administrative structures. Notwithstanding such attempts, the indigenous structures remain in place today, and as a result relationships between traditional leaders with their communities and local government officials vary throughout the country.	In the north, where customary tenure is in place, traditional authority structures play formal and informal roles, but their powers of land allocation and transfers have greatly diminished. Tension between traditional authority officials in the new civil society of Namibia and the policy of the new national government is mirrored in structures on the ground. For example, people prefer to take inheritance problems to headmen, who do not have the power to enforce decisions. Although involved in all aspects related to inheritance and so on, headmen operate in a 'legal vacuum.'

Table 29 (*Continued*)

Indicator	Ghana	Mozambique	Namibia
Clarity in the general community of boundaries of customary authority	Where both customary and statutory laws apply, confusion exists over who authorizes the alienation of particular parcels of land. Stools may be different depending on the landowning institutions, and adjacent stools may be uncertain about their boundaries.	Please refer to information below.	Around towns in the former 'homelands' most informal settlers were allocated land by traditional leaders. They cannot really be described as squatters.
Clarity in the general community of customary rights	Social and political institutions (such as the extended family system, chieftaincy, and so on) that guide customary rights, and which existed under the traditional regime, have continued to exist. However, their functional significance has been curtailed and modified to some extent. Nevertheless, their influence remains strong enough to affect modern land tenure relations. Laws relating to land are well respected. Confusion over land rights and the real status of land occurs mainly when the state acquires land but does not pay compensation to owners, or does not utilize the land.	Because of the high level of conflict during recent years over numerous overlapping land requests and land use concessions in customary areas, clarity and clear guidance by the authorities is lacking (institutional capacity is considered to be weak).	Customary rights seem clear. Issues regarding the differences between legal rights and what happens in practice create some confusion and disagreement. Customary rights are not always in line with the new 1990 Constitution.

Source: Augustinus C. 2003a, 2003b, 2003c.
Note: Information taken directly from relevant case studies compiled by Clarissa Augustinus; additional information for Ghana taken from Seth Opuni Asiama's paper, which formed part of the World Bank Project Preparation Report for the Ghana Land Administration Project 2002.

Table 30 Customary Tenure Indicators for South Africa and Uganda Case Studies[103]		
Indicator	**South Africa**	**Uganda**
Legal recognition of customary rights	At present the country has a range of tenure types. Customary tenure per se is not a land right, but the rights of occupation are protected. Informal settlement tenure is not a land right, but the occupants can obtain adverse possession after five years and can be evicted only in terms of specific procedures.	Customary tenure is the dominant tenure system in the country. The Land Act of 1998 (LA98) vests land in the citizens of Uganda, rather than the state, as was previously the case. It also formalizes customary tenure while simultaneously recognizing customary law. In addition, it establishes a new, independent government agency for land administration and dispute resolution, and creates a Land Fund with a number of compensation and lending responsibilities. LA98 allows persons occupying land under customary tenure to obtain a certificate of customary ownership as documentary evidence of entitlement through the process of adjudication and demarcation of boundaries. Third party rights may also be recovered at the time of adjudication, and be protected. Customary owners may enter into a full range of land transactions, both commercial and family transactions (sale, lease, mortgage, gift, devises).
Clarity in the general community of identity of customary authority	Some people still dispute the role and authority of traditional leaders. Customary structures remain prevalent in the former homeland areas, including KwaZulu-Natal, where the majority of state owned land belongs to the King of the Zulus. This land is held in customary tenure and chiefdoms, and is being managed through the 'Ingonyama Trust.'	It is not clear from the case study whether the authority of the customary leaders is clear to the people. A Traditional Rulers Statute was introduced in 1993. It was meant, among other things, to restore to Traditional Rulers any assets and properties they had owned—or were otherwise connected with—that had been confiscated by the state. The Traditional Ruler was to have the same estate or interest as was previously held

Table 30 (*Continued*)

Indicator	South Africa	Uganda
	Problems include the lack of an authoritative list of tribes/clans linked to the areas of jurisdiction of a traditional authority, and difficulty in obtaining agreement between adjacent traditional authorities.	by the Uganda Land Commission. The state created a degree of uncertainty for occupants on Traditional Rulers land, which needs to be clarified in light of the new Constitution that was passed after 1993, as well as through LA98, which curtails and limits the role and interest of the Uganda Land Commission.
Clarity in the general community of boundaries of customary authority	There is duplication of land allocation functions, with conflict between chiefs, municipal councilors, the state, provincial Departments of Agriculture and/or Traditional Affairs all involved. KwaZulu-Natal is an example of how the lack of a complete description of all the boundaries of the different clans and tribes made it impossible to identify the complete boundary of the Ingonyama Trust land (belonging to the Zulus). The boundary has become a combination of the chiefs' areas, plus the area that belonged to the former homeland of KwaZulu. Agreements with Traditional Authorities about areas of jurisdiction must be finalized. Although agreements are presently reached based on the notion that the Traditional Authority representatives have seen beacons marking boundaries, such representatives should accept boundaries and stop claiming neighboring lands.	Given the large number of land-related conflicts (see information below) these boundaries do not always appear to be clear.
Clarity in the general community of customary rights	In spite of confusion over boundaries (see above), rights appear to be reasonably clear in customary areas.	The 1998 Land Act has led to a significant increase in the number of land-related conflicts, rather than a decrease. It may be argued there is confusion regarding rights.

Source: Augustinus C. 2003a, 2003b, 2003c.
Note: Information taken directly from relevant case studies compiled by Clarissa Augustinus; additional information for Ghana taken from Seth Opuni Asiama's paper, which formed part of the World Bank Project Preparation Report for the Ghana Land Administration Project 2002.

Table 31 Customary Tenure Indicators for Asian Country Case Studies[104]				
Indicator	**Indonesia**	**Karnataka**	**Thailand**	**Philippines**
Legal recognition of customary rights	The Basic Agrarian Law – BAL – (UU 5/1960) is the basis for land administration. Article 5 stipulates that Indonesian national land law shall be based on '*Adat*' (customary) law. Implementing regulations are still based on the old Dutch Civil Code. Most existing implementing regulations fail to follow elaborate or even contradict the *adat* principles. The BAL was aimed at creating a National Land Law based on the utilization of traditional concepts, principles, systems, and institutions. Many feel the BAL has been used to dilute customary rights and has now outlived its usefulness.	There is protection under the law for Scheduled Castes (SCs) and Scheduled Tribes (STs), including priority under the land reform program and protection from alienation of land. – However, this protection has been of limited effect, and there is evidence that landlessness is increasing among SCs and STs at a faster rate than others, due to pressure as more marginal and small farmers become landless laborers. Where SCs and STs have been allocated land, they have often been evicted and persecuted.[105]	Reservation in the 1960s of over 50% of the country as forest is an important land issue. People have continued to develop land under customary practices, but can no longer be certain their rights in land will be recognized. Rights under the Land Code cannot be issued systematically in forests. This includes most of the land held by hilltribes and indigenous groups. Although there is local recognition of the rights of hilltribes, there is usually no official recognition under the Land Code. In 1995, it was noted that the government estimate of the hilltribe population was 554,172, compared to NGO estimates of 700–800,000.[106]	To date, the Philippines is the only country in Asia that has used the term 'indigenous peoples' and acted to recognize their rights. Article XII of the 1987 Constitution creates a formal legislative basis for recognition and establishment of land rights for indigenous cultural minorities. The Government enacted an Indigenous People Rights Act (IPRA) RA 8371 in 1997 and formed a National Commission on Indigenous People (NCIP). The NCIP is mandated to identify, delineate, recognize, and ultimately issue title to ancestral land claims (individual, family, or class) and ancestral domain claims (community or large group). According to NCIP, in 1998 there were 12 to 15 million indigenous people in the Philippines.[107]

Table 31 (*Continued*)

Indicator	Indonesia	Karnataka	Thailand	Philippines
Clarity in the general community of identity of customary authority	There are more than 200 ethnic and subethnic groups in Indonesia. The major groups are Javanese, Sundanese, Minangkabau, Batak, Melayu, Bugis, Makassar, Banjar, Manadonese, Achehnese, Madurese, Balinese, Ambonese, Timorese, Dayak, and Papuans, or Irianese. Each group consists of several subethnic groups, each with its own dialect. There are also other sub-ethnic groups, including the Baduy, Kubu, Sakai, and Suku Laut. Traditionally, there are inter-island migrations among these groups, both from Java to the outer islands and the reverse, he outer islands to Java, the latter partly because of Java's superior economic infrastructure.	Not available	Not available	IPRA provides a mechanism to establish and manage indigenous people's organizations (IPOs). There are indications that IPRA has led to a proliferation of IPOs and engenders disunities among indigenous peoples. There have been many community-level disputes and suggestions that ethnic identities and ancestral domains are 'imagined'.[108]

Clarity in the general community of boundaries of customary authority	'*Adat*' or customary land rights and customary systems of tenure are acknowledged by law. The government recognizes the existence of customary land, provided certain criteria are met, for example, that boundaries must be well defined and understood. It would appear that boundaries are not always clear.	Not available	Not available	Considerable uncertainty on the extent of ancestral domains (see comments above) with a lot of past pressure from mainstream development projects, 'militarization,' and land-grabbing by settlers and migrants. Procedures to define and protect ancestral domains and to resolve inconsistencies with other laws and regulations are still to be established.
Clarity in the general community of customary rights	Rights do not seem clear, given the high level of land-related conflict throughout the country.	Not available	There is very limited recognition of rights to land in forests—limited to five-year, renewable usufruct licenses for agricultural users. There is no recognition of customary law.	As noted above, there is much uncertainty surrounding the issuing of rights to occupiers of forest land.
Source: Land Equity International 2004.				

Table 32 Customary Tenure Indicators for Europe and Central Asia Country Case Studies

Indicator	Armenia	Kyrgyzstan	Latvia	Moldova
Legal recognition of customary rights	There are no issues with respect to customary tenure or inheritance/use traditions that complicate tenure arrangements.	There are no issues with respect to customary tenure or inheritance/use traditions that complicate tenure arrangements.	There are no issues with respect to customary tenure or inheritance/use traditions that complicate tenure arrangements.	There are no issues with respect to customary tenure or inheritance/use traditions that complicate tenure arrangements.
Clarity in the general community of identity of customary authority	Not available	Not available	Not available	Not available
Clarity in the general community of boundaries of customary authority	Not available	Not available	Not available	Not available
Clarity in the general community of customary rights	Tenure arrangements, particularly in the rural sector, are clear, with few problems with regard to ownership.	Tenure arrangements, in the rural sector in particular, are clear and there are few problems with regard to ownership.	Tenure arrangements, in the rural sector in particular, are clear and there are few problems with regard to ownership.	Tenure arrangements, particularly in the rural sector, are clear, with few problems with regard to ownership.

Source: Adlington, G. 2002.
Note: Information taken directly from the relevant case studies compiled by Gavin Adlington, with the assistance of Daninge Danielson, Baiba Ziemele, and Elisabeth Lundgren.

Table 33 Customary Tenure Indicators for Latin America and Caribbean Country Case Studies				
Indicator	**Bolivia**	**El Salvador**	**Peru**	**Trinidad and Tobago**
Legal recognition of customary rights	Bolivia amended its Constitution in 1994 to recognize traditional indigenous territories, Tierras Comunitarias de Origen, (TCO) and the rights of indigenous people to administer their own land according to their own customs. Indigenous tenure may be formalized as a TCO or as a community property titled collectively to an indigenous group. Indigenous land tenure is widespread and constitutes an important form of community tenure. Approximately 67% of the population is of indigenous origin, so this is a key point for tenure and land administration initiatives.	Recognition is now being given to indigenous groups and their rights. Up to the 1980s, successive governments limited the power of peasants and perpetuated the existence of a landless peasant labor force to work on the coffee plantations. Land reforms during the 1980s aimed at improving their lot had little input from the peasants regarding design or implementation, the measures were met with strong opposition from the militias working for landlords.[109] Since then, land reform has been a very slow process, marred by violence.	There has been increasing recognition of indigenous groups and their rights in the country. Most of the 8 million indigenous people in Peru live in '*comunidades natives,*' many of which had been titled to indigenous groups. In agrarian reform, no agricultural parcels smaller than 3 ha could be adjudicated. The property registry was forbidden to register transfers or subdivisions involving parcels smaller than 3ha. This resulted in massive informality, estimated at around 700,000 parcels, and affecting more than half of the farmers in the country.	In Trinidad and Tobago (as well as some of the other Caribbean nations) 'family land' has some similarities to indigenous tenure. Family land may have been titled many years ago in the name of some deceased ancestor of the present holders, and has subsequently been passed down through several subsequent generations without formal documentation, many of the living family members with a valid claim to the land now tend to reside overseas. Family land is distinct from indigenous land in Latin America in that structures (formal /informal) to deal with functions such as land allocation and conflict resolution are absent.

