

Document of
The World Bank

Report No: ICR00003658

IMPLEMENTATION COMPLETION AND RESULTS REPORT
(IBRD-74170)

ON A

LOAN

IN THE AMOUNT OF US\$ 62.3 MILLION

TO THE

REPUBLIC OF GUATEMALA

FOR A

LAND ADMINISTRATION II PROJECT

IN SUPPORT OF THE SECOND PHASE OF THE LAND ADMINISTRATION
PROGRAM (APL)

February 19, 2016

Social, Urban, Rural, and Resilience Global Practice
Central America Country Management Unit
Latin America and the Caribbean Region

CURRENCY EQUIVALENTS

(Exchange Rate Effective February 19, 2016)

Currency Unit = Guatemalan Quetzal (GTQ)

1.00 GTQ = US\$ 0.13

US\$ 1.00 = 7.65 GTQ

FISCAL YEAR

January 1 – December 31

ABBREVIATIONS AND ACRONYMS

APL	Adaptable Program Loan
CAS	Country Assistance Strategy
CEIDEPAZ	Center for Research and Projects for Development and Peace (<i>Centro de Investigacion y Proyectos para el Desarrollo y la Paz</i>)
COCODES	Community Development Council (<i>Consejos Comunitarios de Desarrollo</i>)
CONADUR	National Council for Urban and Rural Development (<i>Consejo Nacional de Desarrollo Urbano y Rural</i>)
CONAP	National Council for Protected Areas (<i>Consejo Nacional de Áreas Protegidas</i>)
CONTIERRA	Special Commission of Land Conflict Resolution (<i>Dependencia Presidencial de Asistencia Legal y Resolución de Conflictos sobre la Tierra</i>)
CPS	Country Partnership Strategy
DICABI	National Directive of Cadaster and Real Estate Appraisal (<i>Dirección Nacional de Catastro y Avalúo de Bienes Inmuebles</i>)
EA	Environmental Assessment
EMP	Environmental Management Plan
FAO-TCI	United Nations Food and Agriculture Organization Cooperation Program – Investment Center
FM	Financial Management
FMR	Financial Monitoring Report
FONTIERRAS	Land Fund (<i>Fondo de Tierras</i>)
GDP	Gross Domestic Product
GoG	Government of Guatemala
IBRD	International Bank for Reconstruction and Development
ICB	International Competitive Bidding
IDAEH	Guatemalan Institute of Anthropology and History (<i>Instituto de Antropología e Historia de Guatemala</i>)
IEG	Independent Evaluation Group
IGN	National Geographic Institute (<i>Instituto Geográfico Nacional</i>)
INAB	National Forests Institute (<i>Instituto Nacional de Bosques</i>)
INE	National Institute of Statistics (<i>Instituto Nacional de Estadística</i>)

INFOM	National Institute of Municipal Development (<i>Instituto Nacional de Fomento Municipal</i>)
IPDP	Indigenous Peoples Development Plan
IRR	Internal Rate of Return
ISA	International Standards on Auditing
ISRR	Implementation Status and Results Report
IUSI	Real Estate Property Tax (<i>Impuesto Único sobre Inmuebles</i>)
LAP I	Land Administration Project, Phase I
M&E	Monitoring and Evaluation
MAGA	Ministry of Agriculture (<i>Ministerio de Agricultura, Ganadería y Alimentación</i>)
MINFIN	Ministry of Finance (<i>Ministerio de Finanzas</i>)
MTR	Medium Term Review
NGO	Non-Governmental Organization
NPV	Net Present Value
NRA	National Reserve Area
OAS	Social Support Offices (<i>Oficinas de Apoyo Social</i>)
OCRET	Office of Territorial Reserves (<i>Oficina de Control de Áreas de Reserva Territorial del Estado</i>)
OM	Operational Manual
OP	Operation Policy
PA	Protected Area
PCU	Project Coordination Unit
PDO	Project Development Objective
PF	Process Framework
PINFOR	Forestry Incentives Program (<i>Programa de Incentivos Forestales</i>)
PINPEP	Forestry Incentives Program for Small Landowners of Forestry- or Agroforestry-suitable Lands (<i>Programa de Incentivos Forestales para Poseedores de Pequeñas Extensiones de Tierras de Vocación Forestal o Agroforestal</i>)
PROTIERRA	Inter-institutional Commission for the Strengthening and Development of Land Property Rights (<i>Comisión Institucional para el Desarrollo y Fortalecimiento de la Tierra</i>)
RGP	General Property Registry (<i>Registro General de la Propiedad</i>)
RIC	Registry of Cadastral Information (<i>Registro de Información Catastral</i>)
SAC	Client Attention System (<i>Sistema de Atención al Cliente</i>)
SAA	Secretariat of Agrarian Affairs (<i>Secretaria de Asuntos Agrarios</i>)
SEGEPLAN	Secretariat of Planning and Programming (<i>Secretaria de Planificación y Programación de la Presidencia</i>)
SIAF	Integrated Financial and Administrative System (<i>Sistema Integrado de Información Financiera</i>)
SICOIN	National Integrated Accounting System (<i>Sistema de Contabilidad Integrado Nacional</i>)
SIRCAT	RIC's Public Registry

SISERIC	RIC's Monitoring and Evaluation System (<i>Sistema de Seguimiento y Evaluación del RIC</i>)
SITMuni	System of Municipal Territorial Information (<i>Sistema de Información Territorial Municipal</i>)
SNIC	National System of Cadastral Information (<i>Sistema Nacional de Información Catastral</i>)
TORs	Terms of Reference
UNDP	United Nations Development Program
UTJ	Technical and Legal Unit (<i>Unidad Técnica y Jurídica</i>)
WB	World Bank

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GUATEMALA
Land Administration II Project

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MAP IBRD 42165

A. Basic Information			
Country:	Guatemala	Project Name:	LAND ADMINISTRATION II APL
Project ID:	P087106	L/C/TF Number(s):	IBRD-74170
ICR Date:	02/19/2016	ICR Type:	Core ICR
Lending Instrument:	APL	Borrower:	REPUBLIC OF GUATEMALA
Original Total Commitment:	USD 62.30M	Disbursed Amount:	USD 49.77M
Revised Amount:	USD 51.30M		
Environmental Category: B			
Implementing Agency: Registry of Cadastral Information (RIC)			
Cofinanciers and Other External Partners:			

B. Key Dates				
Process	Date	Process	Original Date	Revised / Actual Date(s)
Concept Review:	02/10/2005	Effectiveness:	05/22/2008	05/22/2008
Appraisal:	11/02/2006	Restructuring(s):		06/28/2010 11/30/2011 07/25/2012 08/29/2013
Approval:	12/14/2006	Mid-term Review:	02/06/2012	08/03/2012
		Closing:	12/01/2013	09/01/2015

C. Ratings Summary	
C.1 Performance Rating by ICR	
Outcomes:	Moderately Satisfactory
Risk to Development Outcome:	High
Bank Performance:	Moderately Unsatisfactory
Borrower Performance:	Moderately Satisfactory

C.2 Detailed Ratings of Bank and Borrower Performance (by ICR)			
Bank	Ratings	Borrower	Ratings
Quality at Entry:	Moderately Unsatisfactory	Government:	Moderately Satisfactory
Quality of Supervision:	Satisfactory	Implementing Agency/Agencies:	Moderately Satisfactory
Overall Bank Performance:	Moderately Unsatisfactory	Overall Borrower Performance:	Moderately Satisfactory

C.3 Quality at Entry and Implementation Performance Indicators			
Implementation Performance	Indicators	QAG Assessments (if any)	Rating
Potential Problem Project at any time (Yes/No):	Yes	Quality at Entry (QEA):	None
Problem Project at any time (Yes/No):	Yes	Quality of Supervision (QSA):	None
DO rating before Closing/Inactive status:	Moderately Satisfactory		

D. Sector and Theme Codes		
	Original	Actual
Sector Code (as % of total Bank financing)		
Central government administration	66	66
Sub-national government administration	34	34
Theme Code (as % of total Bank financing)		
Indigenous peoples	13	15
Land administration and management	25	40
Municipal governance and institution building	13	20
Personal and property rights	24	25
Rural markets	25	0

E. Bank Staff		
Positions	At ICR	At Approval
Vice President:	Jorge Familiar Calderon	Pamela Cox
Country Director:	J. Humberto Lopez	Jane Armitage
Practice Manager/Manager:	Jorge A. Munoz	Mark E. Cackler
Project Team Leader:	Enrique Pantoja	Frederic de Dinechin
ICR Team Leader:	Enrique Pantoja	
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F. Results Framework Analysis

Project Development Objectives (from Project Appraisal Document)

The objective of the Project is to foster the process of achieving land tenure security in the Project area through the provision of efficient and accessible cadastral and land administration services.¹

Revised Project Development Objectives (as approved by original approving authority)

There were no revisions to the PDO.

(a) PDO Indicator(s)

Indicator	Baseline Value	Original Target Values (from approval documents)	Formally Revised Target Values	Actual Value Achieved at Completion or Target Years
Indicator 1 :	35% of parcels in the Project area are integrated into RIC's Public Registry.			
Value quantitative or Qualitative)	0%	50%	35%	16.54%
Date achieved	07/01/2010	09/01/2015		09/01/2015
Comments (incl. % achievement)	Partially achieved (47.25%). A total of 274,536 parcels were surveyed in the Project area, of which 45,400 were registered in RIC's Public Registry. The indicator was revised in the first Restructuring; the target was further revised in the fourth.			
Indicator 2 :	The technological platform that includes RIC's public registry (SIRCAT) is assessed to be satisfactory regarding its functionality, and physical and data security.			
Value quantitative or Qualitative)	0		Assessed as satisfactory	Assessed as satisfactory
Date achieved	07/01/2010	09/01/2015		09/01/2015
Comments (incl. % achievement)	Achieved (100%). A technical audit of SIRCAT resulted in a 72.8 percent rating, based on which SIRCAT is assessed as satisfactory. The unit of measure of this indicator was revised in the fourth Project Restructuring.			
Indicator 3 :	At least 50% of land conflicts identified during the cadastral establishment process are resolved.			
Value quantitative or Qualitative)	0	50%		53.98%

¹ The PDO definition in the Project Appraisal Document (PAD) Datasheet and Main Text (p. 4) is slightly different: "...to foster the process of achieving land tenure security in seven new departments (Alta Verapaz, Baja Verapaz, Chiquimula, Escuintla, Izabal, Sacatepequez, and Zacapa) and the municipality of Palachum [sic] in the Department of Quiche through the provision of efficient and accessible cadastral and land administration services." The version of the PDO used in the ICRR is the same as in the Loan Agreement and Annex 3 of the PAD.

Date achieved	01/12/2007	09/01/2015		09/01/2015
Comments (incl. % achievement)	Surpassed (107.96%). A total of 1,771 conflicts were identified during the cadastral process (e.g., during surveying activities and public displays of information), of which 956 were resolved.			
Indicator 4 :	Less than 10% of parcels incorporated in the RIC database have reports of absenteeism or not attendance of the owner/occupant.			
Value quantitative or Qualitative)	13%	10%		2.94%
Date achieved	07/31/2013	09/01/2015		09/01/2015
Comments (incl. % achievement)	Surpassed (340%). Of the 274,536 parcels surveyed, only 8,065 owners/occupants were absent. This indicator was added in the fourth Project Restructuring as a better measure of participation than indicator number 9, below.			
Indicator 5 :	Target population with use or ownership rights recorded as a result of the Project. [Core Indicator]			
Value quantitative or Qualitative)	320,915	1,128,712		965,076
Date achieved	07/31/2013	09/01/2015		09/01/2015
Comments (incl. % achievement)	Partially achieved (85.5%). 965,076 individuals had their use or ownership rights recorded. This indicator was added in the fourth Project Restructuring. The target value was revised during the final evaluation based on more precise population estimates.			
Indicator 5(a) :	Number of women beneficiaries with rights recorded.			
Value quantitative or Qualitative)	163,667	575,643		492,188
Date achieved	01/12/2007	09/01/2015		09/01/2015
Comments (incl. % achievement)	Achieved (51%). A total of 492,188 women had their use or ownership rights recorded. The target of 575,643 women beneficiaries represented 51% of the total target of 1,128,712 beneficiaries.			
Indicator 6 :	80% of new transactions in the project area conducted with validated and integrated cadastral and registry information.			
Value quantitative or Qualitative)	0	80%		--
Date achieved	01/12/2007	n/a		
Comments (incl. % achievement)	Dropped. This indicator was replaced during the first Project Restructuring by Indicator 1 above as a better measurement of the Project's impact.			
Indicator 7 :	Satisfactory rating (third level on a four-scale basis) by at least 50% of National System of Cadastral Information.			
Value quantitative or Qualitative)	0	Satisfactory rating		--
Date achieved	01/12/2007	n/a		

Comments (incl. % achievement)	Dropped. This indicator was eliminated in the fourth Restructuring as it would not be feasible to measure it at the end of the Project in a statistically adequate manner.			
Indicator 8 :	At least 70% of the targeted population in the project area participates in the cadastral survey (at least 40% participating population is of indigenous descent).			
Value quantitative or Qualitative)	0	70%		--
Date achieved	01/12/2007	n/a		
Comments (incl. % achievement)	Dropped. This indicator was replaced with Indicator 4 above, as a better proxy to measure population participation in the cadastral process.			

(b) Intermediate Outcome Indicator(s)

Indicator	Baseline Value	Original Target Values (from approval documents)	Formally Revised Target Values	Actual Value Achieved at Completion or Target Years
Indicator 1 :	Land parcels with use or ownership rights recorded as a result of the Project. [Core Indicator]			
Value (quantitative or Qualitative)	64,183	300,000		274,536
Date achieved	07/31/2013	09/01/2015		09/01/2015
Comments (incl. % achievement)	Partially achieved (91.51%). A total of 274,536 parcels had their use or ownership rights recorded in RIC's database. This indicator was added in the fourth Project Restructuring.			
Indicator 1(b) :	Land parcels with use/ownership rights recorded as a result of the Project - female.			
Value (quantitative or Qualitative)	22,464	85,000		96,088
Date achieved	07/31/2013	09/01/2015		09/01/2015
Comments (incl. % achievement)	Surpassed (113.04%). A total of 96,088 parcels with use or ownership rights recorded had a woman as sole or joint owner/occupant.			
Indicator 2 :	80% of communal lands in the Project [area] identified and certified according to the process established in the Regulations for Communal Lands and Indigenous Peoples Development Plan (IPDP), of which at least 50% are in indigenous people's communal lands.			
Value (quantitative or Qualitative)	0	80%		16%
Date achieved	01/12/2007	09/01/2015		09/01/2015
Comments (incl. % achievement)	Partially achieved (20%). Of the 25 communities that requested the communal land certification, 4 received it before the end of the Project. One of these is in indigenous peoples' lands, i.e. 25% of those certified.			

Indicator 3 :	427km of protected areas' (PAs) boundaries and 100km of national reserve areas' (NRAs) boundaries delimited and demarcated in the Project area.			
Value (quantitative or Qualitative)	0	13 protected areas demarcated	427km / 100km	463.36km (delimited) & 306.47km (demarcated) in protected areas/110.25km (delimited) & 74.75km (demarcated) in territorial reserves.
Date achieved	01/12/2007	09/01/2015		09/01/2015
Comments (incl. % achievement)	Partially achieved (72%/74%). 463.36km of PAs' boundaries were delimited, 306.47km were demarcated. 74.75km of NRAs' boundaries were delimited and demarcated. The indicator was revised in the first Restructuring; targets were revised in the fourth.			
Indicator 4 :	195 archeological sites and 25 ceremonial sites in the Project area identified, geo-referenced and incorporated into the database of the Department of Cultural Resources' Registry.			
Value (quantitative or Qualitative)	0	250 archeological sites	195 / 25	299 / 201
Date achieved	01/12/2007	09/01/2015		09/01/2015
Comments (incl. % achievement)	Surpassed (153.33%/804%). 299 archeological sites and 201 ceremonial sites were identified, georeferenced, and incorporated in the Registry of the Department of Cultural Resources. The indicator was revised in the fourth Restructuring.			
Indicator 5 :	30% of land conflicts identified previously by SAA within the Project area are resolved.			
Value (quantitative or Qualitative)	34%	30%		26%
Date achieved	07/31/2013	09/01/2015		09/01/2015
Comments (incl. % achievement)	Partially achieved (86.67%). Of a total of 250 conflicts previously identified by SAA in the Project area, 65 were resolved. Results were measured by SAA. This indicator was added in the fourth Project Restructuring.			
Indicator 6 :	At least 60% of individual parcels or communal lands identified as eligible for regularization or special titling are titled and registered in RGP, and benefit women and indigenous peoples.			
Value (quantitative or Qualitative)	0	60%		33.58%
Date achieved	01/12/2007	09/01/2015		09/01/2015
Comments (incl. % achievement)	Partially achieved (55.97%). Of 5,000 parcels identified as eligible, 1,679 were titled and registered in RGP. All 1,679 parcels benefit indigenous peoples, and 1,072 (63.85%) benefit women. The indicator was revised in the fourth Restructuring.			

Indicator 7 :	6 cluster offices established in the Project area during cadastral surveying process, of which at least 5 offer cadastral services permanently.			
Value (quantitative or Qualitative)	0	8	6 / 5	9 offices established, of which 7 permanently
Date achieved	01/12/2007	09/01/2015		09/01/2015
Comments (incl. % achievement)	Surpassed (150%). Nine cluster offices were established in the Project area, seven of which are expected to continue offering cadastral services permanently. The target of this indicator was revised in the first Project Restructuring.			
Indicator 8 :	100 professional surveyors and 250 technical surveyors certified and registered in RIC's Registry of Surveyors.			
Value (quantitative or Qualitative)	0	50 surveyors	100 / 250	766 / 1088
Date achieved	01/12/2007	09/01/2015		09/01/2015
Comments (incl. % achievement)	Surpassed (766% / 435.2%). A total of 766 professional surveyors and 1,088 technical surveyors were certified and registered in RIC's Registry of Surveyors.			
Indicator 9 :	100% of new transactions within the Project area, related to change of rights (<i>dominio</i>) in RGP, are incorporated in the Public Registry of RIC.			
Value (quantitative or Qualitative)	0	80%	100%	100%
Date achieved	01/12/2007	09/01/2015		09/01/2015
Comments (incl. % achievement)	Achieved. All new transactions concerning change of rights within the Project area were incorporated in RIC's Public Registry. The target of this indicator was revised in the fourth Project Restructuring.			
Indicator 10 :	At least 20 municipalities use cadastral information for territorial planning and other uses, and send information for cadastral update and maintenance.			
Value (quantitative or Qualitative)	0	20		22
Date achieved	01/12/2007	09/01/2015		09/01/2015
Comments (incl. % achievement)	Surpassed (110%). 22 municipalities use cadastral information for multiple purposes or send information for cadastral update and maintenance. Of these, 9 have installed SITMuni for managing the cadaster, 6 have initiated territorial planning processes.			
Indicator 11 :	Regulations on the RIC Law, and regulations on the certification of communal lands approved by RIC.			
Value (quantitative or Qualitative)	No regulations on the RIC Law, no Specific Regulation on Communal Lands	Regulations on the RIC Law and Specific Regulation on Communal Lands approved by RIC		2 Regulations completed.
Date achieved	01/12/2007	09/01/2015		03/15/2009
Comments	Achieved. Both Regulations were issued timely.			

(incl. % achievement)			
Indicator 12 :	An integrated Registry-Cadaster information platform operates satisfactorily.		
Value (quantitative or Qualitative)	0	100%	80%
Date achieved	01/12/2007	09/01/2015	09/01/2015
Comments (incl. % achievement)	Partially achieved. Several modules were developed. However, a systems' audit identified weaknesses in the infrastructure and platform that could compromise the security of the information. This indicator was revised in the fourth Restructuring.		
Indicator 13 :	Budget, annual operative plans, M&E issued on time as per the Loan Agreement.		
Value (quantitative or Qualitative)	0	100%	100%
Date achieved	01/12/2007	09/01/2015	09/01/2015
Comments (incl. % achievement)	Achieved. The following documents were verified: approved annual operational and procurement plans; progress reports; M&E reports; baseline, medium term and final evaluations; financial audits, and the Project's financial documentation.		
Indicator 14 :	Monitoring and Evaluation and FM systems for the Project developed and operating.		
Value (quantitative or Qualitative)	0	100%	50%
Date achieved	07/01/2010	09/01/2015	09/01/2015
Comments (incl. % achievement)	Partially achieved (50%). The Project satisfactorily operated separate M&E and FM systems. However, the two systems were not linked and as a result there was no combined monitoring of the physical and financial progress.		
Indicator 15 :	10% of identified communal lands are regularized and registered in RGP.		
Value (quantitative or Qualitative)	0	10%	--
Date achieved	01/12/2007	n/a	
Comments (incl. % achievement)	Dropped. This indicator was considered redundant given that Indicator 2 above provides a more accurate description of outcomes on communal lands.		
Indicator 16 :	At least 30 municipalities have received technical assistance and training for administration and collection of property taxes (IUSI).		
Value (quantitative or Qualitative)	0	30	--
Date achieved	07/01/2010	n/a	
Comments (incl. % achievement)	Dropped. This indicator was added in the first Restructuring; in the fourth restructuring it was replaced with Indicator 10 above which is more focused on outcomes.		
Indicator 17 :	At least 15,000 families in the Project area benefited from regularization processes and registry in RGP, of which x% are poor.		
Value	0	15,000	--

(quantitative or Qualitative)				
Date achieved	07/01/2010	n/a		
Comments (incl. % achievement)	Dropped. This indicator was added in the first Restructuring; in the fourth restructuring it was replaced with Indicator 6 above, which provides a better breakdown of outcomes for women and indigenous peoples.			
Indicator 18 :	100% of registry books in the Second Property Registry indexed and digitized.			
Value (quantitative or Qualitative)	0	100%		--
Date achieved	07/01/2010	n/a		
Comments (incl. % achievement)	Dropped. This indicator was added in the first Restructuring; in the fourth restructuring it was eliminated as it was an output rather than outcome indicator.			
Indicator 19 :	Virtual portal operating for updating and exchange of property registration.			
Value (quantitative or Qualitative)	0	100%		--
Date achieved	07/01/2010	n/a		
Comments (incl. % achievement)	Dropped. This indicator was added in the first Restructuring; in the fourth restructuring it was eliminated as it was an output rather than outcome indicator; Indicator 12 above provides a better measure of related outcomes.			
Indicator 20 :	80% of surveyed parcels in the project area (including national, private, and communal lands) incorporated into RIC's database (target: 280,000 out of 350,000).			
Value (quantitative or Qualitative)	0	80%		--
Date achieved	01/12/2007	n/a		
Comments (incl. % achievement)	Dropped. This indicator was replaced by Indicator 1 above.			
Indicator 21 :	2,800 lineal km of municipal boundaries identified and agreed among the relevant parties.			
Value (quantitative or Qualitative)	0	2,800km		--
Date achieved	01/12/2007	n/a		
Comments (incl. % achievement)	Dropped. This indicator was eliminated in the fourth Restructuring as it was an output rather than outcome indicator. It continued to be monitored through Annual Operational Plans, although not as part of the results matrix.			
Indicator 22 :	60% of parcels in private lands identified as eligible for the special titling procedure prescribed in the RIC Law are titled and registered in RGP.			
Value (quantitative or Qualitative)	0	60%		--
Date achieved	01/12/2007	n/a		
Comments	Dropped. This indicator was included in Indicator 6 above.			

(incl. % achievement)				
Indicator 23 :	A draft Land Regularization Law prepared by RIC, RGP, Land Fund and SAA.			
Value (quantitative or Qualitative)	No Law	Land Regularization Law		--
Date achieved	01/12/2007	n/a		
Comments (incl. % achievement)	Dropped. This indicator was eliminated since this activity was not directly relevant to the PDO; reaching consensus on a draft law was also beyond the control of the Government, and particularly of RIC.			
Indicator 24 :	500 technicians trained in land administration through RIC's Land Use and Cadaster Training Center.			
Value (quantitative or Qualitative)	0	500		
Date achieved	01/12/2007	n/a		
Comments (incl. % achievement)	Dropped. This indicator was eliminated as it overlapped with Indicator 8 above.			
Indicator 25 :	At least 14 CORS (active geodesic network) stations are functioning at the national level, and the passive geodesic network established in the Project area.			
Value (quantitative or Qualitative)	0	14		--
Date achieved	07/01/2010	n/a		
Comments (incl. % achievement)	Dropped. This indicator was added in the first Restructuring; in the fourth restructuring it was eliminated as it was an output rather than outcome indicator. It continued to be monitored, although not as part of the results matrix.			
Indicator 26 :	Spatial Data Infrastructure in operation (application and standards).			
Value (quantitative or Qualitative)	0	Infrastructure in operation		
Date achieved	01/12/2007	n/a		
Comments (incl. % achievement)	Dropped. This indicator was eliminated as it was an output rather than outcome indicator; Indicator 10 above provides a better measure of related outcomes.			