Table 33 (*Continued*)

Indicator	Bolivia	El Salvador	Peru	Trinidad and Tobago
Clarity in the general community of identity of customary authority	The identity and power of customary authorities appears diminished by political and administrative structures. Although the formal recognition of the right of indigenous people to administer their own land according to their own customs is unlikely to be as strong as it used to be, it may be possible to re-establish the identity of traditional leaders.	The identity and power of customary authorities appears diminished by both pre- and post-revolutionary political and administrative structures. Despite this, there has been increasing recognition of customary rights since the revolution.	The identity and power of customary authorities appear to have been diminished by political and administrative structures in the country.	Not available
Clarity in the general community of boundaries of customary authority	Prior to the revolution, Indians spread their risk by farming on land both in the highlands and lowlands. The 1954 law determined that they would only be able to formally obtain the right to one such plot of land, not two different plots in different geographical areas.[110]	Not available	Much remains to be done in terms of addressing overlaps with protected environmental areas and encroachment by private farmers seeking land.	Not available

	Land tenure security and recognition of property rights for indigenous people and community organizations remain problematic issues.			
Rights are understood by the people	Not available	Not available	Not available	Not available

Source: Barnes, G. 2002.
Note: The information has been taken directly from the relevant case studies. As the case studies for Latin American countries are only available in Spanish, the main source of information was the regional paper compiled by Grenville Barnes. The case study for Trinidad and Tobago was compiled by Thackwray Driver. Information was also extracted from various other sources as listed in the footnotes.

Appendix 3 – Land Administration Parameters

- Land Administration Parameters for Africa and Asia – Table 34
- Land Administration Parameters for Europe and Central Asia and Latin America and the Caribbean – Table 35
- Land Administration Parameters for Selected Jurisdictions with Well-Developed Registries – Table 36

Table 34 Land Administration Parameters for African and Asian Country Case Studies									
Parameter	**Ghana**	**Mozambique**	**Namibia**	**South Africa**	**Uganda**	**Indonesia**	**Karnataka**	**Philippines**	**Thailand**
Area (km^2)	239,460	801,590	825,418	1,219,912	236,040	1,919,440	191,791	300,000	514,000
Population (in millions)	20.2 m	19.6 m	1.8 m	43.6 m	24.6 m	231	52.7	84.5	62.6
Estimated number of land parcels	Not available Kumasi region – 36,000 parcels surveyed (only one title registered = over palace ground)	Millions still to be registered	Not available	±8 million surveyed parcels	700,000 titles,	75 million	Not available	Not available	20–30 million
Registered land parcels	Accra: 11,383 parcels registered over 13 years, Accra: an average of 3,956 p/a for 1st registrations	Roughly 1,000 valid 'old' titles in country. For 1991–96, with foreign aid, 69 titles had been issued, with 800 being processed at the end of 1996. Titling to re-commence in 2003, after restructuring.	Not available	6,996,658	An estimated 5 million still to be registered	±17 million	>15 million	>10 million titles	±19 million (2001)

Table 34 (*Continued*)

Parameter	Ghana	Mozambique	Namibia	South Africa	Uganda	Indonesia	Karnataka	Philippines	Thailand
Annual transfers	Not available	Not available	Not available	379,839 (2001/02 financial year) Many of State's subsidized houses are transferred 'informally'	Not available	Not available	Not available	Not available	Not available
Annual registered transactions	Not available	Not available	Rehoboth registry – rough average of 5 transactions per day	1,240,778	Not available	540,200 registrations in 2000 (but records incomplete) 909,000 in 1999	589,000 in 1999/00	'Very low level'	±4 m (for year ending 30 Sept 2001)
Annual registered transfers	1,368 in total (1990–2000) (registration of subsequent transactions)	Not available	Not available	380,000	Unknown ±300,000 current titles	252,200 (1998 sales, mortgages and leases)	Not available	368,068 (2000)	2.44 m (for year ending 30 Sept 2001)
Annual registered mortgages	797 in total (1988–2000) (registration of subsequent transactions)	No registered mortgages	Not available	249,656	Not available	Not available	Not available	398,195 (2000) – Registrar of Deeds	Not available

Annual budget for registry	Not available	Not available	Not available	R173 million (±U$19.3 million)	Not available	Rp 650 m (1999) (±US$92, 198.00 at Dec 1999 rate)	Rs367.5 m in 1999/00 (US$7.9 million)	P1,184.6 million Pesos for 2002 (±U$22.3 million at Dec 2002 rate)	US$69.8 m (for year ending 30 Sept 2001)
Annual budget for cadastre (if separate)	Not available	Not available	Not available	R70 million (2001/02 budget for Surveyor General) (±US$7.8 million at Oct 2001 rate)	Not available	Rp134,000 m (1999) (±US$19 million)	RS403.1 m in 1999/00 (US$8.7 m)	Nil	Not available
Annual revenue	Not available	Not available	Not available	R217,086,000 (2001/02) revenue for information supplied by the registry (not cadastre) (±US$24.1 million at Oct 2001 rate) Note: Surveyor General revenue figure not available	not available	Rp2,070 m (1998) 351 m Rupiah (1999) * * registration fee revoked by law	Rs±7.6 million Rs in 1999/00 (±US$163.4 million)	₽1,146.7 million (2000) (±U$22.9 million at Dec 2000 rate)	US$354.3 m (for year ending 30 Sept 2001)

Table 34 (*Continued*)

Parameter	Ghana	Mozambique	Namibia	South Africa	Uganda	Indonesia	Karnataka	Philippines	Thailand
Number of registry staff	55	Registry office still under legal development	Not available	Not available	Not available	Not available	1,546	2,408 (2002)	±8,500
Total number of staff (registry/ cadastre)	±700 in Survey Dept ±755 in registry	326 in DINAGECA (National Directorate of Geography and Cadastre)	Not available	Not available	Not available	25,000	2,863	Not available	11,834
Number of registration offices	Headquarters in Accra, branch offices in Kumasi and Tema	Registry office still under legal development	Country: not available Rehoboth—only 1	9 (provincial)	Not available	273 Municipal/ Regency Land offices	199 Sub-registries at city/ Taluk level	162 registries of deeds	76 Provincial land offices and 272 Branch Provincial Offices (title register) 758 district land offices keep registers for lesser documents

Source: Augustinus C. 2003a, 2003c; Land Equity International. 2004.

Table 35 Land Administration Parameters for European and Central Asian and Latin American, Caribbean Country Case Studies								
Parameter	**Armenia**	**Kyrgyzstan**	**Latvia**	**Moldova**	**Bolivia**	**El Salvador**	**Peru**	**Trinidad and Tobago**
Area (km^2)	29,800	198,500	64,589	33,843	1,098,581	21,040	1,285,215	5,128
Population	3.3	4.8	2.4	4.4	8.3 m	6.3 m	26.7 m	1.262 m
Estimated number of land parcels	Not available	Not available	Not available	5 million	0.65 m	1.8 m	6 m	0.5 m (approximate, with some overlap)
Registered land parcels	2.5m	Not available	0.58m	3.08m	Not available	Not available	3.2m (deeds registry) 0.8m (title registry)	±250,000 parcels registered under traditional registry system, Another 50,000 registered under new system
Annual transfers	Not available	Not available	Not available	Not available	Not available	Not available	Not available	Not available
Annual registered transactions	30,228 (2000) – excl. systematic	33,374 c (2001) – sporadic 131,901 (2001) – systematic	121,010 (2001)	714,000 (2001) – systematic 187,000 (2001) – sporadic	Not available	284,920 registrations on average for 2000/01	471,000 (deeds registry) 1999 82,784 (title registry)	±30,000 transactions registered annually (deeds system)

Table 35 (*Continued*)

Parameter	Armenia	Kyrgyzstan	Latvia	Moldova	Bolivia	El Salvador	Peru	Trinidad and Tobago
Annual registered transfers	19,774 (2000) – (sales, mortgages &, leases)	31,161 (2001) – (sales, leases, gifts)	44,801 (Sales-2001) 26,290 (Mortgages-2001) Leases on average 1,000 p.a.	71,000 (2001) (sales, mortgages &, leases)	Not available	313,355	133,530 (deeds registry) 26,356 (title registry)	33,526 (sales, mortgage and lease transactions) ±2,000 sale transfers registered annually under RPO
Annual registered mortgages	Only above total available	17,407 (2001)	26,290 (2001)	7,346 (2001)	Not available	Not available	5,749 (deeds registry) 26,356 (title registry)	Not available
Annual budget for registry	Nil	US$471,768 (2001)	US$1.25 million	Nil	Not available	Nil (self-sustainable by law)	Not available	US$1,369,380 (2001)
Annual budget for cadastre (if separate)	Nil	Nil	US$9.1 million	Nil	Not available	Not available	Not available	US$637,000 (2001)

Annual revenue	US$2,250,000 (US$1.39 m from fees, US$585,000 from EU and US$275,000 from WB project)	US$604,738 (includes estimated revenue for 2002 for all offices that are not self-financed) + 8% of the revenue at self-financing offices	US$26.9 million	US$ 1,293,000	Not available	Not available	44,790,272 (deeds registry) 3,226,365 (title registry)	US$15,022,000 (registry) 1997 U$920 (cadastre) 1998
Number of registry staff	Not available	128	160	700	Not available	000800	1376 (deeds registry)	Not available
Total number of staff (registry/ cadastre)	Not available	Not available	Not available	Not available	Not available	Not available	174 (title registry)	Not available
Number of registration offices	1 central office (HQ), 47 local-level offices throughout the country that hold the legally valid records.	1 central office (HQ) plus 50 local registration offices (24 of these are already self-financing)	8 regional offices for cadastre	1 central office (HQ), 12 regional offices, 17 local-level offices Copies of registers are kept centrally.	Not available	Not available	60 (deeds registry) 20 (title registry)	Not available

Source: Adlington, G. 2002, with the assistance of Daninge Danielson, Baiba Ziemele, and Elisabeth Lundgren and Barnes.

Table 36 Land Administration Parameters for Selected Jurisdictions with Well-Developed Registries

Parameter	South Australia	Western Australia	New South Wales	Victoria	Queens-land	Northern Territory	Australian Capital Territory	Tasmania	Hong Kong	New Zealand	England and Wales	Singapore	Scotland
Area (km^2)	0.984m	2.525m	0.801m	0.227m	1.727m	1.346m	2,400	67,800	1072	0.268m	0.151m	636	78,772
Population	1.5m	1.9m	6.5m	4.8m	3.6m	0.2m	0.3m	0.5m	5.9m	3.9m	50m	3.5m	5.2m
Estimated numbe of land parcels	Not available	Not available	Not available	Not avail.	Not available	Not available	Not available	Not avail.	Not avail.	Not avail.	Not avail.	Not avail.	Not avail.
Registered land parcels (Title and/or deeds registration)	0.82m	0.96m	3.66m	3m	1.7m	0.06m	0.16m	0.3m	2.5m	3m	22.3m[111]	0.26m	2.59m
Annual transfers	Not available	0.10m	0.27m	0.28m	Not available	Not available	Not available	0.02m	0.230m	Not avail.	2.70m	Not avail.	0.16m
Annual registered transactions	0.20m	0.34m	0.98m	0.80m	0.83m	0.02m	0.04m	0.09m	0.6m	0.67m	4m	0.45m	0.49m[112]
Annual registered transfers	Not available	0.10m	0.27m	0.28m	Not available	Not avail.	Not available	0.02m	0.230m	Not avail.	2.70m[113]	Not avail.	0.16m
Annual registered mortgages	Not available	0.11m	0.30m	0.24m	Not available	Not avail.	Not available	0.018m	0.149m	Not avail.	1.72m	Not avail.	0.18m
Annual budget for registry (US$)[114]	$16.81 m[115]	$33,74 m[116]	$72.34 m[117]	$67.26 m[118]	$34.94 m[119]	$0.59 m[120]	Not available	$16.42 m[121]	$39.9 m[122]	$33.46[123]	$425 m[124]	Not avail.	$66.56[125]
Annual budget for cadastre (if separate)	Not available	Not available	Not available	Not avail.	Not available	Not avail.	Not available	Not avail.	Not avail.	Not avail.	Not avail.	Not avail.	Not avail.
Annual revenue (US$)	$35.50m	$28.32m	$72.03m	$77.30m	$34.94m	1.58m	Not available	Not avail.	$52m	$31.81	$535.6	Not avail.	$75.76
Number of registry staff	274	236	Not available	280	223	14	16	49	525	Not avail.	8,600	117	Not avail.
Total number of staff (registry/ cadastre)	Not available	Not available	920	Not avail.	Not available	Not avail.	Not available	Not avail.	Not avail.	647	Not avail.	Not avail.	Not avail.
Number of registration offices	1	3	1	1	6	2	1	1	9	6	25	1	2

Source: Land Registrars Development Officers Conference, Australia, 2002.

Appendix 4 – Formal Land Administration Effectiveness Indicators

- Land Administration Indicators for Africa and Asia – Table 37
- Land Administration Indicators for Europe and Central Asia, and Latin America and the Caribbean – Table 38
- Land Administration Indicators for Selected Jurisdictions with Well-Developed Registries – Table 39

Table 37 Indicators of Formal Land Administration Effectiveness for the Country Case Studies (Africa and Asia)									
Indicator	**Ghana**	**Mozambique**	**Namibia**	**South Africa**	**Uganda**	**Indonesia**	**Karnataka**	**Philippines**	**Thailand**
Percentage of total parcels registered	Not available			Not available	Not available	23%	Not avail. likely to be high	30%[126]	63%[127]
Percentage of transfers that are registered						Not available	Not available but likely to be high	15%[128]	Not available but likely to be high
Annual registered transactions as a percentage of registered parcels				17.73%		5.82%	3.9%	11%	21.2%
Annual registered transfers as a percentage of registered parcels				5.43%		Not available	Not available	3.7%[129]	13.1%
Annual registered mortgages as a percentage of registered parcels				3.57%		Not available	Not available	Not available	Not available[130]
Ratio of annual registry running costs/registered parcels				2.76		0.79	0.16	1.17	Not available[131]
Ratio of annual registry running costs (including cadastre if separate)/ registered parcels				Not available		Not available	Not available	Not available	2.1
Registration staff days/registration				Not available		0.9	0.56	1.56	0.5[132]
Total staff days/ registration						Not available	Not available	0.5	0.66[133]
Time to produce certified copy of title				6–10 days		1 day	1 day	2 days	30 min.