G. Ratings of Project Performance in ISRs

No.	Date ISR Archived	DO	IP	Actual Disbursements (USD millions)
1	01/16/2007	Satisfactory	Satisfactory	0.00
2	09/05/2007	Satisfactory	Satisfactory	0.00
3	10/25/2007	Satisfactory	Moderately Unsatisfactory	0.00
4	04/11/2008	Satisfactory	Moderately Satisfactory	0.00

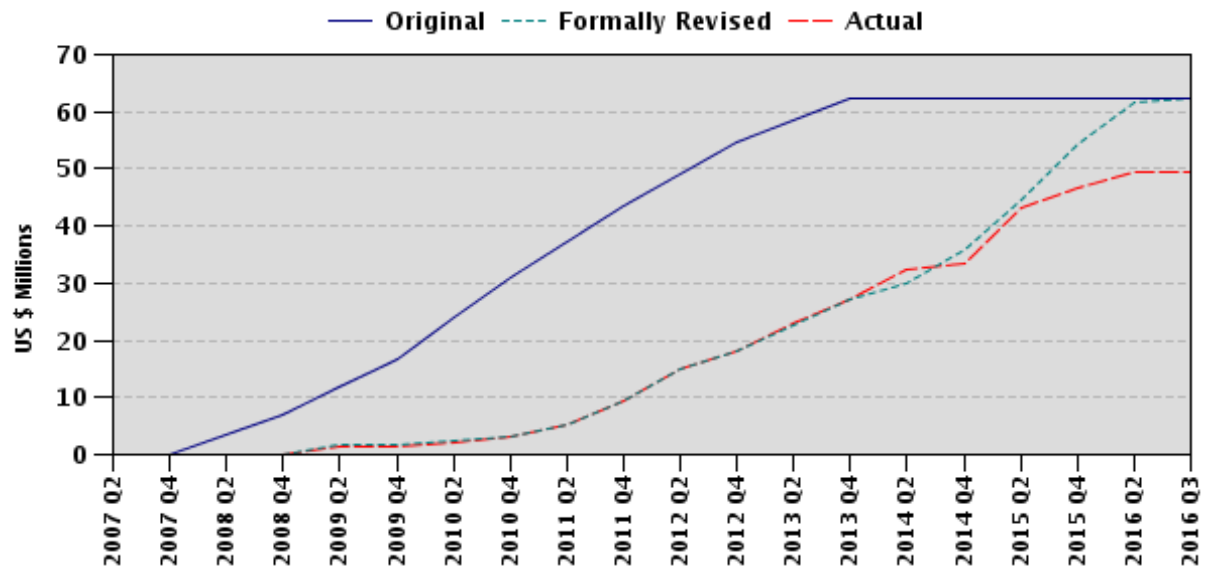
5	11/03/2008	Moderately Satisfactory	Moderately Satisfactory	0.00
6	05/08/2009	Moderately Unsatisfactory	Moderately Unsatisfactory	1.50
7	10/27/2009	Moderately Unsatisfactory	Moderately Unsatisfactory	1.50
8	05/08/2010	Moderately Unsatisfactory	Moderately Unsatisfactory	2.71
9	06/30/2010	Moderately Unsatisfactory	Moderately Unsatisfactory	3.02
10	01/04/2011	Moderately Satisfactory	Moderately Satisfactory	5.24
11	07/27/2011	Moderately Satisfactory	Moderately Satisfactory	10.75
12	12/21/2011	Moderately Satisfactory	Moderately Satisfactory	13.00
13	04/17/2012	Moderately Satisfactory	Moderately Satisfactory	15.91
14	11/10/2012	Moderately Satisfactory	Moderately Satisfactory	21.65
15	06/10/2013	Moderately Satisfactory	Moderately Satisfactory	27.22
16	12/15/2013	Moderately Satisfactory	Moderately Satisfactory	30.75
17	07/01/2014	Moderately Satisfactory	Moderately Satisfactory	33.49
18	01/07/2015	Moderately Satisfactory	Moderately Satisfactory	43.12
19	07/20/2015	Moderately Satisfactory	Moderately Unsatisfactory	46.53
20	08/28/2015	Moderately Satisfactory	Moderately Unsatisfactory	49.61

H. Restructuring (if any)

Restructuring Date(s)	Board Approved PDO Change	ISR Ratings at Restructuring		Amount Disbursed at Restructuring in USD millions	Reason for Restructuring & Key Changes Made
		DO	IP		
06/28/2010	N	MU	MU	3.02	Increased and unforeseen costs since project preparation, RIC's weak coordination and implementation capacity, and closer analysis of relevance of project activities, justified the following changes: (i) adjustment in scope of cadastral surveying (from 55 to 41 municipalities), (ii) establishment of inter-institutional and technical committees, (iii) changes to description of project activities, (iv) reallocation of loan proceeds to reflect adjusted project scope, and (v) changes

Restructuring Date(s)	Board Approved PDO Change	ISR Ratings at Restructuring		Amount Disbursed at Restructuring in USD millions	Reason for Restructuring & Key Changes Made
		DO	IP		
					to the submission period of IFRs and progress reports.
11/30/2011		MS	MS	13.00	Due to the need to hire field technical services provided by individuals, the restructure allowed for: (i) using “Service Delivery Contractors” as a selection method for individual consultant services, and (ii) using the latest edition of the Procurement and Consultant Guidelines.
07/25/2012	N	MS	MS	18.14	To strengthen the Borrower’s capacity to understand and manage a potential case of involuntary restriction of access, the restructure triggered the Involuntary Resettlement Operational Policy (OP 4.12).
08/29/2013		MS	MS	27.22	Due to delays in Project implementation (including an initial 17-month delay in Loan effectiveness) and a results framework that was too complex, the restructure included: (i) extension of the Loan closing date from December 1, 2013 to September 1, 2015, and (ii) modifications to and clarification of the Project Results Matrix.

I. Disbursement Profile



The Land Administration II Project was the Second Phase of the Guatemala Land Administration Program. The Project helped to address land tenure insecurity – one of the most important development issues for Guatemala – by surveying 274,536 parcels, benefiting close to one million people. It also strengthened the country’s legal and institutional framework for land administration by supporting the new Registry of Cadastral Information (RIC), as well as the development of regulations, norms, and procedures related to the cadaster, and of a technological platform to integrate the cadaster and registry. The Project helped to decentralize cadastral services by opening 9 regional offices of RIC and providing technical assistance for multipurpose cadaster to 22 municipalities. RIC, in coordination with the Secretariat of Agrarian Affairs (SAA), facilitated the resolution of high-profile land conflicts, such as those in El Estor, and other conflicts identified during the cadastral survey. A historical precedent was set by certifying and registering the communal lands of 4 communities, while 12 more are in the process of being registered. In spite of this progress, land remains a challenging issue and the land agenda established by the 1996 Peace Accords has not yet been fulfilled. The Project was able to make an impact by coordinating among seven land agencies, municipalities, and civil society organizations to foster a comprehensive, participatory, and inclusive process for improving land tenure. The complexity of Project design, however, led to numerous implementation challenges, which contributed to a total implementation period of seven years. Established as a legal cadaster, with comprehensive parcel-based cadastral and legal analyses, the process provided reliable information to increase the legal security of tenure, even if the mass cadastral methodology proved expensive and cumbersome. Contracts for land surveying with private firms also proved more expensive and difficult to manage than had been anticipated. Due to national budget constraints, RIC had to cancel many of the activities planned for the last year of implementation. In the end, the Project disbursed 79 percent of the original loan amount. The Project provides significant lessons for continuing to improve land administration in Guatemala and in other countries facing similar issues.

1. Project Context, Development Objectives and Design

1.1 Context at Appraisal

1. **Country and Sector Background.** When the Project was appraised, a decade had passed since the signing of the 1996 Peace Accords that ended a 36-year civil conflict. Land issues figured prominently in the Socioeconomic and Agrarian Accord that called for the establishment of a legal and institutional framework to ensure land tenure security, and a decentralized and sustainable cadastral-based Property Registry. Land tenure was insecure due to unreliable cadastral (exact geographic description of a parcel) and legal (certainty of legitimate ownership) information, weak coordination among land administration institutions, and incipient conflict resolution mechanisms. The most significant challenges with respect to land were found in rural areas where an unequal distribution of land and overlapping tenure regimes caused conflict. Indigenous communities were particularly affected by land tenure insecurity due to a historical process of land dispossession and the absence of appropriate legal instruments to protect their lands. In addition, the complex socio-ecological arrangements pertaining to indigenous land tenure systems were vulnerable to land privatization and land grabbing.

2. As part of the Peace Accords, the Law of RIC was approved in 2005 creating a new autonomous and service-oriented national agency with the objective of establishing, updating, and maintaining the cadaster. The establishment phase referred to developing a **cadastral process** that involved registry investigation, surveying, technical and legal analyses, and registration of the parcel's physical location and boundaries in RIC's Public Registry.² The Property Registry (RGP) continued to be the agency responsible for the recording of legal rights on land.³ Framed as a legal cadaster, the final outcome of the cadastral process was to notify the population whether the information in the field corresponded to the information in the Property Registry (regular) or not (irregular). RIC's Public Registry and the Property Registry were to function as a dual-agency system for fostering land tenure security. In addition, RIC was expected to coordinate with other land agencies responsible for special territorial units such as national lands, protected areas, and state reserves.

3. **Government Strategy.** RIC institutionalized the previous work carried out by the Legal and Technical Unit (UTJ), which was responsible for implementing Phase I of the Land Administration Program in the Department of Petén.⁴ In addition to national-level efforts, the Government of Guatemala (GoG) pursued a decentralization agenda that influenced the development of the cadastral framework. The 2002 Municipal Code made municipalities responsible for their cadasters through municipal planning offices, which were also responsible for updating geographic information for territorial planning. In 2006, the Government's program *Vamos Guatemala* (Let's Go, Guatemala) included land tenure security improvement as part of its economic pillar. In alignment with this plan, the World Bank's Country Assistance Strategy (CAS) 2005-2008 included Phase II of the Land Administration Program as the government's main instrument for strengthening property rights.

4. **Rationale for World Bank involvement.** To support the Peace Accords, the World Bank agreed to finance the Guatemala Land Administration Program through a three-phase, 12-year Adaptable Program Loan (APL). Phase I was approved in 1998 and targeted the Department of Petén, Phase II expanded the geographic coverage to 55 municipalities across eight new departments, and Phase III was expected to achieve countrywide coverage. The World Bank continued supporting the Program because of the importance of improving land tenure security for development issues in Guatemala and the prospect of contributing to RIC's institutional strengthening, while developing a stronger link between RIC and the Property Registry and a multi-purpose cadaster system.

² Updating referred to the process of recording new transactions while the stage of establishment was still ongoing. Once RIC established the cadaster in a municipality, then cadastral information was to be maintained and used for multiple purposes.

³ The Property Registry is an autonomous agency established in 1877 to legally recognize and register deeds. The main office of the Property Registry is located in Guatemala City and provides services to 14 departments. A Second Property Registry is located in the city of Quetzaltenango and provides services to eight departments in the southwest region.

⁴ UTJ was created in 1997 to function as the operational branch of the Inter-Institutional Commission for the Strengthening and Development of Land Property Rights (PROTIERRA).

1.2 Original Project Development Objectives (PDO) and Key Indicators

5. The overarching objectives of the Land Administration Program were to: (i) increase legal security of land tenure, and (ii) strengthen the legal and institutional framework for Property Registry and cadaster services in the country. For Phase II, the Project Development Objective (PDO) was to foster the process of achieving land tenure security in the project area through the provision of efficient and accessible cadastral and land administration services.⁵

6. Accordingly, the original **PDO indicators** were:

- **PDO Indicator 1:** 80 percent of new transactions in the Project area conducted with validated and integrated cadaster and registry information;
- **PDO Indicator 2:** 80 percent of land conflicts identified during the cadastral survey are in a resolution process, out of which 50 percent are resolved;
- **PDO Indicator 3:** Satisfactory rating (third level on a four-scale basis) by at least 50 percent of National System of Cadastral Information (SNIC);
- **PDO Indicator 4:** At least 70 percent of the targeted population in the Project area participates in the cadastral survey.

1.3 Revised PDO and Key Indicators, and reasons/justification

7. The PDO was maintained, but the PDO indicators were adjusted to improve measurement of outcomes:⁶

- **PDO Indicator 1:** This indicator was replaced in the First Restructuring with another that measured the *percentage of parcels registered in RIC's Public Registry*. Measuring the original indicator would have been extremely difficult because it involved estimating the universe of new transactions, including those that were not recorded in the Property Registry. Instead, registration in RIC's Public Registry was a better proxy for certainty about the parcel's legal status. The target value was initially set at 50 percent, but was reduced to 35 percent in the Fourth Restructuring due to a substantial increase in the cost and complexity of the cadastral process as established in the RIC Law, mainly for the cadastral and legal analysis.
- **PDO Indicator 2:** This indicator was revised in the Fourth Restructuring to clarify its interpretation and make it more focused on results. The new indicator measured that *at least 50 percent of land conflicts identified during the cadastral establishment process are resolved*.
- **PDO Indicator 3:** This indicator was replaced because it would not have been feasible to measure it at the end of the Project in a statistically adequate manner. A new indicator was added in the First Restructuring to *assess the satisfactory level of the technological platform for RIC's Public Registry regarding its functionality*,

⁵ The PDO definition in the PAD Datasheet and Main Text (p. 4) is slightly different: "...to foster the process of achieving land tenure security in seven new departments (Alta Verapaz, Baja Verapaz, Chiquimula, Escuintla, Izabal, Sacatepequez, and Zacapa) and the municipality of Palachum [sic] in the Department of Quiche through the provision of efficient and accessible cadastral and land administration services." The version of the PDO used in the ICRR is the same as in the Loan Agreement and Annex 3 of the PAD.

⁶ A table detailing all the changes to the Results Framework is included in Annex 2.

and physical and data security. In the Fourth Restructuring, the unit of measurement for this indicator was changed from a percentage base to a straightforward assessment (yes/no) based on these key functions.

- **PDO Indicator 4:** This indicator was replaced in the Fourth Restructuring with another that was considered more reliable and a better proxy to measure population participation. The new indicator measured that *less than 10 percent of parcels incorporated in the RIC database have reports of absenteeism or nonattendance of the owner/occupant.*
- **Core Indicators:** One core indicator for land administration was confirmed in the Fourth Restructuring as an outcome indicator. The indicator is *target population with use or ownership rights recorded as a result of the Project*, and includes a disaggregated sub-indicator for female beneficiaries.

1.4 Main Beneficiaries

8. The Project's direct beneficiaries included: (i) population living in rural and urban areas in the Project area, who were expected to benefit from increased tenure security as a result of the cadastral process and limited regularization activities; (ii) indigenous and peasant communities, who were expected to benefit from the certification and registration⁷ of communal lands, (iii) municipalities in the Project area, who were expected to benefit from an updated and accurate cadaster, and from strengthened capacity to update and maintain the cadaster, as well as to develop land use plans based on cadastral information; and (iv) local surveyors and notaries, who were expected to benefit from strengthened capacity for conducting land surveying and applying the RIC Law.

1.5 Original Components

9. **Component 1 – Cadastral and land regularization** (US\$31.95 million or 51.3 percent of original Project cost): This component aimed at carrying out the cadaster process and limited land regularization activities in 55 municipalities. In support of the cadaster process, the Project was to finance preparatory activities for cadastral fieldwork, a social communication campaign, systematic parcel-based surveying, technical and legal analyses, and alternative conflict resolution mechanisms. In addition, the Project was to finance the delimitation of municipal boundaries, delimitation and demarcation of selected protected areas, delimitation of territorial reserves,⁸ delimitation and geo-referencing of archeological and ceremonial sites, and certification and registration of communal lands. In support of land regularization, the Project was to finance the annotation of titles in the Property Registry, processing of special titling⁹ cases identified during the cadastral process, and regularization and titling by the Land Fund of selected parcels adjudicated on national lands.

⁷ The certification and registration of communal lands is an administrative procedure that recognizes the collective property / possession / tenancy of indigenous or peasant communities over land that is collectively administered and used, as well as the agreement of the population that no surveying will be carried out of individual plots within it; it does not affect the legal status of the land, nor does it assign ownership rights.

⁸ In Guatemala, all rural areas within 3 km of the coastline or 300 meters of lakes and navigable rivers are considered territorial reserves of the state. The Project included areas adjacent to the Izabal Lake in the municipality of El Estor that fell under this regime.

⁹ The special titling provisions provided a narrow, specific authorization for RIC to proceed to regularize parcels through the Property Registry in situations where the parcel in question had never been registered in the Property Registry.

10. **Component 2 – Maintenance of cadastral information and municipal services** (US\$13.32 million or 21.4 percent of original Project cost): This component aimed at developing the framework at the national and municipal level to keep cadastral information up-to-date, as well as promoting initiatives to use cadastral information for local development and territorial planning. The Project was to finance the establishment of RIC’s municipal cluster offices, the maintenance of cadastral information through private intermediaries, and training and technical assistance to municipalities for the formulation of land use plans and modernization of municipal cadaster offices.

11. **Component 3 – Legal reforms and institutional strengthening for land administration** (US\$7.76 million or 12.5 percent of original Project cost): This component aimed at improving the legal framework and strengthening institutional capacity for land administration. The Project was to finance a review of the legal and institutional framework, support the drafting and socialization of a land regularization law, and capacity building for participating agencies. In addition, the Project was to finance the development and implementation of an integrated cadaster-registry computerized system, modernization of the Property Registry, and the development of RIC’s business plans.

12. **Component 4 – Project management, monitoring, and evaluation** (US\$8.62 million or 13.8 percent of original Project cost): This component aimed at supporting Project management and coordination. The Project was to finance a Project Coordination Unit (PCU) within RIC, monitoring and evaluation (M&E) systems, independent evaluations and audits, and inter-institutional coordination activities.

1.6 Revised Components

13. The four components were maintained throughout implementation, but there were adjustments to the geographical coverage and project activities in three components:

- **Component 1:** the Project area was reduced from 55 to 41 municipalities because the cost of the cadastral process (including surveying, and the legal and technical analysis) was 20 percent higher than estimated at appraisal. The factors contributing to higher cost included: (i) difficulties in estimating the number and size of rural parcels; (ii) increase in market prices due to the delay in starting operations; and (iii) new requirements introduced by the regulations to the RIC Law, approved in 2008.
- **Component 2:** Technical assistance and training was added for municipalities in administering and collecting property tax.
- **Component 3:** Preparation of a draft land regularization law was dropped since political opposition against the law in Congress could have paralyzed the Project and the law was not a prerequisite for the cadastral process. ¹⁰ The name of the component was changed to “Institutional Strengthening for Land Administration” to emphasize that the Project would no longer support legal reforms.

¹⁰ Up to the First Project Restructuring, two draft regularization laws had been prepared, but their review process had stalled due to lack of political consensus.

1.7 Other significant changes

14. **Project Restructuring 1** (Level 2), approved on June 28, 2010, included: (i) reducing the Project area from 55 to 41 municipalities; (ii) adding additional indicators to measure intermediate results of the cadastral and regularization process not originally identified, and gender-disaggregated results; (iii) establishing an inter-institutional committee facilitated by RIC, and a technical committee within RIC to strengthen Project implementation and coordination; (iv) changing the project description in Components 2 and 3 as described in Section 1.6; (v) reallocating loan proceeds to reflect adjustments in project scope and costs; and (vi) changing the required submission period for Interim Unaudited Financial Reports (IFRs) and progress reports from quarterly to semi-annual.

15. **Project Restructuring 2** (Level 2), approved on November 30, 2011, included: (a) incorporating Service Delivery Contractors as a selection method for individual consultant services; and (b) introducing the use under the Project of the latest edition of the Procurement and Consultant Guidelines (dated January 2011).

16. **Project Restructuring 3** (Level 1), approved on July 25, 2012, to trigger the Involuntary Resettlement Operational Policy (OP 4.12). Although the systematic cadastral and regularization activities financed by the Project were not within the purview of OP 4.12, the delimitation and demarcation of protected areas could cause restrictions in access to natural resources to people living within or adjacent to these areas. While the risk was negligible, the policy was triggered in an effort to strengthen the Borrower's capacity to understand and manage a potential case of involuntary restriction of access.

17. **Project Restructuring 4** (Level 2), approved on August 29, 2013, as a result of the Mid-Term Review (MTR) to: (i) extend the closing date from December 1, 2013 to September 1, 2015, and (ii) make modifications and clarifications to the Results Matrix to better reflect and quantify several indicators and targets.

18. **Extension of closing dates.** The Project had a 21-month extension to the closing date. The MTR confirmed that the PDO was relevant and achievable, but that there would not be enough time to complete the cadastral survey due to delays in initiating and implementing the cadastral process. The Project faced a 17-month hiatus between Board approval and loan effectiveness due to delays in Congressional approval. In addition, the approval of the Specific Regulation on Communal Lands, which was a condition of disbursement for field activities under Component 1, took over a year after effectiveness due to the required consultation process. There were also many challenges in implementing cadastral activities such as a slow learning curve by firms, RIC's limited experience in managing large contracts, long-standing land conflicts, changes in local authorities following elections of 2012, and increasing security concerns.

19. **Cancellation of funds.** Due to implementation issues described in section 2.2, and budgetary constraints in the last year of implementation, the GoG was only able to use 79.9 percent of the full loan amount. Accordingly, on July 28, 2015, the GoG requested a cancellation of US\$11.00 million dollars, which represented 17.6 percent of the total loan

amount. In addition, the World Bank cancelled US\$1.53 million of unused funds on January 1, 2016 after the closing of the loan account.

20. **Revised Cadastral Strategy.** The revised target of 41 municipalities corresponded to 300,000 parcels. In 2014, RIC and the World Bank agreed to adjust the Project's cadastral strategy due to three municipalities that refused to participate in the Project, and increasing costs that prompted RIC's decision to only survey urban parcels in five municipalities.¹¹ As a result, and although two additional municipalities were included as replacements, the target number of parcels was reduced to 250,000 parcels.¹² The World Bank gave its 'no objection' to the revised strategy, but the intermediate outcome indicator was not formally revised. In the last year of implementation, RIC cancelled the cadastral surveying in two municipalities due to insufficient budget allocation reflecting the country's fiscal constraints.

21. **Property Registry.** The original Project design included support for the modernization of the Second Property Registry, particularly indexing and digitization of registry books. After the contract for this activity had to be cancelled,¹³ and considering that it was not critical to the PDO as the Second Registry covered only one participating municipality (Pachalum), it was agreed that the Property Registry would conduct it with its own funds in the near future.

2. Key Factors Affecting Implementation and Outcomes

2.1 Project Preparation, Design and Quality at Entry

22. **Soundness of background analysis.** Project preparation occurred in parallel to the closing of Phase I, which focused on Petén.¹⁴ As such, project design was based on the preliminary lessons from Phase I, as well as projects supported by other donors in Guatemala, and by the Bank in the region. These lessons included: (i) the importance of integrating the cadaster and registry, if not institutionally then through a technological platform; (ii) the relevance of conducting streamlined, standardized, and participatory massive cadastral surveying and land regularization; (iii) the need to implement effective conflict resolution mechanisms; (iv) the centrality of communication and beneficiary participation during implementation, through massive dissemination of information; and (v) the recognition of the critical role of municipalities in regularizing urban lands and territorial planning, for which it was considered relevant to include Cooperation Agreements between RIC and the participating municipalities.

¹¹ The municipalities of San Miguel Chicaj (Baja Verapaz), Quezaltepeque (Chiquimula), and Sumpango Sacatepéquez (Sacatepéquez) refused to sign a cooperation agreement with RIC. The municipalities in which only urban parcels were measured are San Cristóbal Verapaz (Alta Verapaz), El Chol and Granados (Baja Verapaz), Ciudad Vieja and Santo Domingo Xenacoj (Sacatepéquez).