Time to complete registration of transfer		Not available		14 days	20 days	14 days	2.5 hrs.
Total ongoing land-related court cases as a percentage of total registered parcels		3 in 46 years[134]		Not available	Not available	15%[135]	0.15%[136]
Average time to resolve ongoing court cases		Not available		Not available	7 years[137]	Not available	3 years
Number of registries per 1 million population				1.48	3.77	1.96	5.89[138]
Number of registries per 100,000 square kilometers in country land area				15.79	103.76	54.00	70.94
Average working days to pay for average transfer cost				Not available	Not available	24	12
Transfer cost as a percentage of value				0.5	13	8.2	4.5[139]
Unit cost of systematic title (US$)				24.4	Not available	Not available	24.21
Level of government where registration is undertaken		Provincial level[140]		District	City and Taluk	District	Provincial and Sub-Provincial
Ratio of revenue/ expenditure		1.25		Not available	20.68 (reg.) 9.84 (Registry+ Survey Dept.)	2.37	5.08

Source: Augustinus C. 2003a, 2003c; Land Equity International 2004.

Table 38 Indicators of Formal Land Administration Effectiveness for the Country Case Studies (ECA and LAC)								
Indicator	**Armenia**	**Kyrgyzstan**	**Latvia**	**Moldova**	**Bolivia**	**El Salvador**	**Peru**	**Trinidad and Tobago**
Percentage of total parcels registered	Not available	Not available	Not available	61%	Not available	Not available	67%	53%
Percentage of transfers that are registered	Not available	Not available	Not available	Not available	Not available	Not available	Not available	Not available
Annual registered transactions as a percentage of registered parcels	0.8%	3.1%	7.7%	4%	Not available	17.8	13.8%	6.7
Annual registered transfers as a percentage of registered parcels	Not available	Not available	Not available	Not available	Not available	Not available	3.9%	Not available
Annual registered mortgages as a percentage of registered parcels	Not available	Not available	4.5%	0.7%	Not available	Not available	2.1%	Not available
Ratio of annual registry running costs/registered parcels	Not available	Not available	Not available	Not available	Not available	27.47[141]	Not available	2.70
Ratio of annual registry running costs (including cadastre if separate)/ registered parcels	49.62	17	7	2.46	Not available	Not available	Not available	Not available
Registration staff days/ registration	10	0.8	0.6	2.5	Not available	Not available	0.76 deeds registry	Not available
Total staff days/registration	Not available	Not available	Not available	Not available	Not available	1.2	0.54 title registry	1.8
Time to produce certified copy of title	4 days	2–7 days	1 hr	10 days	Not available	8 days	30min	6

Time to complete registration of transfer	15 days	10 days	3 days	3–4 days	Not available	8–30 days	4–7days	90
Total ongoing land related court cases as a percentage of total registered parcels	Not available likely to be low	Not available likely to be low	Not available likely to be low	Not available likely to be high	Not available	Not available	Not available	Not available
Average time to resolve ongoing court cases	3 mths	minimal	minimal	long	Not available	Not available	Not available	Not available
Number of registries per 1 million population	19.2	11.1	11.1	6.6	Not available	Not available	2.3 (deeds) 0.8 (titles)	Not available
Number of registries per 100,000 square kilometers in country land area	0.9	0.25	0.4	1.6	Not available	Not available	4.6 (deeds) 1.6 (titles)	Not available
Average working days to pay for average transfer cost	77	228	31	66	Not available	Not available	Not available	Not available
Transfer cost as a percentage of value	1.5	5	0.6–4	1.5	Not available	Not available	Not available	Not available
Unit cost of systematic title (US$)	18.02	15.76	13[142]	9.90	181.40	29.74	12.66 Urban 46.68 Rural	1,064
Level of government where registration is undertaken	Local	Local	Region	Local	Not available	Not available	Not available	Not available
Ratio of revenue/ expenditure	1.6[143]	0.28	1.6[144]	Not available[145]	Not available	Not available	Not available	Not available

Source: Adlington, G. 2002, with the assistance of Daninge Danielson, Baiba Ziemele, and Elisabeth Lundgren and Barnes.

Table 39 Indicators of Formal Land Administration Effectiveness for Selected Jurisdictions with Well-Developed Registries

Indicator	South Australia	Western Australia	New South Wales	Victoria	Queens-land	Northern Territory	Australian Capital Territory	Tasmania	Hong Kong	New Zealand	England and Wales	Singapore	Scotland
Percentage of total parcels registered (Title and/or deeds registration)	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Percentage of transfers that are registered	100%	100%	100%	100%	100%	100%	100%	100%	Not available	Not available	Not available	Not available	Not available
Annual registered transactions as a percentage of registered parcels	24.4%	30.3%	26.7%	25.8%	41.8%	39.8%	35.8%	30.0%	24.00%	22.61%	20.52%	Not available	19.1%
Annual registered transfers as a percentage of registered parcels	Not available	10.24%	7.37%	9.26%	Not available	Not available	Not available	7.1%	9.20%	Not available	12.11%	Not available	6.36%
Annual registered mortgages as a percentage of registered parcels	Not available	11.08%	8.19%	7.96%	Not available	Not available	Not available	6.0%	5.96%	Not available	7.69%	Not available	7.1%
Ratio of annual registry running costs/registered parcels	Not available	Not available	Not available	Not available	Not available	$9.83	Not available	Not available	$15.96	$11.15	$26.23	Not available	$25.64
Ratio of annual registry running costs (including cadastre if separate)/ registered parcels	$20.50	$35.14	$19.76	$22.72	$28.55	Not available	Not available	$54.73	Not available	Not available	Not available	Not available	Not available

Registration staff days/registration	0.35	0.22	Not available	0.091	0.069	0.18	0.076	0.16	0.21	0.18	Not available	Not available	Not available
Total staff days/ registration	Not available	Not available	0.94[146]	Not available	Not available	Not available	Not available	Not available	Not available	0.25	0.59[147]	0.05	0.92
Time to produce certified copy of title	5 min–2hr	10–45 min	9 min	Instant	Instant	Instant	<15 min	2 min	25 min	<5 min	1 day	30 min	Not available
Time to complete registration of transfer	7 days	5.2 days	Immed.[148]	5 days	2–5 days	24 hrs	24 hrs	24 hrs	20 days	15 days (95%)	25 days (80%)	1 week (85%)	27 days
Total ongoing land related court cases as a percentage of total registered parcels	Not available	Not available	Not available	Not available	Not available	Not available	Not available	Not available	Not available	Not available	Not available	Not available	Not available
Average time to resolve ongoing court cases	Not available	Not available	Not available	Not available	Not available	Not available	Not available	Not available	Not available	Not available	Not available	Not available	Not available
Number of registries per 1 million population	0.66	1.58	0.15	0.205	1.66[149]	2.51	3.093	2.112	1.32	3.78	0.51	0.37	0.39
Number of registries per 100,000 square kilometres in country land area	0.101	0.119	0.125	0.439	0.347	0.148	40.97	1.463	1,315	4.45	16.54	1,515	2.59
Average working days to pay for average transfer cost	40.5	29.9	28.0	39.1	32.3	Not available	Not available	32.9	Not available	Not available	Not available	Not available	Not available
Transfer cost as a percentage of value	4.19%	3.28%	3.24%	4.15%	3.31%	Not available	Not available	3.25%	Not available	Not available	Not available	Not available	Not available

Table 39 (*Continued*)

Indicator	South Australia	Western Australia	New South Wales	Victoria	Queens-land	Northern Territory	Australian Capital Territory	Tasmania	Hong Kong	New Zealand	England and Wales	Singapore	Scotland
Unit cost of systematic title (US$)	Not available	Not available	Not available	Not available	Not available	Not available	Not available	Not available	Not available	Not available	Not available	Not available	Not available
Level of government where registration is undertaken	State	State	State	State	State	Territory	Territory	State	National, branch	National, branch	National, and 24 districts	National	National, branch
Ratio of revenue/ expenditure	2.11	0.84	0.99	1.15	1.00	2.67	Not available	Not available	1.30	0.95	1.023	Not available	1.135

Source: Data Matrix produced by the Land Registrars Development Officers Conference, Australia, 2002.

Endnotes

[1] Defined in the wider sense of land and the immoveable property fixed to land.

[2] World Bank, World Development Report 1989, page 87. The table below shows the greater proportion of natural capital in land in poor countries (World Bank/IBRD 2006:31). Ultimately, land ranks as the highest asset across all three income brackets.

The Composition of Natural Capital (High Oil Exporters Excluded)

	Low-income countries	Middle-income countries	High-income countries
Land	**75**	**61**	**50**
Timber	8	8	10
Subsoil	17	31	40

[3] 'Food security' is defined by the Food and Agriculture Organization of the United Nations (UN FAO) as 'the access of all people at all times to the food they need for an active and healthy life.' Refer to FAO Web site: www.fao.org

[4] As 'land tenure' is defined as 'the way in which the rights, restrictions and responsibilities that people have with respect to land are held.' 'security of tenure' can be interpreted as referring to the recognition and protection of such rights. Robert Foster, then the President of the International Federation of Surveyors (FIG) (refer to Web site www.pobonline.com) has noted that 'secure tenure does not require outright ownership of land. The important issue is access to land; people may have access and rights to the use of land without direct and exclusive ownership.'

[5] Recognizing that land administration, as discussed later in the paper, in different jurisdictions can cover a number of aspects, including land use, valuation, and land information.

[6] Wachter D, English J, The World Bank's Experience with Land Titling, Divisional Paper number 1992-35, Policy and Research Division, Environment Department, World Bank, March 1992 provides an assessment of World Bank experience in the rural sector.

[7] The Thailand Land Titling project, which began in 1984, has a total budget of US$350 million over the 15 years of the first three phases supported by World Bank and AusAID funding (Rattanabirabongse et al, 1998). A more recent example is the Ukraine Land Titling and Cadastre Development Project, with an estimated budget proposed of US$166 million for a five- year, one-phase project. is proposed. http://www-wds.worldbank.org/external/default/

main?pagePK=64193027&piPK=64187937&theSitePK=523679&menuPK=64187510&searchMenuPK=64187283&siteName=WDS&entityID=000090341_20030605113431.

[8] Kai-sing Kunk 2003, page 60.

[9] The word 'jurisdiction' is used to recognise the fact that in many countries, there are a number of separate land administration systems, often administered at state or province level. This is the case in Australia, India, and Canada. In the U.S.A, land administration is typically undertaken at the County level.

[10] The 1997 land law in Mozambique, prepared under a socialist administration, uses the term 'family law' rather than 'customary law;' however, the tenure system can be considered as a customary tenure regime.

[11] Land classification refers to the practice of defining land into a limited number of legal land classifications. For example, Article XII, Section 3 of the 1987 Constitution of the Philippines provides that lands of the public domain are to be classified into agricultural, forest or timber, mineral lands, and national parks. Alienable lands of the public domain are limited to agricultural lands.

[12] Under the 2003 Land Law, land is classed into three main land categories: (i) agriculture; (ii) non-agriculture; and (iii) waste land, with a number of subcategories for (i) and (ii) (art. 13). Land is always allocated for a certain use. This use is first stated in the application for land by the applicant/land holder and then inserted in the Land Use Certificate (LUC). If the land holder does not put the land to the use indicated in the LUC within a year, the right to the land can be cancelled. However, in practice the risk of cancellation of a LUC is very low.

[13] Standardised Country Report 2002 – FIG Commission 7, compiled by Steudler, D. Melbourne, January 2003. Available on http://www2.swisstopo.ch/fig-wg71/core.htm

[14] Available on http://www.cadastraltemplate.org

[15] For the sake of clarity, the information in Figure 3 is restricted to the country case studies for Asia and Africa. The case studies in LAC and ECA could be included and would demonstrate a similar range in the mapping of tenure security and institutional arrangements.

[16] Latvia has a GNI per capita of US$6770 – see http://www.worldbank.org.lv/WBSITE/EXTERNAL/COUNTRIES/ECAEXT/LATVIAEXTN/0,,menuPK:361581~pagePK:141132~piPK:141109~theSitePK:361470,00.html#wdb

[17] Since writing the paper, both Kyrgyzstan and Armenia have take steps to deal with this problem. Armenia passed a law to simplify regularization and Kyrgyzstan has developed methods to regularize occupation through a simple and quick administrative process.

[18] Recognizing that in many countries where both formal and customary systems operate, informality often arises where customary systems break down, particularly in urban and peri-urban areas.

[19] Article on the Cato Institute web page entitled 'Promoting Afghanistan' http://www.cato.org/dailys/01-23-02.html and the recognition of the need to recognize property rights in the February 2003 Business Round Table on rebuilding Afghanistan, available on: http://www.export.gov/afghanistan/events/feb_03_roundtable_030303.html

[20] Discussion in the National Review Online article entitled 'Who Should Own Iraq?' available on: http://www.nationalreview.com/ponnuru/ponnuru050503.asp

[21] Panaritis, 2005.