¹² The two municipalities included are Ciudad Vieja (Sacatepéquez) and Ipala (Chiquimula).

¹³ The contract was cancelled due to financial problems of the firm.

¹⁴ The Implementation Completion and Results Report for Phase I was not available at the time of Project preparation and appraisal.

23. **Assessment of Project design.** No quality-at-entry assessment was carried out for Project design. It was challenging to learn from Phase I, given the characteristics of Petén, and the different legal and procedural framework that applied to it.¹⁵ The design of the cadastral process for the Project was based on its adherence to the recently approved RIC Law, but there was no time to pilot this process. UTJ's experience in the implementation of Phase I was considered an asset for RIC. However, the land tenure situation in Petén was substantially different from the other departments in Guatemala which meant that RIC was relatively unexperienced in applying the new methodology of the cadastral process, in particular the required legal analyses. In addition, some preparatory activities were only clarified or identified when the regulations to the RIC Law were approved during the first year of Project implementation. As a result, Project design underestimated the time, costs and human resources needed to carry out the cadastral process.

24. At appraisal, RIC, a new agency still in the process of being established, was expected to benefit from UTJ's experience. It was also decided to integrate the PCU within RIC's structure, with project staff expected to coordinate internally with RIC's departments, and externally with seven co-executing agencies and 55 participating municipalities. This design feature made sense from an institutional development perspective, but in practice the PCU did not have the appropriate resources or coordination mechanisms to carry out Project activities. Project design thus underestimated the challenges posed by the complexity of the activities to be carried out, and the inter-institutional coordination that it required. Fiduciary reviews also concurred that RIC was ready to assume the role of implementing agency. In general, RIC did not absorb key staff from UTJ, which meant that capacity was not fully transferred. UTJ's fiduciary capacity was overestimated since it had relied during Phase I on the United Nations Development Program (UNDP) as fund administrator and procurement agent. The PCU's integration into RIC's structure led to delayed decisions and slow administrative and fiduciary processes. More than a year into Project effectiveness, a decision was made to elevate the PCU to a department level, with all PCU staff reporting to the Project Coordinator, who in turn reported directly to RIC's Executive Director.

25. **Risk Assessment.** The Project's overall risk was assessed as Substantial, and included two specific risks rated as substantial. As noted in the MTR report, the substantial risks related to project sustainability (the Land Fund lags behind in regularizing and titling rural national lands) and reputational risks for the Government and Bank (arising from conflicts related to indigenous land claims) did not materialize. On the other hand, as noted in the MTR, other unanticipated risks emerged during project implementation: (i) the risk that municipal authorities would not reach agreements over municipal limits, as a

¹⁵ Phase I contributed to the strengthening of the legal and institutional framework for land administration services, notably the approval of the RIC Law. In rural areas, Phase I surveyed 111% of targeted hectares, but only titled 9% of target. In urban areas, the Project surveyed 135% of targeted parcels and titled 192% of target. The ICRR of Phase I considered the overall Project outcome rating as moderately satisfactory. This rating was downgraded to Moderately Unsatisfactory by the Independent Evaluation Group (IEG) in its ICRR review, and eventually to Unsatisfactory based on a Performance Assessment Review. This review noted that while the project was relevant, the design contained many flaws, such as the selection of Petén as a pilot when the land tenure situation is rather different from other areas in Guatemala, the low completion rates for rural titling, and the limited integration of registry and cadaster.

consequence of imprecise base cartography; and (ii) the risk of RIC not having the capacity to manage such a complex operation, given its recent creation and its weak fiduciary capacity at the time of Project design. This proved to be one of the critical aspects affecting Project implementation, as described in section 2.2.

2.2 Implementation

26. The Project was a ‘high risk-high reward’ operation for Guatemala, and as such faced several challenges during implementation. Throughout implementation, ratings for PDO achievement and Implementation Progress ranged from moderately unsatisfactory to moderately satisfactory. **Several factors helped implementation positively:**

27. *Political will and commitment.* The Project enjoyed a high profile for being part of the 1996 Peace Accords. The approval of the RIC Law granted credibility to the process and a mandate to coordinate with the other land agencies. With some exceptions, municipal authorities were interested and engaged in the cadastral process throughout implementation. Another positive factor at the municipal level is the fact that technical capacity was maintained after the change of administration in 2012, as trained staff was retained either in the same municipality or in one of its neighbors.

28. *Attention to social issues.* The establishment of the Social Support Offices (OAS) after the MTR was crucial to address social issues in the Project. Moreover, detailed social diagnostics guided Project activities in each municipality. At the end of the Project, each cluster office had an OAS run by a social technical specialist who spoke the local language. These specialists were responsible for overseeing compliance with the implementation of the Indigenous Peoples Development Plan (IPDP). Their role was to advise the population on how to navigate the cadastral process, attend to the resolution of land conflicts, accompany the process for the certification and registration of communal lands, and inform about any changes after parcels had been measured. They also provided support to the technical and legal staff of the Project. Before these technical specialists were hired, these responsibilities fell under other technical staff in the cluster offices, who usually did not have the time or language skills to carry them out properly.

29. *RIC carried out cadastral surveying by direct implementation in selected areas.* Although cadastral surveying was generally conducted by private firms, RIC requested to be directly responsible for these activities in the municipality of El Estor and Pachalum, and subsequently in Panzos. El Estor had long-standing and complex land conflicts, including between a mining company and indigenous communities as well as multiple overlapping claims, which required special attention to social issues. RIC coordinated Project activities through the Multi-sectorial Coordination Board, a coordination mechanism that grouped several government agencies and civil society organizations. Due to the success of this strategy, indigenous communities allowed RIC to measure their parcels. By Project closing, RIC was helping clarify the overlapping claims with the participation of indigenous communities. In addition, RIC took over cadastral surveying in Panzos when the firm selected to carry out these activities had to close its contract due to financial issues.

On the other hand, several factors – some outside of, and some within the control of the GoG and RIC – adversely affected implementation:

30. *Challenges in meeting effectiveness and disbursement conditions.* As reflected in the 17-month lag between the Bank’s approval and effectiveness, the Project, as has been historically the case in Guatemala, experienced a substantial initial delay given a 12 month delay in Congressional approval. Following effectiveness, initial implementation also suffered delays from the approval of the Specific Regulation on Communal Lands,¹⁶ which was a condition for disbursing funds under Component 1. The preparation and consultation for this regulation took more than two years, which meant that in its first year of implementation the Project lacked access to critical loan funds. Thus, the Project did not fully start implementation until 2010.

31. *Political cycles and crisis that affected at times local governments’ commitment and budget allocations.* Implementation was affected by the political cycle and changes of central and local authorities in 2012, as activities slowed down before elections, while requiring additional efforts afterwards to convince some of the new mayors of the Project’s relevance. Critically, in 2012, budget allocation was also substantially lower than (less than half of) the projections needed to carry out planned activities. In its final year, Project implementation was slowed down again by the lack of adequate budget allocation due to the country’s fiscal constraints, and a political crisis related to corruption investigations affecting high level authorities. Consequently, several key activities planned for the Project’s final year of implementation had to be cancelled, including the cadastral surveying of two municipalities, supporting land regularization in partnership with participating municipalities, and the setting up of a new Data Center for RIC.

32. *Lack of effective inter and intra-institutional coordination mechanisms to ensure collaboration from RIC’s own internal units and co-executing agencies.* Project design did not account for the need for such mechanisms. To deal with these issues, the first Project restructuring included the establishment of an Inter-Institutional Committee led by the Ministry of Finance and a Technical Committee within RIC to strengthen implementation and coordination. Inter-institutional coordination was also affected by the limited resources of several co-executing agencies.

33. *Challenges with the contracts for cadastral surveying.* Given outdated census and geo-spatial information, the data on the number and size of land parcels available at the time the bidding documents were prepared proved to be highly inaccurate. As firms started field activities, the higher than expected number of parcels required additional time and resources. Firms also faced difficulties in accessing information of owners/occupants as absenteeism rates were high in some municipalities (particularly acute in Antigua Guatemala). This led to contracts being modified, including multiple extensions of delivery deadlines, and changes in the payment schedules. Despite RIC’s efforts to adjust to the circumstances, one firm abandoned activities in the second half of 2014 alleging lack of financial liquidity. In general, the firms had a slow learning curve and low levels of

¹⁶ Preparation of these regulations could not be started until after the approval of the RIC law.

productivity. The limited supply of surveyors required a training period and also learning on the field. To mitigate these challenges, the Project gave added emphasis to the training and certification of technicians and professional surveyors through the Cadastral School (ESCAT). The establishment of the cadaster is also a social process that requires the active participation of beneficiaries, and an intensive communication and outreach effort toward which surveying firms are not geared. Even though firms carried out some communication activities, it was difficult for them to meet all requirements in terms of the number of communication/outreach staff employed at any given time, outreach activities carried out well in advance of surveying, and application of methodologies and work plans. To mitigate these challenges, and as agreed during the MTR, the PCU revised the Quality Control Guide for firms.

2.3 Monitoring and Evaluation (M&E) Design, Implementation and Utilization

34. **M&E design.** The Project's M&E system was built largely on the system developed for Phase I (SISERIC). At appraisal, SISERIC was considered adequate to generate performance data and periodic information on intermediate results and higher-level outcomes. The M&E system was composed of four modules: household surveys, Land Fund beneficiary surveys, municipal surveys, and community characterization surveys. It also included participatory evaluation mechanisms to receive feedback from final beneficiaries, including indigenous peoples and the general public. M&E was mainstreamed into all Project components and the Results Matrix included both output and outcome indicators.

35. **M&E implementation and utilization.** During implementation, SISERIC proved to be a limited tool for M&E. Given initial arrangements, the Project did not have its own M&E system during the first years of implementation and monitoring depended on data provided by different departments of RIC. SISERIC was not linked to the financial administration system either, so it was not able to monitor the Project's physical and financial progress directly. In addition, SISERIC did not generate the required reporting (e.g., it did not provide a breakdown of data by component or activity). To help address these issues, the FAO Investment Center (FAO-TCI) provided technical assistance to the PCU, which led to clear improvements in the Project's monitoring, such as regular updating of the Results Matrix. During the MTR, the Results Matrix was revised to clarify measurements and adjust indicators to updated Project activities. In addition, a social monitoring questionnaire was included to the cadastral surveying procedure to identify the beneficiaries' ethnicity and land conflicts. Baseline data was collected to monitor governance arrangements in communal lands.

36. Although the Project's monitoring capacity improved, the weaknesses with evaluation remained. The baseline for the impact evaluation at the household and municipal levels was not conducted until 2011. This evaluation had treatment and control groups. A follow-up survey was planned for the final evaluation, but the procurement process was not started early enough to allow sufficient time for delivery prior to Project closing. Nonetheless, the baseline survey could help to evaluate impacts in the future once longer time had elapsed for benefits to materialize. Similarly, the Project supported an inter-

institutional initiative with the collaboration of CONAP to monitor forest cover for the baseline year 2010, which will enable a land cover change analysis to evaluate the impact of demarcating protected areas and registering communal lands. Finally, RIC commissioned a final Project evaluation, which provided useful information for this ICRR.

2.4 Safeguard and Fiduciary Compliance

37. **Safeguards compliance.** Overall safeguard compliance is considered *satisfactory*. The Project was rated B category, and triggered the Environmental Assessment (OP/BP 4.01), Natural Habitats (OP/BP 4.04), Cultural Property (OPN 11.03),¹⁷ Indigenous Peoples (OD 4.10),¹⁸ and Forests (OP/BP 4.36). Involuntary Resettlement (OP/BP 4.12) was triggered during implementation. Accordingly, an Environmental Assessment (EA) and Environmental Management Plan (EMP) were prepared before appraisal, and a Process Framework was prepared to reflect the triggering of OP/BP 4.12 during implementation.

38. *Environmental Safeguards.* Compliance with environmental safeguards is considered *satisfactory*. The EA identified a wide range of ecosystems and biodiversity systems in the project area, some of which were already under conservation regimes, and concluded that the overall environmental impacts of the Project were expected to be positive.¹⁹ The EMP, which was mainstreamed within Components 1 and 2, included adequate mitigation measures. Supervision missions confirmed that implementation of the EMP was satisfactory.

39. *Social Safeguards.* Compliance with social safeguards is considered *satisfactory*. A participatory social impact assessment²⁰ was carried out during Project preparation, and an IPDP was developed based on an extensive consultation process with indigenous peoples' leaders, organizations, and communities. The IPDP allocated adequate technical, financial, and social resources for indigenous peoples' participation in the Project, and its content was consistent with OP 4.10, as well as with the provisions in ILO Convention 169 on land and natural resources and the right to consultation and participation. The strategy for implementing the IPDP included seven elements: territorial diagnostics, communication and awareness, operationalization of the Specific Regulation on Communal Lands, gender equity, inter-institutional coordination, capacity building, and a participatory evaluation system that included social audits and a grievance redress mechanism. This approach was complemented by a social communication strategy geared toward supporting implementation of surveying activities and the certification and registration of communal lands.

¹⁷ The relevant policy at appraisal, OPN 11.03, was being revised as OP 4.11.

¹⁸ The relevant policy at appraisal, OD 4.20, was being revised as OP 4.10.

¹⁹ Positively, safer property rights were expected to reduce the need to demonstrate possession through deforestation, and encourage long-term land management and land use intensification. On the other hand, the project could induce deforestation in anticipation of the cadaster, and, if land markets became more dynamic, the project could lead to greater deforestation from increased economic activity and encourage the sale of newly titled lands to migrate to frontier areas. These potential negative impacts did not materialize.

²⁰ The Social Assessment estimated that about 64 percent of the population in the Project area were indigenous. The main indigenous groups were Q'eqchi, Poqomchi', Achi, Chorti, Kaqchikel, Poqoman, and Garifuna. In these indigenous societies, communal lands continued to play an important role in their collective identity, livelihood strategies, and social capital.

40. An independent social evaluation rated compliance with the IPDP as satisfactory. The individuals in charge of the OAS, as well as other Project staff, spoke the indigenous languages and self-identified with local cultures. Through a consultative process with indigenous communities, RIC also adopted a Specific Regulation on Communal Lands, and developed a field guide for its implementation. Cadastral surveying within communal lands was done only at their request, and with a focus on facilitating natural resource management and community development. Throughout the Project, the PCU also remained engaged with NGOs interested in ensuring that the process for the identification and certification of communal lands was carried out adequately. Supervision missions provided continuous support to strengthen the capacity to comply with social safeguards such as technical legal expertise on indigenous law, social development, and M&E.

41. **Fiduciary compliance.** Fiduciary performance is rated *moderately satisfactory*. Financial Management (FM) and Procurement capacity assessments were completed before appraisal and concluded that FM risk was low, and Procurement risk was modest. Both assessments considered that RIC was in a good position to take over the fiduciary functions because of the previous experience with Phase I, but an action plan was agreed to hire additional qualified staff to strengthen capacity. However, fiduciary performance remained weak for the first years after Project effectiveness, given, *inter alia*, substantial delays in hiring FM and procurement staff with sufficient experience in managing Bank-financed projects. Nevertheless, throughout implementation, PCU capacity in both areas improved.

42. *Financial Management.* Financial management is rated *moderately satisfactory*. The key FM issues during implementation concerned staffing, the lack of administrative autonomy of the PCU for the first years of implementation, and insufficient budget allocations that on several occasions delayed Project implementation. Nevertheless, FM capacity was progressively strengthened throughout implementation: actions agreed upon during supervision missions were followed-up on, reporting of financial information was timely and reliable, and consecutive annual audit reports were submitted on time and had unqualified opinions. At Project closing, there were no overdue audits or financial monitoring reports (FMRs).

43. *Procurement.* Procurement is rated *moderately satisfactory*. A key issue during the initial years of implementation was the lack of sufficiently experienced staff, which contributed to implementation delays as some procurement processes had to be reinitiated due to common mistakes. Delays in the hiring of procurement staff were, at least partially, due to reasons beyond RIC's control, as there is a limited pool of qualified staff in Guatemala. To address this issue, the Bank agreed to modify the selection requirements to facilitate the search process. Ex-post evaluations of contracts conducted during supervision missions resulted in no observations.

2.5 Post-completion Operation/Next Phase

44. In December 2014, the GoG formally requested US\$50 million financing from the Bank for Phase III. The preliminary project concept proposes to consolidate the results in

the departments under Phase II and expand to new areas in eastern Guatemala, as well as continue supporting institutional strengthening and land governance. Considering that 2015 was a presidential election year in Guatemala and the limited budget allocation for the Project, the World Bank agreed to offer technical assistance while the incoming government confirms the request for a new project.

45. RIC prepared a transition plan for Project activities, including the cadastral process. The plan prioritized completing the process for those parcels that have already been surveyed. By January 2016, however, RIC had been unable to secure sufficient funding for the first year of the transition plan. RIC will continue to discuss the transition plan with the incoming administration to highlight the importance of: (i) maintaining regional presence through cluster municipal offices; (ii) ensuring that the cadastral information is adequately maintained, so that the investment made is not lost; (iii) completing the cadastral surveying in all of the Project's municipalities; and (iv) upgrading the storage capacity and hardware of the existing data center. Based on the current government priorities and lessons learnt during Phase II, it is likely that any future Bank engagement in the land sector will have a strong focus on municipal development.

3. Assessment of Outcomes

3.1 Relevance of Objectives, Design and Implementation

46. **Project Objectives.** The PDO continues to be highly relevant given the importance of land tenure security and land governance to the country's poverty reduction and socio-economic development efforts, as well as the magnitude of the remaining challenges. The GoG has continued to support the implementation of the 1996 Peace Accords through recent policy instruments. The 2009 "National Policy for Integrated Rural Development" supports the objective of reforming and democratizing land tenure and land access. The 2014 Agrarian Policy, approved to operationalize the national policy, supports several key land administration objectives for land administration. Importantly, the "National Development Plan *K'atun: Our Guatemala 2032*", formulated in 2014 by the National Council for Urban and Rural Development (CONADUR), confirmed that land tenure security and land regularization were long-term development objectives for Guatemala.

47. **Project Design and Implementation.** In general, the original project design was relevant to the PDO, but there were some shortcomings in strategic planning, the Results Framework, and orientation of activities, some of which were adjusted during implementation:

- *Strategy:* The choice of APL as the lending instrument is highly relevant considering that land administration reform requires a long-term commitment. However, the framework of the APL was not substantially revised during the preparation of Phase II. The geographic area under Phase II was justified on the grounds that UTJ had recently implemented other donors' projects in these departments, but it is unclear how this targeting fit a broader strategy based on need and efficacy. By project appraisal, the closing date for Phase I had already been

extended 3.5 years which should have prompted a revision of the 12-year scope of the APL.

- *Cadastral Process*: The emphasis on the legal nature of the cadastral process is relevant considering that the goals of the APL were to increase legal security of land tenure and strengthen the legal and institutional framework for cadastral services. However, the process for establishing the cadaster is very expensive given the cost of surveying and the cadaster and registry analysis, and it is unrealistic that under recurrent fiscal constraints RIC would be able to achieve countrywide coverage within a relatively short time frame. The implementation of Phase II showed that the intermediate products of the cadastral process, such as surveying and public displays of information,²¹ already increased tenure security and facilitated the development of a multi-purpose cadaster. While project activities remain relevant to the PDO, project design would need to be re-conceived in order to achieve the government's goal of countrywide coverage.
- *Results Framework*: The PDO is clear and actionable as it focuses on the accessibility and efficiency of providing cadastral and land administration services to improve land tenure security. The original PDO indicators, however, were inadequate to measure outcomes. The revised indicators are specific, measurable, realistic, and relevant to the establishment of the cadastral process. Since the establishment of the legal cadaster took so long, it was unlikely to observe outcomes in terms of service provision by the time of Project evaluation. The intermediate outcome indicators were adjusted to remain relevant to the modified activities. There was a clear link between Project activities and the PDO as all funding was directed either at the establishment of the cadastral process, the strengthening of municipal capacity, or the preparation of land tenure regulations.

3.2 Achievement of Project Development Objectives

48. The Project fostered the process of improving land tenure security by setting the basis for the establishment of the cadastral process, strengthening the capacity of municipalities to deliver land administration services, and recognizing the land rights of indigenous peoples and women. Efficacy is discussed both in terms of achievement of PDO indicators as well as more broadly.

49. *The Project improved land tenure security for a population of about one million.*²² This improvement of land tenure security comes from recording the use and ownership of 274,536 parcels, benefiting 85.5 percent of the total target of beneficiaries. The cadastral process allowed the population to ascertain the exact boundaries of their parcel and resolve land conflicts. In the future, this is expected to increase the level of investments and land values (see Section 3.6). In addition, the Project recorded the rights of 96,088 women, both as individual and joint land holders, surpassing the target of 85,000. This result directly contributes to gender equity as it recognizes women's tutelage over land assets.

²¹ One important step of the cadastral process was the public display of the information collected through surveying activities; beneficiaries thus had the opportunity to confirm the accuracy of the information, and to identify and correct possible errors. This step contributed to the accuracy of the information as much as to the public trust in the process.

²² The number of 965,076 beneficiaries is calculated using the 2010 population estimate by the National Institute of Statistics (INE).

50. *The Project improved land tenure security by reducing land conflicts.* During the cadastral surveying, 54 percent of identified conflicts were resolved (PDO indicator), which is 108 percent of the target value. This highly satisfactory result also shows that effectiveness of the Project's methodology for conflict resolution in a mass cadastral survey. The Project also contributed to resolving 26 percent of the historic conflicts that the SAA had previously registered in the Project area. This value is slightly under the 30 percent target, but it also reflects the fact that conflict resolution depends on several external factors—such as willingness of the parties for dialogue and complexity of the dispute—that are beyond the SAA's control. In addition, the Project contributed toward the resolution of the land tenure situation in El Estor, an area of historical land conflicts with a recent history of violence.

51. *The high levels of participation reflect the inclusiveness and reliability of the cadastral process and show that cadastral services can be made accessible to the public.* The Project recorded an absenteeism rate of 3 percent for parcels surveyed (PDO indicator). The low absenteeism rate was achieved through an intensive, multi-media social communication campaign. This highly satisfactory result (well below the 10 percent target) means that a wide range of individuals, including vulnerable groups, were able to confirm the accuracy of the cadastral information on their land. Moreover, it shows that cadastral services can be made available to the public and that the information registered in RIC's Public Registry is reliable.

52. *The Project contributed to establishing technological platforms to improve land administration services.* The Project helped establish a functional and secure technological platform for RIC's Public Registry (SIRCAT). An independent audit, based on five elements, assessed SIRCAT as satisfactory (PDO Indicator): (i) infrastructure and networks, (ii) database, (iii) development and maintenance of applications, (iv) technical support, and (v) physical security of information. SIRCAT will be the platform through which RIC will offer cadastral services to the public. In addition, the Project supported the development of a technological platform to link the databases in RIC and the Property Registry. Currently, these agencies notify each other about new transactions for those parcels that are registered in RIC's Public Registry, and are in the process of consolidating automated processes to better integrate their databases.

53. *The Project improved access to cadastral and land administration services to indigenous and peasant communities by establishing a process to certify and register communal lands.* The Project provided technical assistance to facilitate the approval and operationalize the implementation of the Specific Regulation on Communal Lands. The Project carried out diagnostics to identify communal lands in 25 municipalities. Based on the diagnostics, 45 potential cases of communal lands were identified, out of which 25 requested certification; RIC surveyed the external perimeters of 18 of these. However, many of them had boundary conflicts and could not be certified. As a result, RIC was only able to register four communal lands (16 percent of those identified), one of them

indigenous.²³ Another five had the process nearly completed by Project closure.²⁴ Although this value is below the target (80 percent of identified common lands are certified), the Project set a historical precedent and established a mechanism that can be applied to other communities. The number of 25 requests is in itself an achievement because it was the result of a novel research process that combined anthropological, historical, and legal criteria, as well as an intensive consultation process with the communities.

54. *The Project strengthened the capacity of RIC and the municipalities for the provision of cadastral and land administration services.* The Project helped establish nine cluster offices, surpassing the target of six; seven of these are expected to offer cadastral services permanently. A total of 22 municipalities are already using RIC's cadastral database to update their own cadasters and develop territorial planning initiatives. Furthermore, the Project contributed to the development of the System of Municipal Territorial Information (SITMuni) which establishes a link between RIC and municipalities to share cadastral information. This link could be employed to update cadastral information and develop territorial planning initiatives. Nine municipalities have already installed SITMuni for cadastral management and six for territorial planning. SITMuni was developed using open-source software, which contributes to the system's efficiency and sustainability due to low maintenance costs and programming malleability.