[22] http://www-wds.worldbank.org/servlet/WDS_IBank_Servlet?pcont=details&eid=000009265_3961006023721

[23] http://www-wds.worldbank.org/servlet/WDS_IBank_Servlet?pcont=details&eid=000094946_00102111360933

[24] http://www-wds.worldbank.org/servlet/WDS_IBank_Servlet?pcont=details&eid=000094946_02021204004320

[25] http://www-wds.worldbank.org/servlet/WDS_IBank_Servlet?pcont=details&eid=000009265_3961008074111

[26] http://www-wds.worldbank.org/servlet/WDS_IBank_Servlet?pcont=details&eid=000094946_02060604011399

[27] As noted previously, the 1997 Law used the term 'family tenure' in place of the term 'customary tenure,' but the tenure system can be considered a customary tenure regime.

[28] FIG Publication No. 11, The FIG Statement on the Cadastre, 1995 (ISBN 0-644-4533-1). http://www.fig7.org.uk/publications/cadastre/statement_on_cadastre.html

[29] Although there is a considerable spread in the accuracy and reliability of the data collated during the country case studies. In preparing this synthesis report, some data has had to be reviewed.

[30] A transaction is a trade in rights and includes actions such as the transfer of rights by sale or gift, or by inheritance, mortgage, a discharge of a mortgage, and a range of other actions with respect to rights in land, such as leases, caveats, liens, easements, right-of-ways, covenants. A typical transfer may involve several transactions,for example, a discharge of an existing mortgage, the transfer of ownership, and the registration of a new mortgage.

[31] Forty-eight weeks, by 5 days, less 13 days public holidays.

[32] 'Mean' refers to a value taken as the benchmark for good practice, and is not based on the average sum of results.

[33] World Bank Investment Climate Assessments (various). http://www.worldbank.org/privatesector/ic/ic_country_report.htm

[34] The Doing Business scenario is based on the purchase of a hypothetical property by a limited liability company, valued at 50 times the annual per

capita income on the periphery of the commercial district in the major capital city in the country. Only official costs are assessed, excluding any capital gains or value-added taxes. The full assumptions are set out on web page: http://www.doingbusiness.org/MethodologySurveys/RegisteringProperty.aspx

[35] One of the lessons noted in the Africa regional paper.

[36] From Brits A et al 2002.

[37] ibid

[38] ibid

[39] Budgeted base cost as per Staff Appraisal Report for the Thailand Land Titling Project III.

[40] The first amendment to the regulation in 30 years.

[41] Law on Complaints and Denunciations (No. 09/1998/QH of December 2, 1998), Government of Vietnam.

[42] Diamond (1997:276) in reviewing chiefdoms, observes that: '*At best, they do good by providing expensive services impossible to contract on an individual basis. At worst, they function unabashedly as kleptocracies transferring net wealth from commoners to upper classes*.'

[43] In a global review of land administration systems, there is always a risk in talking about 'core land administration functions.' In Australia, valuation would also be considered a core function. In countries in transition and other countries, land use is often a core function. In other countries, the management of public land is a core function. In this report, the two main functions—the registration of rights and the survey and mapping of the boundaries of these rights—have been labeled as the 'core' land administration functions, as these functions would be included in virtually all jurisdictions.

[44] DENR has a central office in Manila, 15 Regional Offices, 74 Provincial offices and 171 Community offices, with land records nominally maintained at the community level, but with some records maintained in the central office.

[45] The Department of Lands in Thailand includes survey, registration, and valuation functions. The National Land Agency in Indonesia has survey, registration, and land use functions-land valuation is undertaken in another agency.

[46] http://www.teranet.ca/

[47] de Soto (1993:8), for example, claims that only 25 countries have made the jump to a developed market economy and that the countries to join these 25 '*. . . will be those that spend their energies ensuring that property rights are widespread and protected by law . . .*'. These 25 countries all have low perceptions of corruption.

[48] In a report on research by academics in Chulalongkorn University, of government corruption in Thailand, corruption was found '. . . *most widespread in the Customs Department, followed by the Royal Thai Police, the Revenue Department, the Land Department, and the Bangkok Metropolitan Administration . . .*', as reported in the Bangkok Post, http://search.bangkokpost.co.th/bkkpost/1999/october1999/bp19991002/021099_news20.html

[49] The sectors were Education, Health, Power, Land Administration, Taxation, Police, and the Judiciary.

[50] Including the social research, pilot activity, establishing of a new registry based on the cadastre, and the legal reform.

[51] Hughes (2003) in her provocative analysis of aid in the Pacific states (page 12): '*Pacific Islanders who want to cling to communal land ownership rather than command individual property rights have every right to make that choice. They have to accept, however, that their living standards will not rise, and that the present levels of male underemployment, alcoholism and crime, will increase. Young men will continue to drift in and out of urban areas, spreading HIV/AIDS. There is no reason moreover, for Australian or other taxpayers, to underwrite such choices with aid*.' Much of this sentiment is based on the statement that '*Communal land ownership has held back indigenous entrepreneurship in the Pacific as it has everywhere in the world*' (page 11), a statement that would not be accepted in many quarters. However, one of the prime claims of Hughes's paper is that the '. . . *time for a well-informed public debate on aid to the Pacific to support policy change is long overdue*' (page 1).

[52] The cadastral concept can be extended beyond this simplistic model of two-dimensional land parcels, defined by closed polygons, to include other spatial constructs such as strata or defined three- dimensional space—or a range of more complex spatial constructs over which customary rights may apply.

[53] This is not without issue. There are inaccuracies in any measurement technique. Systems that rely on coordinates will need to address a range of issues, including: the selection of the coordinate datum and what happens when the national datum is changed; the impact on cadastral coordinates of re-adjustment of the primary geodetic network and densification of the control network; the impact of destruction and reinstatement of cadastral control points; and the significant impact of changes in survey and mapping technology.

[54] Dale and McLaughlan's breakdown does not make clear provision for capacity building, which can be a major component in projects in many countries.

[55] The unit cost of US$46.41 for Moldova is for the World Bank-funded component of the first Cadastre Project. The case material only provided the cost breakdown for this component. The overall unit cost of the titling activity in Moldova is US$9.90, due in large part to the significantly lower unit costs realized in the USAID-funded second Cadastre Project. The unit cost for the urban project of US$12.68, as documented in the Perú case study, is

significantly cheaper than reported in the Project Appraisal Document for the subsequent Real Property Rights Consolidation Project (World Bank 2006). This document reports that the unit cost of titling in Perú increased from US $43.30 in 2000, to US $49.80 in 2001, to US $55.40 in 2002 and to US $62.00 in 2003 (World Bank 2006:78). This increase in cost is attributed to increasing complexity in the properties being formalized.

[56] Bearing in mind that fees and taxes can be a major disincentive for participation in the formal land administration system. This investigation would typically look at a range of factors.

[57] The figures in the column 'urban' correspond to the figures for the Bangkok metropolitan area, the Banglamoong Branch of Chonburi Province, which includes Pattaya, and the Haad Yai Branch of Songkhla Province which include Haad Yai, and the figures in the column 'rural' are the residual figures. The urban figures exclude other major urban centers such as Chiang Mai and Korat, and therefore understate the true situation. Note also that the total ratio of revenue/expenditure of 9.3 overstates the actual figure, as there are considerable costs not recorded in the table for head office. The ratio of revenue to expenditure for the whole department, as recorded in the country case study for the year ending 30 September 2001, is 5.08.

[58] The Domesday Book was commissioned as a basis for raising tax revenue in December, 1085 by William the Conqueror, who had successfully invaded England in 1066. http://www.domesdaybook.co.uk/

[59] These figures are taken from the UNHabitat, "Urbanization: Facts and Figures" document released by the UNHabitat Press & Media Liaison unit. www.unhabitat.org/downloads/docs/3160_99185_backgrounder5.doc

[60] Informal, irregular, and illegal settlements refer to the same phenomenon of unauthorized land development, where a range of tenure systems and practices exist. In most cases, these types of settlements will suffer from a lack of access to basic urban services, no formal security of tenure, and little perceived security (Durand-Lasserve and Royston 2002).

[61] This separation between policy and land administration is not straightforward; as noted by Delville (2000) the major issues relate to policy, not to the administrative arrangements and technical procedures required to implement policy. '*In any event, emphasising rights (via registration) or rules is more a matter of making political choices about systems of authority and regulatory mechanisms than a technical issue.*'

[62] There is a degree of subjectivity in the classifications used by McAuslan. Some might object to the use of the terms 'semi-feudal' and to the suggestion that colonial authorities acted largely for their own ends.

[63] The evolutionary theory of land rights is discussed by Platteau (2000).

[64] The agricultural statistics for Africa are not strong, but the following table of food production per capita index, drawn from the African Development Indicators 2001, published by the World Bank (p 221) indicates the basis of concern.

	Average annual % growth		
	75–84	85–89	Since '90
Ghana	−4.0	0.9	2.9
Senegal	−6.3	5.5	−1.3
Mozambique	−4.1	0.3	0.8
Namibia	−5.2	2.5	−3.1
South Africa	−1.6	2.1	−1.4
Uganda	−4.5	1.5	−1.4
Kenya	−1.6	3.6	−1.9

[65] Although provisions vary in the Australian States, the major exceptions are: fraud; a prior folio or certificate of title; erroneous description of land; paramount interests that are unaffected by the statutory regime and are enforceable against a registered proprietor; easements; adverse possession; leasehold interests (Hepburn 1998: 221–226). All States also provide powers for the registrar to correct the register, limited to the extent that it cannot prejudice any rights that may have been acquired by a bona vide purchaser prior to the error being noticed.

[66] The principle set out by Harpun et al is still applicable under the UK Land Registration Act of 2002. The new act introduces the term 'alteration' of the register to describe the overall process of making changes to the register, and the term 'rectification' of the register is now confined to alterations that: (i) involve the correction of a mistake; and (ii) prejudicially affect the title of a registered proprietor. Some suggest that this change has reduced the opportunity to claim compensation in certain circumstances, such as the alteration of the register to give effect to an overriding interest (MacKenzie J-A, Phillips M 2004:106).

[67] In the year ending 30 June 2002, A$1.962 million (US$1.14 million) was collected as revenue for the Assurance Fund and A$1.218 million (US$0.71 million) was paid out in claims for compensation (including legal fees and other costs). The A$1.218 million in expenses was about 1.0% of the revenue collected by LPI of A$124.185 million in the year ending 30 June 2002. Even with the payment of A$1.218 million in 2001/2002, the balance in the Assurance Fund at the end of June 2002 was A$8.142 million (US$4.72 million). Data from the DITM Annual Report for 2001/2002 - http://www.ditm.nsw.gov.au/department/publications/ar2002.pdf

[68] In the year 2001-02, the Land Registry paid out about £2.5 million in indemnity claims, about 0.7% of the fee revenue of £342 million.

[69] Private communication with Gavin Adlington.

[70] Hick M, **Going Global: the US Title Industry's Next Big Frontier**, available on www.alta.org.store/ttlenews/98/9806_03.htm and McKenna B, **American Title Insurance: An Emerging Presence in Canada**, available on http://www.alta.org/store/ttlenews/98/9801_03.htm

[71] Morgan identifies the following advantages to lenders in the UK: title insurance can cover a number of defects including failure to register, conveyance of the wrong property, improper execution of a mortgage deed, failure to get local authority charges and so on (potentially addressing the current situation where lenders have largely had to prove negligence rather than breach of contractual duty against conveyancers, and have not always recovered costs); potentially reduced costs; potential income through the sale of insurance products. Lavelle (2202:50–51) identifies the potential benefits to lawyers in Australia, who have traditionally provided conveyancy services, but she also discusses the potential impact on the government registries and the likelihood of government changes to indemnity cover under the title registers in response to increased private title insurance activity.

[72] Wilcox (2005), an article questioning the value of title insurance, notes that it generally costs 0.5–1 percent of the mortgage amount, except in the State of Iowa, where the state has established a system where title insurance is available at a cost of 0.1% of the mortgage value, plus US$150–300 for a lawyer to prepare a transaction history for the property.

[73] Arruñada (2002:33), based on a data available on company web pages, press articles, and contact with title insurance companies, lists the presence of the six major title insurance companies in: Australia, Bahamas, Belize, Canada, Costa Rica, Dominican Republic, England, France, Guam and Marianas, Ireland, Israel, Korea, Mexico, Puerto Rico, Scotland, Spain, and the Virgin Islands.

[74] Jaffe and Kaganova (1996:19) note that, despite a policy preference for a state registration system, a hybrid system is developing in St. Petersburg '. . . *which unfortunately means it is borrowing the shortcomings of the two "pure" models: the slowness of state registration and the high cost of title insurance. Indeed, in the middle of 1995, registration of a standard apartment transaction in St. Petersburg took 2 days, cost 0.2–0.4 percent of the market value of an apartment, and title insurance would cost another 1–3 percent*.'

[75] In ECA, there is an old tradition for a dacha or garden plot. These were designed even in communist times to allow people to grow food for support in dire times, and as a supplement to their salaries. Virtually everyone still has such a plot. They are being included in registration systems, but are seen as low priority, to be added when time and finances permit.

[76] Angel S, 2001. **Comments on Hernando De Soto's *The Mystery of Capital***, contribution to an electronic round-table arranged by the International Division of the American Planning Association, which was at one stage available on www.interplan.org and has been quoted by several commentators.

[77] Noel Pearson, a widely recognized aboriginal lawyer from Cape York in Australia, in a paper published in 2003 (Pearson 2003) highlighted the restrictive interpretation of Native Title under the current legislation in Australia, observing that the 'approach to the content of native title as a lesser right than would be accorded to a fee simple holder of title, is discriminatory, in that it fails to apply the common law principle that it is occupation which gives rise to possession. It matters not what the nature of the indigenous social

and cultural organisation may be, it matters not what arcane and idiosyncratic laws and customs the indigenous people may have governing their internal allocation of rights, interests and responsibilities amongst their members. It matters not whether it is an English Lord slaughtering innocent fowls on his estate, or whether it is an Australian Aborigine standing on one leg in the sunset on his father's ancient homelands – the title is the same. The common law is only concerned to presume possession in those who are in occupation.'

[78] The following table was prepared by an ADB study team, based on surveys undertaken by the National Housing Authority in April 2000.

Magnitude of Informal Settlers in Metro Manila (by area type as at 11 April 2000)	
Areas	**Number of Families**
Danger Areas	
Waterways	72,102
Railroad Tracks	28,993
Pasig River	9,731
Subtotal	110,826
Government Infrastructure	
Right-of-Ways (RoWs)	73,836
Public Utilities	20,405
Subtotal	94,241
Government-Owned Lands	315,406
Private Lands	110,956
Tourism Areas	5,650
Designated Housing Sites	66,869
Areas for Priority Development (APDs)	22,960
Grand Total	726,908

[79] An observation in the Policy Research Report, page 125, that notes claims that land values in Sri Lanka have been depressed by 50 percent due to restrictions on land ownership, and that these have impacted on the endowment of the poor.

[80] RA 7279 (Urban Development and Housing Act of 1992, otherwise known as the Lina law, enacted March 24, 1992) provides for protection to informal settlers in the Philippines.

[81] Global Land Tools Network was formally launched at the World Urban Forum, Vancouver, June 2006. Partners and participants are from governments, nongovernment organizations, donor agencies, representatives of the UN system, universities, and the private sector - www.gltn.net

[82] As McAuslan (2000) notes, the reforms in English land law from the late 19th century simplified the law, introduced a system of registration of title,

and eliminated the rights of family members to block commercial transactions in land.

[83] This system works well, as there is both a good system of personal identification cards and a good land records system. A person's martial status is recorded on registration, and it is clear where a spouse's agreement to a subsequent transaction is required.

[84] In the case of New Zealand, there is a sophisticated computer registration system. In 2002–03, the electronic e-dealing system was introduced as part of Landonline. Under this system, authorized private surveyors acting for the parties can electronically update the register (Burns, 2005).

[85] These recommendations concentrate on the recognition of rights and do not cover associated areas such as property valuation or taxation, areas not specifically covered by the global analysis.

[86] Although it should be noted that many of the successful systems have flexibility in survey and measurement methodologies, often specifying high-accuracy techniques for expensive urban land and less accurate, therefore less expensive techniques for lower value land. This is the case, for example, in Thailand.

[87] Various types of patents (public land grants) are issued by the Department of Environment and Natural Resources to applicants; Certificates of Land Ownership are issued to land reform beneficiaries by the Department of Agrarian Reform; the National Commission for Indigenous Peoples administers ancestral domain for indigenous peoples; and the Courts issue decrees on land rights.

[88] Dale and McLaughlin (1999:39) note the five criteria proposed by Palmer for considering the registry function: jurisdiction-wide cover; quality control; currency; guarantee; and indemnification. Jurisdiction-wide cover was seen as important, as the registration system becomes more effective as more parcels are registered.

[89] As noted in Table 4.6 on page 56, for example, the study seems to suggest that the cost of registering a transfer should be less than 5% of the property value, and should cost less than an amount that users can earn in about 30 days.

[90] Rights under the Land Code can be issued in forest lands on an individual basis, provided the applicant proves entitlement.

[91] See attached table based on Burns (1985) and Brits et al. (2002).

	Rai (1 Rai = 1,600 m^2)	Square Km	%
Public land	202,500,000	324,000	63.1%
Private land	118,200,000	189,120	36.9%
Total	320,700,000	513,120	100.0%
Source: Burns (1985).			

	Number	Area M ha	Area Square Km	% private land
NS4	18,629,088	11.30	113,000	59.8%
NS3	1,894,960	2.69	26,900	14.2%
NS3K	7,332,669	6.34	63,400	33.5%
NS2	368,033	0.58	5,760	3.0%
Total	28,224,750	20.91	209,060	110.5%
Source: Brits et al (2002), based on DOL records.				

[92] Thiesenhusen, William C., 1995, Early Revolutionary Reforms: Bolivia, *Broken Promises – Agrarian Reform and the Latin American Campesino,* Westview Press, Boulder, Colorado.

[93] World Bank, 1996, Staff Appraisal Report El Salvador Land Administration Project, Natural Resources and Rural Poverty Division, Latin America and Caribbean Region, p 3.

[94] Information taken from addendum to the World Bank Urban Property Rights Project in Peru, Project Preparation Report (PPR), section on 'The Legal and Institutional Framework,' which was prepared by Watermark Industries, Inc. (Canada) during a mission to Peru in 1997.

[95] Thiesenhusen, William C., 1995, Early Revolutionary Reforms: Bolivia, *Broken Promises – Agrarian Reform and the Latin American Campesino,* Westview Press, Boulder, Colorado.

[96] Justiniano, J., 2002, Country Case Study for Bolivia. Paper presented at a World Bank Regional Workshop on Land Issues in Mexico during May 2002.

[97] ibid

[98] Information taken from addendum to the World Bank Urban Property Rights Project in Peru, Project Preparation Report (PPR), 'The Legal and Institutional Framework,' which was prepared by Watermark Industries, Inc. during a mission to Peru in 1997.

[99] The World Bank, 1995, IDA Staff Appraisal Report, Bolivia National Land Administration Project, Resources Management and Rural Poverty Divisions, America and Caribbean Regional Office

[100] Justiniano, J., 2002, Country Case Study for Bolivia. Paper presented at a World Bank Regional Workshop on land Issues in Mexico during May 2002.

[101] ibid

[102] ibid

[103] The information has been taken directly from the relevant case studies.

[104] The information has been taken directly from the relevant case studies.

[105] National Commission to Review the Working of the Constitution, 'Issues of Social Justice: Scheduled Castes, Scheduled Tribes and Other Backward

Classes – An Unfinished Business' http://www.humanrightsinitiative.org/programs/constitutionalism/publications/issues_of_social_justice_scst_obc.pdf

[106] The missing figures – www.signposts.uts.edu.au/articles/Thailand/Population/357.html

[107] Asian Development Bank 2002.

[108] ibid

[109] Thiesenhusen, William C., 1995, Reforms of the 1980s: El Salvador, p 139–158, *Broken Promises – Agrarian Reform and the Latin American Campesino,* Westview Press, Boulder, Colorado.

[110] ibid

[111] There are 17.3 million computer titles, and an estimated 5 million old-system parcels.

[112] Comprising 335,406 dealings with registered title and 160,965 Sasines.

[113] These figures are a projection based on data for 6 months.

[114] Australian figures have been converted into US$ at the rate of 0.58.

[115] Annual Report for the Department of Administrative Services and Information http://www.landservices.sa.gov.au/pdf/Annual_Report_2001.pdf

[116] Annual report for the Department of Land Administration 2001–2002 http://www.slp.wa.gov.au/publications/tabledpapers.nsf/displaypaper/3620440a3bcd138e36fa82a048256c68002741f3/$file/dola_annual_report_lowres.pdf

[117] Includes the cost of cadastre and valuation functions. Expenditure information from the DITM Annual Report for 2001/2002 - http://www.ditm.nsw.gov.au/department/publications/ar2002.pdf

[118] Department of Natural Resources Annual Plan for 2000/2001. http://www.nre.vic.gov.au/web/root/domino/cm_da/nrenar.nsf/frameset/NRE+Annual

[119] Annual report of the Department of Natural Resources and Mines 2001–2002 – Land Services http://www.nrm.qld.gov.au/about/pdf/annual_report/annual_financials-02.pdf

[120] Department of Justice Annual Plan 2001–2002 http://www.nt.gov.au/justice/docs/depart/dojannrep0102.pdf

[121] Annual report for Department of Primary Industries, Water and Environment 2002 http://www.dpiwe.tas._gov.au/inter.nsf/Attachments/LBUN-5GF3JX/$FILE/Annual%20Report%20FinState.pdf

[122] Hong Kong Land Registry Annual Report 2001–2002 http://www.info.gov.hk/landreg/en/public/annual.htm converted into US$ at the exchange rate of 7.80.

[123] Expenditure for 2001-2002 from the LINZ Annual Report (http://www.linz.govt.nz/staticpages/pdfs/linzpublications/0203annualreport.pdf) converted to US$ at the rate of $0.4816, the rate published by the Reserve Bank of New Zealand for July 2002 http://www.rbnz.govt.nz/statistics/exandint/b1/hb1.xls. Expenditure includes functions such as valuation, hydrographic survey and Crown land management.

[124] Annual report for 2002 lists the total costs at UK 291.9 million pounds (http://www.landreg.gov.uk/ar2002/default.asp?id=13) which is converted into US$ at the exchange rate of 1.5546 for July 2001 as published by the Bank of England http://www.bankofengland.co.uk/mfsd/rates/MEx_02jul.xls

[125] Registry of Scotland Annual Report 2001–2002 http://www.ros.gov.uk/pdfs/general/annualreport2002.pdf which is converted into US$ at the exchange rate of 1.5546 for July 2001 as published by the Bank of England http://www.bankofengland.co.uk/mfsd/rates/MEx_02jul.xls

[126] Very approximate estimate.

[127] The total number of parcels in Thailand is estimated at 30 million. Only the titled property has been included in the estimate for registered parcels, even though there are many millions of certificates of utilization (NS3/3K) which are transferable and accepted by banks as collateral. Many of the current parcels cannot be registered under the current legal and policy framework as the land parcels are considered forest land.

[128] Based on a very small sample of a rural pilot in Leyte province.

[129] The number of registered titles is not known. This figure is based on an estimate of 10 million titles.

[130] Number of mortgages registered annually is not available.

[131] Land Office staff include both registry and cadastral staff.

[132] Includes all Land Office staff.

[133] Includes Central Valuation Authority staff as well as Head Office staff.

[134] In the formal system.

[135] Based on preliminary information on LAMP.

[136] Based on an estimate of the total number of civil cases that were land-related.

[137] Estimate only.

[138] The number of registries in Thailand is only the number of title registries (provincial and branch land offices), not the district land offices, which maintain the registers for lessor documents.

[139] Value based on declared price not valuation.

[140] A national function delegated at provincial level to organizations belonging to the National Department of Land Affairs.

[141] Annual running cost (US$7.335m) divided by annual registrations (267,048).

[142] The titling program in Latvia is a sporadic redistribution program. The unit cost per title under the program is $13, but in addition the beneficiaries have to contribute $426 to the cost of the survey.

[143] Budget expenses derived entirely from donor funds.

[144] Includes registry and cadastral offices.

[145] Expenses not known, however system is entirely self-funded.

[146] The total number of equivalent full-time staff is 920, which includes all the staff in titling, survey, and valuation, as well as DITM corporate services, and the Office of the Director General.

[147] The Data Matrix lists a total number of 8,600 staff, but notes that some are part-time.

[148] The standard registration service is immediate for face-to-face lodgment, or within 2 days for bulk lodgment.

[149] Based on the six lodgment and processing locations; does not take into account the 34 search locations.

References

Adlington, G. 2002. *Comparative Study of Land Administration Systems with Special Reference to Armenia, Moldova, Latvia and Kyrgyzstan*. Synthesis paper for Eastern and Central Europe region prepared for World Bank, Washington, DC. April.

Agarwal, B. 1994. *A Field of One's Own: Gender and Land Rights in South Asia.* Cambridge: Press Syndicate of the University of Cambridge.

Alemu, D. 2006. "Comparative Performance Assessment of Various Cadastral Surveying Methodologies: Case-study of the Hordofi Village Cadastral Surveying Exercise." Unpublished report prepared by ARD Inc., in collaboration with LALU and LAUD. April.

Alston, L., G. Libecap, and R. Schneider. 1996. "The Determinants and Impact of Property Rights: Land Titles on the Brazilian Frontier." *Journal of Law, Economics and Organisation* 12: 25–61.

Angel, S. 2001. Comments on Hernando De Soto's *The Mystery of Capital*. Contribution to an electronic round-table discussion arranged by the International Division of the American Planning Association.

Arruñada, B. 2002. "A Transaction-Cost View of Title Insurance and its Role in Different Legal Systems." *The Geneva Papers of Risk and Insurance* 27 (4, October): 582–601. http://www.econ.upf.es/docs/papers/downloads/565.pdf.

Asian Development Bank. 2002. *Indigenous Peoples/Ethnic Minorities and Poverty Reduction—Philippines.* Environment and Social Safeguard Division, Manila. June. http://www.adb.org/Documents/Reports/Indigenous_Peoples/PHI/default.asp.

Atterhög, M. 1995. *Municipal Land Management in Asia: A Comparative Study, Chapter 10*. Study conducted by Economic and Social Commission for Asia and the Pacific and Regional Network of Local Authorities for the Management of Human Settlements (CITYNET). New York: United Nations, CITYNET. http://www.unescap.org/huset/m_land/index.htm.

Atwood, D. A. 1990. "Land Registration in Africa: The Impact on Agricultural Production." *World Development* 18 (5): 659–71.

Augustinus, C. 2003a. "Comparative Analysis of Land Administration Systems: African Review with Special Reference to Mozambique, Uganda, Namibia, Ghana, South Africa." Synthesis paper prepared for the World Bank, Washington, DC. January.