55. *The Project contributed with land administration solutions that have the potential to enhance sustainable land use and cultural preservation.* The Project assisted with the delimitation of 463 km and demarcation of 306 km of protected areas' boundaries. The delimitation and demarcation of protected areas' boundaries is expected to contribute to CONAP's capacity to monitor compliance with zoning and environmental regulations, as well as to increased awareness among the population about sustainable management of natural resources. As part of the EMP, the Project trained 662 individuals in environmental education and financed 20 workshops on territorial planning, 18 workshops on payment for environmental services, and 20 workshops on ecological vulnerability in communal lands and protected areas. The Project also contributed to archeological and cultural preservation by identifying, geo-referencing, and registering 299 archaeological sites and 201 ceremonial sites, which represents 153 and 804 percent of achievement, respectively. Once registered, these sites will receive state protection, which is essential for the preservation of archeological heritage and safeguarding access to ceremonial sites to indigenous peoples.

56. *The Project, however, achieved limited progress in finalizing the cadastral process.* The culmination of the cadastral process is the registration of the parcel in RIC's Public Registry. The Project only registered 16.54 percent of parcels surveyed in the Project area

²³ The administrative process and legal requirements for the certification of communal lands was the same for peasant and indigenous communities. During a process of consultation led by RIC, communities decided whether to proceed as a peasant or an indigenous community. Indigeneity, however, is not mutually exclusive from a peasant identity; the members of a peasant community may be ethnically indigenous. There are multiple factors shaping identity formation, and ultimately it is the community's right to decide how they want to be certified as.

²⁴ As of the writing of the ICRR, an additional five communities have nearly completed the process.

(PDO indicator). Compared to the original target of 50 percent, this result is only 33 percent of target value. Compared to the revised target of 35 percent, this result is 47 percent of the target value. In both cases, the achieved value is moderately unsatisfactory. By Project closing, RIC was working on 75,000 parcels (representing an additional 27.3 percent) that were only pending notification to owners/possessors in order to complete the registration. Incomplete registration in RIC's Public Registry, however, does not mean that individuals are at risk of losing their land rights or that they cannot transact their rights. The foregone benefits are that individuals are yet to receive the notification of whether their parcel is regular or irregular, and that RIC cannot advance to the stage of cadastral maintenance unless all parcel holders in a municipality are notified about the status of their land. Nonetheless, RIC continues to update the cadastral database to reflect recent land transactions.

57. *The Project had limited impact on land regularization.* The Land Fund only issued 1,289 titles out of 5,000 identified as eligible on national lands. The Project assisted in the regularization of 224 titles on municipal lands, a new modality made operational towards the end of implementation.²⁵ The modality of special titling, the only regularization option under RIC law, could not be implemented during the Project. A few cases of special titling were identified, but RIC was unable to make progress on these due to the absence of special regulations, which were still under preparation at Project closing.

3.3 Efficiency

58. *Due to the reduced scope of land regularization activities, the Project did not achieve the level of economic efficiency expected in the ex-ante analysis.* An ex-post cost-benefit analysis was conducted to evaluate the economic efficiency of the Project. The analysis was based on actual expenses during implementation, estimated post-implementation operating costs, and actual physical outputs. The economic benefits included in the ex-ante and ex-post analyses are those expected from an increase in property values, which are a proxy measure for an array of benefits derived from land tenure security such as increased access to financing, increased investment, and a more dynamic land market, among others. The ex-ante analysis conducted at appraisal was adjusted during the First Project Restructuring to account for the reduction in the number of targeted municipalities. This analysis only considered the increase in property values derived from land regularization. It assumed that the Project was going to regularize 15,000 parcels. Since the Project only regularized 1,513 parcels, the ex-post analysis displays negative feasibility indicators. The Economic Net Present Value (ENPV) is less than zero and the Economic Internal Rate of Return (EIRR) is less than the discount rate of 12 percent. In order to break even under those assumptions, the Project would have had to regularize at least 10,010 parcels.

59. *When including economic benefits from the cadastral process the analysis shows that the Project was a sound investment for Guatemala.* The ex-ante analysis excluded other ways in which the cadastral process increases land tenure security, such as

²⁵ An additional 166 titles were issued within three months after Project closing.

community verification during public displays of information and inscription in RIC's Public Registry. Commercial banks' practices in the area covered by the project, and interviews with land appraisers, supported the premise that the cadastral process (and not only land regularization) has an upward effect on land values. Under this expanded analysis, the Project has an ENPV of approximately US\$23.95 million and an EIRR of 30 percent.

60. *Under the current legal framework, the Project's systematic cadastral approach was more cost-effective than a demand-driven approach; however, the legal cadaster is still a costly option for Guatemala.* A cost-effectiveness analysis was conducted to assess whether the cadastral process, as currently mandated by the RIC Law, would have been cheaper using a demand-driven approach (i.e., a without-project scenario) rather than the Project's systematic approach. The analysis concluded that the cost of surveying all parcels covered by the project on a demand-driven basis would have cost 3.7 times what it actually did with the systematic cadastral process.²⁶ However, the cadastral process is based on a methodology for legal cadaster that is relatively costly. The cost of the cadastral and legal analyses as well as the inscription in RIC's Public Registry represents 70 percent of total costs for urban parcels and 62 percent of costs for rural parcels.²⁷ A more thorough review of alternatives for the cadastral process would be required to assess how to streamline legal procedures and improve efficiency.

61. *RIC's municipal offices have the potential of self-financing a significant portion of their operational costs and the fiscal impact on property tax revenue is expected to be significant.* To assess the financial sustainability of RIC's municipal offices in the Project area, a simple estimation shows that 87 percent of operating costs are covered by the revenue generated from the sales of cadastral products and services.²⁸ As for the fiscal impact, it is still too soon to know with certainty the quantitative effect on the collection of the real estate property tax (IUSI) because the municipalities are still in the process of updating the tax registries. However, a projection based on a set of conservative assumptions estimates the fiscal impact for the incremental collection of the property tax to be around USD 4.7 million.

3.4 Justification of Overall Outcome Rating

Rating: Moderately Satisfactory

62. As explained, the PDO remains highly relevant to Guatemala's development process. All current development plans continue to highlight the importance of improving land tenure security. There are some shortcomings in the design—such as cumbersome legal procedures and inadequate attention to long-term strategy—that make the APL

²⁶ The without-project scenario did not include the verdict of regular or irregular parcel, because this responsibility cannot be outsourced to private lawyers according to the RIC Law.

²⁷ The estimates come from the Borrower's Completion Report.

²⁸ The products and services provided by these offices include: certificates for dismemberment and/or unifications, certification of cadastral plans; certificates of approval of plans of dismemberment or unification and their renewal; certification of full cadastral record, completed stages or specific actions that are requested; certification of cadastral regularity or irregularity; plans, maps, topographic surveying, various types of courses, etc.

program unlikely to reach its overall goal of countrywide coverage within a relatively short timeframe and cost. At the Project level, restructurings ensured that the Project's activities and Results Framework remained relevant. As a result, overall relevance is considered *substantial*.

63. The Project contributed directly to improving land tenure security to about one million individuals in the Project area and established the basis for improving access and efficiency of cadastral and land administration services. The cadastral process was highly participatory and was effective in resolving the conflicts that emerged during the survey, as well as long-standing conflicts, such as those in El Estor. In addition, the Project contributed to strengthening the land rights of indigenous peoples by establishing a process for the certification and registration of communal lands. RIC developed SIRCAT and SITMuni, two technological platforms that have the potential to offer services in a decentralized and efficient manner. Nonetheless, the Project fell slightly short of achieving its target for cadastral surveying and made limited progress toward concluding the cadastral process. In light of the Project achievements, these shortcomings are considered minor. As a result, overall efficiency is considered *substantial*.

64. The economic and financial analysis concluded that the Project contributed to an increase in property values, a cost-effective alternative given the current legal framework, the partial financing of decentralized cadastral services, and positive fiscal impacts. Nonetheless, there are several shortcomings in terms of efficiency. More land regularization activities would have increased the extent of economic benefits because for these beneficiaries land tenure insecurity is more likely to be an impediment for investments, land transactions, or collateral-based credit. The cadastral process supported by the RIC Law is expensive and cumbersome. Finally, the evidence from the financial and fiscal analyses do not include a sensitivity analysis to assess how performance would change under different circumstances. As a result, overall efficiency is considered *modest*.

65. Overall, the Project's outcome rating is considered *moderately satisfactory*, as relevance and efficacy are considered as substantial, but the results on efficiency are modest.

3.5 Overarching Themes, Other Outcomes and Impacts

(a) Poverty Impacts, Gender Aspects, and Social Development

66. *The Project contributed to strengthening customary land tenure systems in Guatemala, although challenges remain for scaling-up the certification and registration of communal lands.* The Project certified and registered 4 of the 25 communal lands requested by communities. As RIC improves its organizational capacity and accumulates experience to deal with these complex tenure cases, it will be able to scale up activities. In this respect, the Project commissioned a comprehensive study by the NGO CEIDEPAZ to provide recommendations for improving the regulations and procedures for recognition. In addition, the Project supported the piloting of a community land use planning initiative in one of the communal lands (see details in section (c) below).

67. *The Project contributed to improving land tenure security for women.* Traditionally, women have had more difficulty accessing and controlling land than men. Women are less likely to have legal rights to the land or to inherit it. In cases when women have access to land, it is often without legal recognition. In this context, the Project helped foster land tenure rights for women by identifying them as owners, possessors, or occupants. The cadastral survey identified 35 percent of land parcels with a woman holding land rights, which surpassed the target of 28 percent. According to the final social evaluation, the percentage of women holding land rights is lower among indigenous beneficiaries (34 percent) than non-indigenous (38 percent). The final social evaluation estimated that 40 percent of participants in the public displays of cadastral information were women and that 40 percent of cases in the SAC were filed by women.

(b) Institutional Change/Strengthening

68. *The Project had significant impact in strengthening RIC's institutional and regulatory framework as well as its operational capacity.* The APL program has been crucial for the establishment of RIC. The law was prepared and discussed in the framework of Phase I. Phase II was the first and largest investment undertaken by the institution so far. The Project contributed to strengthening RIC's fiduciary and legal capacity, developing its regulatory framework, establishing a decentralized structure through the municipal offices, and implementing a policy for a multi-purpose cadaster. There are still many challenges ahead for RIC's institutional strengthening, such as devising a plan for countrywide coverage of the cadaster and increased revenue generation.

69. *The Project also had a significant impact in strengthening the capacity of municipal governments for using a multi-purpose cadaster.* RIC started developing SITMuni to integrate municipal governments as partners for the update and maintenance of the cadaster. The link is not yet fully operational, but RIC continues to work on improving the system's functionality. The link would permit municipal cadastral offices to function as windows for cadastral services. The Project supported territorial planning activities such as the redefinition of urban perimeters and training on land use planning in six municipalities. There are, however, other agencies in Guatemala with a more direct mandate on municipal strengthening and territorial planning such as the National Institute of Municipal Development (INFOM) and the Secretariat of Planning and Programming (SEGEPLAN). In this regard, RIC's main priority will continue to be enabling and maintaining the link to share cadastral information. To do this, RIC will need to ensure that SITMuni is connected to the other information systems used by municipalities.²⁹

70. *The cadastral survey has the potential to increase the taxpayers' base with a significant impact on municipal finances.* In an assessment undertaken in 22 municipalities, on average the cadastral survey reported 186 percent more parcels than the National Directive of Cadaster and Real Estate Appraisal (DICABI) tax base, and 226 percent more parcels than the municipal cadastral registry. There is no precise information about the

²⁹ Ideally, municipal governments would integrate financial and land use information by linking SITMuni to the National Integrated Accounting System (SICOIN).

effect of the cadastral survey on increasing the property tax base and revenue based on this increase, but there is anecdotal evidence that both increased. However, the municipalities need additional time to update their taxpayers' base. Once they do, this would be a major achievement for strengthening local governments, since the current level of revenue from property taxes is marginal.