———. 2003b. "Comparative Analysis of Land Administration Systems: South Africa. Summary and Case Study." Paper prepared for the World Bank, Washington, DC.

———. 2003c. "Comparative Analysis of Land Administration Systems: Uganda. Summary and Case Study." Paper prepared for the World Bank, Washington, DC. January.

Backstrom, L. 2006. "Look at Ethiopia! A Simplified and Result-Orientated Development and Implementation of a Low Cost Land Administration System." Paper presented at the XXIII FIG Congress, Munich, Germany. October 8–13. http://www.fig.net/pub/fig2006/papers/ts61/ts61_01_backstrom_0312.pdf.

Barnes, A. 2006. *Owning Russia: The Struggle over Factories, Farms and Power.* Ithaca, NY, London: Cornell University Press.

Barnes, G. 2002. "Latin America and the Caribbean—a Synthesis Report." Synthesis paper prepared for the World Bank, Washington, DC. October.

Bartlett, R. H. 2004. *Native Title in Australia*. 2nd edition. Australia: LexisNexis Butterworths.

Bekure, S. 2006. "Benefits and Costs of Rural Land Titling: The International Experience." Paper presented at the National Conference on "Standardization of Land Registration and Cadastral Surveying Methodologies." United Nations Conference Center, Addis Ababa, Ethiopia. March 20–24.

Besley, T. 1995. "Property Rights and Investments Incentives: Theory and Evidence from Ghana." *Journal of Political Economy* 103: 903–37.

Bird, M., and E. Slack. 2002. "Land and Property Taxation around the World: A Review 2002." Paper presented in Hungary and Mexico at World Bank policy seminars.

Bloch, P., S. Lastarria-Cornhiel, and J. Stansfield. 2006. "The Contribution of Foreign Assistance to the Development of Land Markets and the Strengthening of Property Rights: The Case of USAID." In *The Role of the State and Individual in Sustainable Land Management,* ed. R. Dixon-Gough and P. C. Bloch. Aldershot, U.K.: Ashgate Publishing Ltd.

BPN (Badan Pertanahan Nasional). 1993. Land Administration Project—Project Preparation Report. Unpublished. Indonesia: BPN. May.

Brasselle A., F. Gaspart, and J. P. Platteau. 2002. "Land Tenure Security and Investment Incentives: Puzzling Evidence from Burkina Faso." *Journal of Development Economics* 67 (2): 373–418.

Brits, A., C. Grant, and A. Burns. 2002. "Comparative Study of Land Administration Systems with Special Reference to Thailand, Indonesia and Karnataka (India)." Synthesis paper for Asian Region prepared for World Bank, Washington, DC. May.

Bruce, J. 2003. "Property Rights Issues in Common Property Regimes for Forestry." In *The World Bank Legal Review: Law and Justice for Development*, ed. T. Ko-Yang. Washington, DC: World Bank.

Bruce, J., et al. 2006. *Land Law Reform: Achieving Development Policy Objectives.* Law Justice and Development series. Washington, DC: World Bank.

Burns, A. F. 1985. *Report on Land Adjudication in Thailand*. Report R1. Unpublished. Bangkok: Thailand Land Titling Project.

———. 1995. "Systematic Registration." Report H1. Bangkok: Thailand Land Titling Project. November.

———. 2005. "Registering Property: Country Case Studies of Reform in Armenia, Ghana, New Zealand, Peru and Thailand." Working Paper, World Bank Private Sector Development Vice Presidency, Washington, DC.

———. 2006. "International Experience and a Framework for Monitoring of Pilots." Paper presented at the National Workshop on Land Policies and Administration for Accelerated Growth and Poverty Reduction in the 21st Century. New Delhi, India. January 5–6.

Carter, M., and P. Olinto. 2003. "Getting Institutions Right for Whom? Credit Constraints and the Impact of Property Rights on the Quantity and Composition of Investment." *American Journal of Agricultural Economics* 85: 173–86.

Christodoulou, D. 1990. *The Unpromised Land: Agrarian Reform and Conflict Worldwide.* U.K.: Zed Books Ltd.

Cousins, B. 2000. "Tenure and Common Property Resources in Africa." In *Evolving Land Rights, Policy and Tenure in Africa,* ed. C. Toulmin and J. Quan, London: DFID/IIED/NRI.

———. 2002. "Legislating Negotiability: Tenure Reform in Post-Apartheid South Africa." In *Negotiating Property in Africa,* ed. K. Juul and K. Lund. Portsmouth, U.K.: Heinemann.

Dale, P. F., and J. D. McLaughlin. 1988. *Land Information Management: An Introduction with Special Reference to Cadastral Problems in Third World Countries.* New York: Oxford University Press.

———. 1999. *Land Administration*. New York: Oxford University Press.

de Janvry, A., G. Cordillo, J-P Platteau, and E. Sadoulet, ed. 2001a. *Access to Land—Rural Poverty and Public Action*. London: Oxford University Press.

———. 2001b. "Access to Land and Land Policy Reforms." In *Access to Land—Rural Poverty and Public Action*, ed. A. de Janvry, G. Cordillo, J-P Platteau, and E. Sadoulet. London: Oxford University Press.

de Soto, H. 1989. *The Other Path*. New York: Harper and Row.

———. 1993. "The Missing Ingredient: What Poor Countries Need to Make Their Markets Work." *The Economist* 328 (7828, September 11, Special Supplement for *The Economist's* 150 years): 8–12.

———. 2000. *The Mystery of Capital: Why Capitalism Triumphs in the West and Fails Everywhere Else*. New York: Basic Books.

Deere, C. D., and M. León. 2001. *Empowering Women: Land and Property Rights in Latin America*. Pittsburgh: University of Pittsburgh Press.

———. 2002. "Individual versus Collective Land Rights: Tension Between Women's and Indigenous Rights Under Neoliberalism." In *The Spaces of Neoliberalism: Land, Place and Family in Latin America,* ed. J. Chase. Connecticut, USA: Kumarian Press.

Deininger, K. 2003. *Land Policies for Growth and Poverty Reduction*. Washington, DC: World Bank, Oxford: Oxford University Press. http://lnweb18.worldbank.org/ESSD/essdext.nsf/24ByDocName/PRRe-DiscussionDownloadPRR.

Diamond, J. 1997. *Guns, Germs, and Steel: The Fates of Human Societies*. London: W. W. Norton and Company Ltd.

Dixon-Gough, R., editor. 1999. *Land Reform and Sustainable Development*. Aldershot, U.K.: Ashgate Publishing Ltd.

Do, Q. T., and L. Iyer. 2002. "Land Rights and Economic Development: Evidence from Viet Nam." Mimeo. Massachusetts Institute of Technology, Cambridge, MA.

Dorner, P. 1972. *Land Reform and Economic Development*. Harmondsworth, United Kingdom: Penguin.

Durand-Lasserve, A., and L. Royston. 2002. "International Trends and Country Contexts—from Tenure Regularization to Tenure Security." In *Holding Their Ground: Secure Land Tenure for the Urban Poor in Developing Countries,* ed. A. Durand-Lasserve and L. Royston. London: Earthscan Publications Ltd.

Enemark, S., and I. P. Williamson. 2004. "Capacity Building in Land Administration—A Conceptual Approach." *Survey Review* 39 (296): 639–50. http://www.geom.

unimelb.edu.au/research/SDI_research/publications/Capacity%20Building%20(SurvReview04).pdf.

Enemark, S., I. P. Williamson, and J. Wallace. 2005. "Building Modern Land Administration Systems in Developed Countries." *Spatial Science* 50 (2): 51–68.

Feder, G., and D. Feeny. 1991. "Land Tenure and Property Rights: Theory and Implications for Development." *World Bank Economic Review* 5 (1): 135–153.

Feder, G., T. Onchan, Y. Chalamwong, and C. Hongladarom. 1988. *Land Policies and Farm Productivity in Thailand*. Baltimore and London: John Hopkins University Press.

Feder, G., and Noronha R. 1987. "Land Rights Systems and Agricultural Development in Sub-Saharan Africa." *World Bank Research Observer* 2 (2, July): 143–169.

Fergus, M., ed. 2006. "The Global Land Tool Network: Development of Innovative Pro-Poor Land Tools." Minutes from GLTN Workshop, Oslo, Norway. March 23–24. http://www.gltn.net/images/stories/NEWS/gltn_minutes_oslo_23-2403061.pdf.

FIG. 1995. *The FIG Statement on the Cadastre.* FIG Publication 11, 1995 (ISBN 0-644-4533-1). Australia, Canberra: International Federation of Surveyors http://www.fig7.org.uk/publications/cadastre/statement_on_cadastre.html

Field, E. 2003. "Entitled to Work: Urban Property Rights and Labour Supply in Peru." Working Paper 220, Research Program in Development Studies, Princeton University, Princeton, NJ.

Field, E., and M. Torero. 2006. "Do Property Titles Increase Credit Access Among the Urban Poor: Evidence from a Nationwide Titling Program." Mimeo. Harvard University, Cambridge, MA.

Fukuyama, F. 2004. *State Building: Governance and World Order in the 21st Century*. Ithaca, NY: Cornell University Press.

Global Land Tool Network (GLTN). 2006. "Minutes from the Network Event on: Global Land Tool Network Development of Pro-poor Land Tools." Nairobi: UNHabitat, Land and Tenure Section. http://www.gltn.net/images/stories/NEWS/060620_minutes.pdf.

Gopal, G. 1999. *Gender-Related Legal Reform and Access to Economic Resources in Eastern Africa*. Washington, DC: World Bank.

Harahap, R. M. 1999. "Strategies for Preventing Corruption in Indonesia." Working paper on governance, Asia Pacific School of Economics and Management, Australian National University. http://eprints.anu.edu.au/documents/disk0/00/00/01/54/.

Harpum, C., M. Grant, and S. Bridge. 2000. *The Law of Real Property.* 6th ed. London: Sweet and Maxwell.

Hepburn, S. 1998. *The Principles of Property Law.* Sydney: Cavendish Publishing (Australia) Pty Ltd.

Hilhorst, T. 2000. "Women's Land Rights: Current Developments in Sub-Saharan Africa." In *Evolving Land Rights, Policy and Tenure in Africa*, ed. C. Toulmin and J. Quan. London: DFID/IIED/NRI.

Hodess, R., T. Inowlocki, and T. Wolfe. 2003. *Global Corruption Report 2003: Access to Information.* London: Profile Books Ltd/Transparency International.

Home, R., and H. Lim, ed. 2004. *Demystifying the Mystery of Capital: Land Tenure and Poverty in Africa and the Caribbean.* London: Cavendish Publishing.

Hughes, H. 2003. "Aid Has Failed the Pacific." *Issue Analysis* 33 (May). http://www.cis.org.au/IssueAnalysis/ia33/ia33.pdf.

Internet Center for Corruption Research. 2002. "The 2002 Transparency International Corruption Perceptions Index," a joint initiative of the Center for Globalization and Europeanization of the Economy at Goettingen University. Goettingen: Transparency International. http://www.icgg.org/corruption.cpi_2002.html.

Isles, C. 2002. *Transfer of Titles: Realities on the Ground.* Land Laws and Regulations Policy Study, Land Administration and Management Project. 2002.

Jacobs, H. M. 1998. *Who Owns America?* Madison, WI: University of Wisconsin Press.

Jacoby H., G. Li, and S. Rozelle. 2002. "Hazards of Expropriation: Tenure Security and Investment in Rural China." *American Economic Review* 92 (5) 1420–47.

Jaffee, D., and O. Kaganova. 1996. "Real Estate Markets in Urban Russia." *Journal of Transforming Economics and Societies* 3 (3, Summer). http://faculty.haas.berkeley.edu/jaffee/Papers/UrbanRussia.pdf.

Jimenez, E. 1984. "Tenure Security and Urban Squatting." *Review of Economics and Statistics* 66 (4): 556–67.

Justiniano, J. 2002. "Country Case Study for Bolivia." Paper presented at a World Bank Regional Workshop on Land Issues in Mexico. May.

Juul, K., and K. Lund, ed. 2002a. *Negotiating Property in Africa*. Portsmouth, U.K.: Heinemann.

———. 2002b. "Negotiating Property in Africa: Introduction." In *Negotiating Property in Africa,* ed. K. Juul and K. Lund. Portsmouth, U.K.: Heinemann.

Kai-sing, Kunk J. 2003. "The Role of Property Rights in China's Rural Reforms and Development." In *China's Development Miracle: Origins, Transformations, and Challenges,* ed. A. So. New York: An East Gate Book.

Kälin, C. H. 2005. *International Real Estate Handbook: Acquisition, Ownership and Sale of Real Estate Residence, Tax and Inheritance Law.* Chichester: John Wiley and Sons Ltd.

Kauffman, J. 2002. "Benchmarking Cadastral Systems—Results of the Working Group 7.1 of FIG Commission 7." In *Benchmarking Cadastral Systems*, compiled by D. Steudler and J. Kauffman, 9–17. Washington, DC.: International Federation of Surveyors http://www.swisstopo.ch/fig-wg71/benchmarking.htm.

Kauffman, J., and D. Steudler. 1998. *Cadastre 2014: A Vision for a Future Cadastral System.* Switzerland: International Federation of Surveyors. http://www.fig.net/cadastre2014/.

Kent, R. B. 1981. "Land Registration and Cadastral Mapping in Less Developed Countries: An Overview." *Surveying and Mapping* 41 (4): 409–17.

Lambsdorff, J. D. 1999. "Corruption in Empirical Research—A Review." Paper presented at the 9th International Anti-Corruption Conference, Durban, South Africa. October 9–15. http://ww1.transparency.org/iacc/9th_iacc/papers.html.

Land Equity International. 2004. "Computerisation of Land Records: Building on Karnataka's Experience." Unpublished report prepared for the World Bank, Washington, DC. September. http://www.landequity.com.au/.

Lao Land Titling Project. March 2002. *Land Administration Review*, Attachment 6. Project review conducted for the World Bank by Land Equity International Pty Ltd. Lao PDR: Land Equity International

Lanjouw, J., and P. Levy. 2002. "Untitled: A Study of Formal and Informal Property Rights Urban Ecuador." *Economic Journal* 112: 986–1019.

Lavadenz, I., J. Sanjak, G. Barnes, and G. Adlington. 2002. "Concept Paper and Annexes—Comparative Study of Land Administration Systems." Unpublished. World Bank, Washington, DC. January.

Lavelle, K. 2002. "Title Insurance: Is it Wanted Here?"*Law Society Journal.* Australia: New South Wales Law Society. November.

Lavigne-Delville, P. 2000. "Harmonising Formal Law and Customary Land Rights in French-Speaking West." In *Evolving Land Rights, Policy and Tenure in Africa,* ed. C. Toulmin and J. Quan. London: DFID/IIED/NRI.

Lindsay, J. 2002. "Ensuring Land Access in Post-Conflict Situations." Comments on paper presented by Jean Daudelin at the Regional Workshop on Land Issues in Asia, June 4–6. Proceedings published on CD-ROM. http://lnweb18.worldbank.org/ESSD/ardext.nsf/24ByDocName/PolicyResearchReportAsiaWorkshop.

Lund, K. 2002. "Negotiating Property Institutions: On the Symbiosis of Property and Authority in Africa." In *Negotiating Property in Africa,* ed. K. Juul and K. Lund. Portsmouth, U.K.: Heinemann.

Lunnay, C. 2006. "Surveying and Land Administration—Sustainable Education for Developing Countries." Paper presented at XXIII FIG Congress, Munich. October 8–13. http://www.fig.net/pub/fig2006/papers/ts15/ts15_03_lunnay_0362.pdf.

Lyons, K., E. Cottrell, and K. Davies. 2002. "The Case for Re-Focussing and Re-Engineering Land Administration to Better Meet Contemporary and Future Needs in Property Rights and Markets." Paper presented at a Joint AURISA and Institution of Surveyors Conference, Adelaide. November 25–30. www.anzlic. org.au/get/2381206196.pdf.

McAuslan, P. 2000. "Only the Name of the Country Changes: The Diaspora of 'European' Land Law in Commonwealth Africa." In *Evolving Land Rights, Policy and Tenure in Africa,* ed. C, Toulmin and J. Quan. London: DFID/IIED/NRI.

———. 2002. "Tenure and the Law." In *Land, Rights and Innovation: Improving Tenure Security for the Urban Poor,* ed G. Payne. London: ITDG Publishing.

———. 2003. *Bringing the Law Back In: Essays in Land, Law and Development*. Aldershot, U.K.: Ashgate Publishing Ltd.

Mandelbaum, M. 2002. *The Ideas that Conquered the World: Peace, Democracy, Free Markets in the Twenty-First Century*. New York: PublicAffairs.

Maslow, A. 1987. *Motivation and Personality.* 3rd ed. New York: Harper and Row.

MacKenzie, J-A., and M. Phillips. 2004. *Textbook on Land Law*. 10th ed. Oxford: Oxford University Press.

Migot-Adholla S., P. Hazell, B. Blarel, and F. Place. 1991. "Indigenous Land Rights Systems in Sub-Saharan Africa: A Constraint on Productivity?" *World Bank Economic Review* 5 (1, January): 155–175.

Ministry of Lands and Forestry. 2002. *Project Preparation Report: Ghana Land Administration Project.* Design and Implementation Plan. Accra. March.

Mohit, R. S. 2002. "A Level Playing Field: Security of Tenure and the Urban Poor in Bangkok, Thailand." In *Land, Rights and Innovation: Improving Tenure Security for the Urban Poor,* ed. G. Payne. London: ITDG Publishing.

Montúfar, G. 2002. "Los Sistemas de Administración de Tierras en el Peru." Final report prepared for the World Bank, Washington, DC.

Morgan, G. 1999. "Title Insurance: Its Relevance to Lenders." In *Contemporary Property Law,* ed. P. Jackson and D. Wilde. Aldershot, U.K.: Dartmouth Publishing Company Ltd.

Neumann, M. 2002. *The Rule of Law: Politicizing Ethics*. Aldershot, U.K.: Ashgate Publishing Ltd.

Ng'weno, B. 2000. "Titling Collective Property, Participation, and Natural Resource Management: Implementing Indigenous and Afro-Colombian Demands: A Review of World Bank Experience in Colombia." World Bank, Washington, DC. http://lnweb18.worldbank.org/ESSD/essdext.nsf/24DocByUnid/E7B2E7F4C75458F685256BE6006D8003/$FILE/colombia_nrm.pdf.

Ngaido, T. 2004. "Reforming Land Rights in Africa." Brief prepared for conference on "Assuring Food and Nutrition Security in Africa by 2020: Prioritizing Actions, Strengthening, Actors and Facilitating Partnerships," Kampala, Uganda. April 1–3. http://www.ifpri.org/2020africaconference/.

Palmer, R. 2000. "Land Policy in Africa: Lessons from Recent Policy and Implementation Processes." In *Evolving Land Rights, Policy and Tenure in Africa,* ed. C. Toulmin and J. Quan. London: DFID/IIED/NRI.

Panaritis, E. 2005. "Is Informality An Enigma? Informal Urban Property in Peru." Insead Euro-Asia Centre Research Paper 79. Fontainebleau, France: Insead Euro-Asia Centre.

Partnership for Governance Reform in Indonesia. 2002. *A Diagnostic Study of Corruption in Indonesia.* Final report. February.

Payne, G., ed. 2002. *Land, Rights and Innovation: Improving Tenure Security for the Urban Poor*. London: ITDG Publishing.

———. 1997. *Urban Land Tenure and Property Rights in Developing Countries—a Review.* London: ODA/Intermediate Technology Publications.

Pearson, N. 2003. "Where We've Come From and Where We're At with the Opportunity that is Koiki Mabo's Legacy to Australia." Mabo Lecture, Native Title Representative Bodies Conference, Alice Springs. June 3. http://www.capeyorkpartnerships.com/team/noelpearson/pdf/np-mabo-lecture-3-6-03.pdf.

Peters, P. 2002. "The Limits of Negotiability: Security, Equity and Class Formation in Africa's Land Systems." In *Negotiating Property in Africa,* K. Juul and K. Lund, ed. Portsmouth, U.K.: Heinemann.

Place, F., and S. Migot-Adholla. 1998. "The Economic Effects of Land Registration for Smallholder Farms in Kenya: Evidence from Nyeri and Kakamega Districts." *Land Economics* 74 (3): 360–73.

Platteau, J-P. 2000. "Does Africa Need Land Reform?" In *Evolving Land Rights, Policy and Tenure in Africa,* ed. C. Toulmin and J. Quan. London: DFID/IIED/NRI.

Powelson, J. P. 1988. *The Story of Land: A World History of Land Tenure and Agrarian Reform.* Cambridge, Massachusetts: Lincoln Institute of Land Policy.

Prosterman, R. L., M. N. Temple, and T. M. Hanstad, ed. 1990. *Agrarian Reform and Grassroots Development,* a Policy Study by the Curry Foundation. Colorado: Lynne Rienner, Publishers.

Quan, J. 2000a. "Land Tenure, Economic Growth and Poverty in Sub-Saharan Africa." In *Evolving Land Rights, Policy and Tenure in Africa,* ed. C. Toulmin and J. Quan. London: DFID/IIED/NRI.

———. 2000b. "Land Boards as a Mechanism for the Management of Land Rights in Southern Africa." In *Evolving Land Rights, Policy and Tenure in Africa,* ed. C. Toulmin and J. Quan. London: DFID/IIED/NRI.

Rattanabirabongse, V., R. A. Eddington, A. F. Burns, and K. G. Nettle. 1998. "The Thailand Land Titling Project—Thirteen Years of Experience." *Journal of International Land Use Policy* 15 (1): 3–23.

Sadoulet, E., R. Murgai, and A. de Janvry. 2001. "Access to Land via Land Rental Markets." In *Access to Land—Rural Poverty and Public Action,* ed. A. de Janvry, G. Cordillo, J-P Platteau, and E. Sadoulet. Oxford: Oxford University Press.

Shivji, I. G. 1998. *Not Yet Democracy: Reforming Land Tenure in Tanzania.* Report prepared for the International Institute for Environment and Development (iied), HAKIARDHI, Land Rights Research and Resources Institute, Dar Es Salaam: University of Dar Es Salaam, Faculty of Law.

Siegan, B. H. 1997. *Property and Freedom: The Constitution, the Courts and Land-Use Regulation.* New Brunswick, NJ: Transaction Publishers.

Simpson, S. R. 1976. *Land Law and Registration*. Cambridge: Cambridge University Press.

Steudler, D. I. P. Williamson, and A. Rajabifard. 2003. "The Development of a Cadastral Template." *Journal of Geospatial Engineering* 5 (1): 39–47.

Thampi, G. K. 2002. "Corruption in South Asia: Insights and Benchmarks from Citizen Surveys in Five Countries." Germany: Transparency International. http://ww1.transparency.org/pressreleases_archive/2002/dnld/south_asia_report.pdf.

Thiesenhusen, W. C. 1995. *Early Revolutionary Reforms: Bolivia, Broken Promises—Agrarian Reform and the Latin American Campesino.* Boulder, CO: Westview Press.

Ting, L., and I. P. Williamson. 1999. "Cadastral Trends: A Synthesis." *The Australian Surveyor* 4 (1): 46–54.

———. 2000. "Spatial Data Infrastructures and Good Governance: Frameworks for Land Administration Reform to Support Sustainable Development." Fourth Global Spatial Data Infrastructure Conference, Cape Town, South Africa. March 13–15. http://www.sli.unimelb.edu.au/research/publications/IPW/ipw_paper40.pdf.

Tinker, I., and G. Summerfield, ed. 1999. *Women's Rights to House and Land: China, Laos, Vietnam*. Colorado: Lynne Rienner Publishers, Inc.

Toulmin, C. 2000. "Decentralization' Decentralisation and Land Tenure." In *Evolving Land Rights, Policy and Tenure in Africa,* ed. C. Toulmin and J. Quan. London: DFID/IIED/NRI.

Toulmin, C., et al., ed. 2005. "Land in Africa: Market Asset or Secure Livelihood." Issue paper 136, IIED/NRI/RAS, London, U.K. March.

Toulmin, C., and J. Quan, ed. 2000a. *Evolving Land Rights, Policy and Tenure in Africa.* London: DFID/IIED/NRI.

Toulmin, C., and J. Quan. 2000b. "Evolving Land Rights, Tenure and Policy in Sub-Saharan Africa." In *Evolving Land Rights, Policy and Tenure in Africa,* ed. C. Toulmin and J. Quan. London: DFID/IIED/NRI.

———. 2000c. "Registering Customary Rights." In *Evolving Land Rights, Policy and Tenure in Africa,* ed. C. Toulmin and J. Quan. London: DFID/IIED/NRI.

UN/FIG. 1999. *Report of the Workshop on Land Tenure and Cadastral Infrastructures for Sustainable Development.* Bathurst, Australia. October18–22. http://www.sli.unimelb.edu.au/UNConf99/sessions/session1/bathurstdec.pdf.

UNHabitat. 2003. *The Challenge of Slums: Global Report on Human Settlements 2003.* United Nations Human Settlements Programme, London: Earthscan Publications Ltd.

Virachit, V., and C. Lunnay. 2005. "The Lao Land Titling Project—Innovative Land Tools in Lao PDR." Paper presented at Expert Group Meeting on "Secure Land Tenure: New Legal Frameworks and Tools." UNESCAP, Bangkok, Thailand. December 8–9. http://www.fig.net/commission7/bangkok_2005/papers/6_2_virachit.pdf.

Viravong, M. 1999. "Reforming Property Rights in Laos." In *Women's Rights to House and Land: China, Laos, Vietnam,* ed. I. Tinker and G. Summerfield. Colorado: Lynne Rienner Publishers, Inc.

Wachter, D., and J. English. 1992. "The World Bank's Experience with Land Titling." Divisional Paper 1992-35, Policy and Research Division, Environment Department, World Bank, Washington, DC. March.

Ward, R., and E. Kingdon. 1995. *Land, Custom and Practice in the South Pacific*. Cambridge: Cambridge University Press.

Wiebe, K. D., A. Tegene, and B. Kuhn. 1998. "Land Tenure, Land Policy, and the Property Rights Debate." In *Who Owns America?,* ed. H. M. Jacobs. Madison, WI: University of Wisconsin Press.

Wilcox, M. D. 2005. "Cut Your Title Insurance Costs." December. http://www.kiplinger.com/basics/managing/insurance/title.html.

Williamson, I. P. 2002. "The Cadastral 'Tool Box'—a Framework for Reform." Paper presented at Session TS7.2 on Cadastral Innovation, FIG XXII International Congress, Washington, DC. April 19–26.

Williamson, I. P., and Feeney, M. E. 2001. *Land Administration and Spatial Data Infrastructures—Trends and Developments.* CD-ROM. Proceedings of the 42nd Australian Surveyors Congress, Brisbane, Australia. September 25–28. http://www.sli.unimelb.edu.au/research/publications/IPW/2_01Williamson_Feeney_SurvCongressBris.pdf.

Williamson, I. P., T. O. Chan, and W. W. Effenberg. 1998. "Development of Spatial Data Infrastructures—Lessons Learnt from the Australian Digital Cadastral Databases." *GEOMATICA* 52 (2): 177–187.

Williamson, O. E. 2000. "The New Institutional Economics: Taking Stock, Looking Ahead." *Journal of Economic Literature* 38: 595–613.

World Bank. 1974. *Land Reform.* World Bank Development Series, World Bank, Washington, DC.

———. 1990a. *World Development Report 1990—Poverty.* World Bank, Washington, DC.

———. 1990b. "Thailand: Second Land Titling Project." Staff appraisal report 8538-TH. Prepared for the World Bank, Thailand August.

———.2002a. "Kingdom of Cambodia Land Management and Administration Project." Project Appraisal document, report 22869-KH. January 29. Project database on the World Bank Web site: http://www-wds.worldbank.org/servlet/WDS_IBank_Servlet?pcont=details&eid=000094946_02021204004320.

———.2002b. "Ukraine Rural Land Titling and Cadastre." Project implementation document PID5331. March 19. Project database on the World Bank Web site: http://www-wds.worldbank.org/external/default/main?pagePK=64193027&piPK=64187937&theSitePK=523679&menuPK=64187510&searchMenuPK=64187283&siteName=WDS&entityID=000094946_99032505581868.

World Bank. 2002c. "Republic of Nicaragua: Land Administration Project." Project appraisal document, report 22399-NI. May 17. Project database on the World Bank Web site: http://www-wds.worldbank.org/servlet/WDSServlet?pcont=details&eid=000094946_02060604011399.

World Bank. 2004. *World Development Report 2004: Making Services Work for Poor People.* Washington, DC: Oxford University Press.

World Bank. 2006. "Peru: Real Property Rights Consolidation Project." Project appraisal document, report 34998-PE. February 16. Project database on the World Bank Web site: http://www-wds.worldbank.org/external/default/WDSContentServer/IW3P/IB/2006/02/27/000012009_20060227100939/Rendered/PDF/349880REV0pdf.pdf.

World Bank/IBRD. 2006. *Where is the Wealth of Nations?* Washington, DC: World Bank.

World Bank, IFC, Oxford University Press. 2005. *Doing Business 2005: Removing Obstacles to Growth*. Washington, DC: IBRD/World Bank.

———.2006a. *Doing Business 2006: Creating Jobs.* Washington, DC: IBRD/World Bank.

———.2006b. *Doing Business 2007: How to Reform.* Washington, DC: IBRD/World Bank. Doing Business database Web site: http://www.doingbusiness.org/.

Index

Accra, 38, 80, 108
Africa, 2–5, 3, 8, 14, 16, 19–21, 26–28, 38, 40, 43, 57, 58, 76, 78, 94, 104–10, 117, 121, 126, 134, 137, 139
Armenia, 3, 4, 24, 34, 37–39, 37–39, 47, 49, 56, 131, 136
Asia, 3, 4, 8, 9, 14, 21–22, 29–30, 38, 39, 40, 43, 65, 77, 83, 110, 118
Australia, 8, 10, 47–55, 111, 112

benchmarking, 11, 60
Bolivia, 3, 8, 9, 32, 33, 37–40, 79, 113, 120–29, 139
Botswana, 108, 113
boundaries, 8, 23, 42, 65, 67, 68, 79, 87, 93, 94, 124, 134
Bureau of Technical Inventory, 23, 31

Cambodia, 76, 85, 134
capacity building, 98–100, 116, 133, 137, 138
CIS, 4, 23, 24, 56
COFOPRI, 64, 75, 115
Colombia, 73
colonial administration, 21, 30, 117
community participation, 70–71, 72, 85, 95–97
conflict, 8, 16, 21, 37, 39–40, 42, 71, 75, 119, 129
corruption, 66, 83, 84, 106, 124
customary
  rights, 8, 38, 41–42, 57, 69, 84, 106, 109, 110, 116, 121
  systems, 7–15, 16, 19, 21, 27, 33, 35–40, 74, 97, 104–10, 121, 139
  tenure, 8, 19, 21, 37–40, 41, 67, 69, 86, 104–10

decentralize, 54, 76
dispute resolution, 36, 40, 75, 129, 133, 135
Doing Business, 57–60
dual tenure systems, 106

ECA, 3, 4, 16, 17, 37–39, 47–55, 70, 85, 103, 113, 127, 134, 137
El Salvador, 3, 25, 33, 39, 42, 57, 131, 136, 137
English common law, 8, 109
Europe, 4, 8, 15, 77, 82
Europe, 22

Family land, 25, 33, 40, 42
forest, 8, 9, 21, 38, 41, 43, 65, 68, 69, 103, 110
framework, 3, 7, 35–36
Fujimori, A, 36, 64

Garcia, A, 36
Ghana, 3, 9, 38, 39, 40, 68–72, 65, 68–72, 80, 81, 126, 133, 136, 139
Greece, 81, 82, 85, 110

Hong Kong, 47–55, 81, 132

indicators, 35, 37, 55–60, 129–33
  qualitative, 36, 41–43
  quantitative, 43–46
indigenous land, 21, 25, 42, 109, 122, 124
Indonesia, 3, 8, 22, 57–82, 64, 65, 67, 68, 69, 72, 78, 79, 80, 84, 86, 97, 99, 110, 113, 118, 124, 135, 139
insurance principle, 112
Islamic law, 117

Karnataka, 3, 37, 38, 39, 47–55, 56, 95, 131
Kenya, 8, 20, 113, 114, 120, 126
KwaZulu-Natal, 64, 69, 80
Kyrgyzstan, 3, 24, 31, 34, 37, 38, 39, 40, 47–55, 56, 112, 131, 136
LAC, 3, 4, 57–60, 57

land
  grabbing, 20, 42, 105
  law, 75, 104, 118
  market, 9, 10, 11, 15–17, 43, 45, 68, 134
  reform, 21, 25, 40, 77, 104, 137
  tenure, 5, 13, 16, 21, 25, 27, 33, 37, 38, 63, 65, 68, 101, 107, 108, 109, 115, 117
Land Boards, 76, 78, 80, 108
land ownership ceilings, 103
Lao PDR, 68, 75, 120
Laos, 99
Latin America, 8, 15, 25, 26, 42, 77, 78, 82, 85, 103, 109, 118, 122
Latvia, 3, 23, 37, 38, 39, 48, 56, 131

Malawi, 108
Malaysia, 82, 134
mass titling, 109, 113
Mexico,, 127
Moldova, 3, 37, 38, 47–55, 56, 131
Mozambique, 3, 27, 57–60, 69, 104, 126, 139

Namibia, 3, 28, 57–60, 108, 115, 126, 139
New Zealand, 47–55, 82, 132
Nicaragua, 76

OECD, 47
overlapping claims, 39, 108

Papua New Guinea, 86
Perú, 3, 33, 37, 40, 42, 47–55, 57, 81, 82, 85, 101, 109, 115, 118–23, 137
Philippines, 3, 8, 18, 21, 57–60, 38, 69, 72, 76–80, 116–18, 84, 85, 86, 103, 110, 112, 131, 139
pilot programs, 71
Poland, 15

private conveyancing, 37, 110

registration of deeds, 26, 37, 55, 108–11, 113, 116, 137
registration of title, 110–13, 128
rule of law, 73, 75

Scotland, 47–55, 127, 132
Singapore, 47–55
South Africa, 3, 28, 38, 39, 42–43, 80, 121, 131
Soviet Union, 23, 31
sporadic registration, 66
stakeholder consultation, 133
starter titles, 115
survey and mapping, 76, 82, 85–94, 111, 116, 124
sustainability, 9, 13, 17, 22, 44, 85–100, 93, 135
systematic land titling, 20, 105, 109

Tanzania, 76
tenure security, 8, 37, 41, 102, 105, 115, 116
Thailand, 21, 36–38, 39, 61–82, 49, 56, 68, 69, 71, 72, 80, 83, 84, 95, 97, 99, 103, 110, 115, 120, 124, 125, 126, 131, 135, 136, 139
Toledo, A, 64
Torrens title system, 30, 37
Trinidad & Tobago, 3, 33, 37, 38, 40, 42, 47–55, 54, 58, 131

Uganda, 3, 8, 16, 40, 70, 80, 108, 117, 126, 133, 137, 139
Ukraine, 70, 112

Vietnam, 9, 75

women, 19, 39, 40, 97, 105, 116–22, 139–41

Author Index

Adlington, G, 4, 65
Agarwal, B, 117, 118
Alemu, D, 92, 93
Alston, L et al, 96
Arruñada, B, 127
Asian Development Bank, 115, 127, 172
Atterhög, M, 102
Atwood, D A, 85, 109
Augustinus, C, 3, 70, 80, 113, 117, 160, 172

Backstrom, L, 99
Barnes, A, 1, 23
Barnes, G, 4, 26, 109
Bartlett, R, 10
Besley, T, 96
Bird, M M and Slack, E, 116
Bloch et al, 12
BPN (Badan Pertanahan Nasional), 67
BPN (Badan Pertanahan Nasional), 81
Brasselle, A et al, 96
Brits, A et al, 4, 110, 124, 160
Bruce, et al, 8, 117
Bruce, J, 75
Burns, A F, 96, 142, 160

Carter, M and Olinto, P, 96
Christodoulou, D, 101
Cousins, B, 106, 107

Dale, P F and McLaughlin, J D, 89, 90, 92, 109, 110, 111
Dale, P F, McLaughlin, J D, 142
De Janvry, A et al (eds), 107, 110, 113
De Soto, H, 2, 57, 70, 85, 95, 96, 113, 124
Deere, C D and León, M, 118, 119, 120, 121, 122
Deininger, K, 2
Diamond, J, 73, 74
Dixon-Gough, R (ed), 101
Do Q T, and Lyer, L, 96
Dorner, P, 105
Durand-Lasserve, A and Royston, L, 73

Enemark, S and Williamson, I P, 85, 98
Enemark, S et al, 7

Feder, G and Feeny, D, 105
Feder, G and Noronha, R, 98, 106
Feder, G et al, 2, 96
Fergus, M, 117
Fukuyama, F, 113

Galiani, S, 96
Global Land Tools Network, 117
Gopal, G, 117

Harahap, R M, 84
Harpum, C et al, 112
Hepburn, S, 112, 126
Hilhorst, T, 105, 117
Hodess et al, 84
Home, R and Lim, H, 113
Hughes, H, 124

Internet Center for Corruption Research, 83
Isles, C, 84

Jacobs, H, 11, 114
Jacoby, H et al, 96
Jaffee, D and Kaganova, O, 112
Jimenez, E, 96
Justiniano J, 160
Juul, K and Lund, K, 72, 104, 106

Kai-sing Kunk, J, 5
Kälin, C H, 59

Kauffman, J, 11
Kauffman, J and Steudler, D, 95
Kent, 65

Lambsdorff, J D, 84
Landjouw J and Levy P, 96
Lao Land Titling Project, 120
Lavadenz, I et al, 2, 3, 9
Lavelle, K, 127
Lavigne-Delville, P, 63, 105, 106, 109, 115, 126, 140
Lindsay, J, 75
Lund, K, 104, 106
Lunnay, C, 99
Lyons et al, 10

MacKenzie J-A, Phillips M, 126
Mandelbaum, M, 73
Maslow, A, 16
McAuslan, P, 83, 104, 106, 109, 115, 120, 128, 134
Migot-Adholla, S et al, 105
Ministry of Lands and Forestry, 68
Mohit, R S, 151
Montúfar, G, 26
Morgan, G, 112, 127

Neumann, M, 73
Ng'weno, B, 73
Ngaido, T, 114

Palmer, R, 70, 142
Panaritis, E, 61
Partnership for Governance Reform in Indonesia, 84
Payne, G (ed), 113, 115, 116
Pearson, N, 127
Peters, P, 104, 105, 106
Place, F and Migot-Adholla, S, 96
Platteau, J-P, 105, 106, 107, 120
Powelson, J P, 8
Prosterman, R L et al, 101

Quan, J, 107, 108

Rattanabirabongse, V et al, 67

Sadoulet, E et al, 117
Shivji, I G, 76
Siegan, B, 11
Simpson, 71
Steudler, D, et al, 11

Thampi, G K, 83, 84
Thiesenhusen, W C, 101, 160, 172
Ting, L and Williamson, I P, 12, 105
Tinker, I and Summerfield, G (eds), 121
Toulmin, C, 76, 78, 106
Toulmin, C and Quan, J, 107
Toulmin, C and Quan, J (eds), 104, 105, 109, 121

UN/FIG, 7
UNHabitat, 102

Virachit, V and Lunnay, C, 98
Viravong, M, 117

Wachter, D and English, J, 5, 63, 103
Ward, R,G, and Kingdon, E, 104, 110
Wiebe et al, 10
Wilcox, M D, 127
Williamson, I P and Feeney, M E, 11
Williamson, I P et al, 81
Williamson, O E, 64, 69
World Bank, 57, 58, 60, 66, 70, 73, 76, 78, 96, 97, 105, 107, 126, 160

Agriculture & Rural Development Department
World Bank
1818 H Street, NW
Washington, DC 20433
http://www.worldbank.org/rural