71. *Petén offers the opportunity to assess the outcome of Phase I ten years after closing.*³⁰ RIC has rectified the information for 53 percent of parcels surveyed by Phase I and other donor projects.³¹ RIC maintains an office in Petén with a service window for cadastral services. Revenue from cadastral services increased from Q.1,050 in 2010 to Q.1.5 million in 2015, which covers 25 percent of the office's recurrent expenses. The 14 municipalities in Petén have cadastral offices that inform RIC about changes in land tenure, which keeps RIC's database updated. All but one municipality are using the cadastral maps to levy the property tax, five municipalities use the cadaster for land use planning initiatives, and six municipalities have prepared their own maps adding layers to the cadaster. The collection of the property tax increased from Q.2.6 million in 2008 to Q.6.1 million in 2015.

(c) Other Unintended Outcomes and Impacts (positive or negative)

72. *The Project included a pilot in support of the FAO Voluntary Guidelines on the Responsible Governance of Tenure.* FAO partnered with RIC, the NGO Utz Che', and a local surveying company to develop a pilot for land use planning in one of the communal lands identified by the Project. The pilot consisted in training community members in the use of the software 'open tenure' to record existing tenure relationships in their community.³²

73. *The Project piloted a land regularization process with municipalities.* The original Project design only included land regularization activities in national lands through the Land Fund and via special titling. During project implementation, the opportunity arose to partner with municipalities to conduct regularization activities on their lands. RIC piloted a regularization project in the municipality of San Jerónimo. RIC facilitated the coordination between beneficiaries and municipal authorities, reduced fees for its own cadastral requirements, and negotiated reduced fees with the notaries and the Property Registry. Although the pilot had modest results—only 224 out of 887 potential parcels were regularized—another 166 parcels were completed after Project closing. Importantly, this pilot resulted in a technical and legal methodology that can be replicated in other municipalities.

³⁰ A study was conducted as part of the ICRR to assess the cumulative impact of Phase I and Phase II in the Department of Petén.

³¹ RIC has to verify and correct all cadastral information collected prior to the approval of the RIC Law before it can migrate into its database.

³² Open tenure is an open source software that uses a web-based community server to store the tenure data. Community members used tablet devices to record in the field a range of tenure relationships and map them using satellite imagery and GPS measurements. By Project closing, FAO was in the process of planning the roll out to other communities and establishing arrangements for a cloud-based server and ongoing technical assistance.

74. *The delimitation of municipal boundaries was a source of unexpected conflict.* RIC coordinated with the National Geographical Institute (IGN) for correcting the delimitation of departmental and municipal boundaries in cartography to match the field reality. The delimitation of municipal boundaries had been one of the most successful aspects under Phase I. In the Project area, however, there were historical conflicts over certain limits. Ten complaints were filed with the SAC over municipal delimitation. The most violent conflict resulted between two communities in the limit of the municipalities of Senahú and Panzos, who thought the delimitation might affect their borders. As a result, the Project had to stop delimitation activities in this area.

3.6 Summary of Findings of Beneficiary Survey and/or Stakeholder Workshops

75. Several studies assessed beneficiaries' views about the Project and its impacts, namely: (i) a perception study about Project benefits among beneficiaries, (ii) an evaluation of the Project's social aspects, and (iii) an evaluation of the Project's municipal impact. In addition, the Project commissioned a study by the NGO CEIDEPAZ to provide recommendations for improving the regulations and procedures for recognition of communal lands, which also provides important findings regarding beneficiaries' perceptions. Below is the summary of the main findings of the study about perception of Project benefits among beneficiaries. More details about the findings and methodology of this and the other studies are included in Annex 5.

76. The perception study consisted of focus groups of rural and urban beneficiaries by stage of the cadastral process (public display of information and registration in RIC's Public Registry) and type of intervention (regularization).³³ Overall, beneficiaries had a positive perception of the Project. They concurred that the informational meetings and home visits were an effective way of communicating information about the Project. Beneficiaries also agreed that the Project has had an effect at the level of institutions and communities. The majority of beneficiaries perceived that municipalities have strengthened their capacity to manage cadastral information in order to promote local development and increase revenue. Furthermore, beneficiaries perceived that the Project strengthened the land rights of indigenous peoples and women by providing land titles. There were no significant differences in perception between urban and rural areas.

4. Assessment of Risk to Development Outcome

Rating: High

77. The sustainability of the PDO and results would be undermined if RIC were to leave unfinished the cadastral works in the Project area or neglect to update the cadastral information. Fortunately, there is political commitment both at the national and local levels to continue supporting the cadaster. RIC has prepared a transition plan. However, it is possible that the transition plan is derailed by planning, administrative, or financial obstacles. One mechanism to ensure sustainability would be the allocation of sufficient resources by the Ministry of Finance.

³³ Beneficiaries who had already been notified about the legal status of their parcel were expected to have a higher perception of benefits than those who have just participated in public viewings. Those who benefited from land regularization were expected to perceive the most benefits.

78. Sustainability would also be endangered if RIC were unable to maintain efficient and accessible cadastral services. RIC needs to have enough financial and human resources to continue maintaining its technological platform and improving its operational capacity. Ideally, the system would strive for self-financing. Mitigation measures include continuously updating RIC's policy on the multi-purpose cadaster, maintaining the quality of services by systematizing and implementing lessons learnt, and maintaining the software. Nonetheless, the risk remains high because of the interdependency between revenue generation, maintaining the efficiency and accessibility of services, and the uncertainty of securing external financing.

79. Land conflicts could re-emerge if social expectations are not managed or pressures on land continue to increase. The identification and registry of communal lands, most of which are inhabited by indigenous peoples, continues to be one of the most critical challenges for Guatemala. The Project was unable to complete the registration of 21 communal lands, of which 5 were close to completion at Project closure. RIC will need to manage the expectations of indigenous and peasant communities in relation to the registration of communal lands, and to continue to endeavor in resolving historical land conflicts, especially in the municipality of El Estor. Additionally, without the approval of the land regularization law many rural households may continue to suffer from land tenure insecurity in spite of having access to updated cadastral information.

5. Assessment of Bank and Borrower Performance

5.1 Bank Performance

(a) Bank Performance in Ensuring Quality at Entry

Rating: Moderately Unsatisfactory

80. Project design responded to an APL framework and the recent approval of the RIC Law. The Bank team incorporated preliminary lessons learned from Phase I, as well as from other land administration projects in the region. Project preparation included a thorough review of safeguards issues, particularly with respect to indigenous peoples' communal lands. In this regard, a counselor from the World Bank's legal department supported the task team in the revision of the legal framework for the recognition of indigenous land rights. As a result, the World Bank introduced a condition in the Loan Agreement that prevented any financing of cadastral surveying until the Specific Regulation on Communal Lands had been approved. Although this condition delayed implementation, it had a crucial effect in prioritizing the clarification of procedures for the recognition of communal lands.

81. However, there were shortcomings in Project design. The structure of the APL program was not substantially revised as to have a suitable strategy towards implementation of countrywide coverage. Project design did not fully take into account the overall complexity of activities and the need to coordinate with multiple institutions for their implementation. In this regard, the Bank team overrated the technical and fiduciary capacity to be transferred from UTJ to RIC. A sounder assessment could have identified

the need for an independent PCU to facilitate implementation and for a cost-effectiveness study of the cadastral process. The Project required a substantial restructuring during the early implementation period to address some of these weaknesses. The design of the Results Framework was relatively weak as no methodology had been defined to measure the indicators. As a result, three of four PDO indicators had to be replaced and the fourth one had to be revised.

(b) Quality of Supervision

Rating: Satisfactory

82. The Bank conducted regular supervision missions often joined by specialists from FAO-TCI. The Bank provided expert legal advice to RIC during the preparation of the Specific Regulation on Communal Lands, particularly to ensure that the instrument complied with ILO Convention 169. Throughout implementation, the Bank continued supporting RIC to strengthen its capacity to implement the regulation. The Bank also responded proactively to changes in the costing of the cadastral process and restructured the Project accordingly. In addition, the modality of Service Delivery Contractors was introduced to improve the efficiency of the legal analysis and overall cadastral surveying. The cadastral strategy was updated four times to ensure relevancy. Also, the World Bank had the precaution of triggering the Involuntary Resettlement safeguard policy to strengthen the Borrower's capacity to manage a potential restriction of access in protected areas. The MTR mission was thorough and resulted in a comprehensive restructuring. Expert advice from FAO-TCI helped to significantly improve the Results Framework and the Project's M&E arrangements. This technical expertise included the development and implementation of an evaluation toolkit for land administration projects by experts from FAO-TCI and the World Bank.³⁴ In addition, FAO-TCI and FAO's representation in Guatemala supported the piloting of the open tenure software in one of the communal lands identified by the Project. In collaboration with RIC, the Bank organized two international exchanges in Guatemala for sharing experiences among land administration programs. In addition, RIC attended the exchanges organized in Honduras and Nicaragua.

(c) Justification of Rating for Overall Bank Performance

Rating: Moderately Unsatisfactory

83. Bank performance in ensuring quality at entry is rated *moderately unsatisfactory* and quality of supervision is rated *satisfactory*. Thus, overall Bank performance is rated *moderately unsatisfactory*.

³⁴ The evaluation toolkit provides methodological frameworks and practical instruments for monitoring progress and evaluating the overall impact of land administration projects. The Web Portal contains three core modules: land administration institutions, sub-national entities such as municipalities and indigenous territories, and households. In addition, the toolkit features a methodological framework and instruments for carrying out economic and financial analysis of investments in land administration.

5.2 Borrower Performance

(a) Government Performance

Rating: Moderately Satisfactory

84. Overall, the GoG showed strong support to the Project because of its alignment with the Peace Accords. The Project enjoyed continuous support during three presidential terms after the initial 12-month delay in Congressional approval. The Ministry of Finance provided continued attention to project implementation issues through staff dedicated to World Bank-financed operations in the Department of Public Credit. However, due to fiscal constraints, the Ministry of Finance assigned insufficient budget to the Project at several critical implementation times. This happened during the last year of the Project, causing RIC to cancel several activities.

(b) Implementing Agency or Agencies Performance

Rating: Moderately Satisfactory

85. RIC had an unwavering commitment to achieving the PDO. RIC led a successful collaboration with the municipalities and civil society organizations. In particular, RIC was able to achieve substantial results in high-risk areas such as El Estor and the Polochic Region. One sign of this success is that the Project was never involved in a dispute or scandal regarding land rights. Nonetheless, initial operational capacity was weak because the Project did not have proper coordination mechanisms and sufficient fiduciary capacity. The establishment of an operationally autonomous PCU improved efficiency, but there continued to be weaknesses due to difficulties in hiring and maintaining qualified staff. Key posts were vacant for substantial periods of time. In addition, there were numerous problems with the procurement and supervision of the surveying contracts. Although an inter-institutional committee was established during implementation, RIC faced issues in coordinating activities with several co-executing agencies, often due to lack of clarity on the role and responsibilities of these agencies.

(c) Justification of Rating for Overall Borrower Performance

Rating: Moderately Satisfactory

86. Government performance is rated *moderately satisfactory* and Implementing Agency performance is rated *moderately satisfactory*. Thus, overall Borrower performance is rated *moderately satisfactory*.

6. Lessons Learned

87. *Future efforts should provide increased focus at the municipal level to help promote local development and sustainability of cadastral information.* It is challenging for a central agency to implement and maintain the national cadaster system by itself in the Latin America and Caribbean Region. In this respect, it is critical to establish clearly the role of municipalities within the national cadaster system. Particularly, establishing the cadaster should be a shared activity, with multiple modes of intervention based on the needs and capacities of local governments: (i) municipality uses its own financing for cadastral surveying and national agency provides technical assistance; (ii) municipality and national

agency co-finance cadastral surveying; (iii) cadastral surveying is delegated to a body representing a group of municipalities; and (iv) national agency subsidizes cadastral surveying in priority areas, such as those with customary land tenure systems and social conflicts. There should be continuous training for municipal staff due to staff rotation and the need to improve service delivery. Parcels should be identified by the same numerical code across databases to ensure inter-connectivity. Agencies should also establish partnerships with associations of local governments to have high-level commitments and facilitate commitments of individual municipalities.

88. *The case of Guatemala shows that in challenging social and political contexts, land regularization can be approached incrementally through piecemeal reforms and piloting rather than comprehensive laws.* As the experience of Guatemala and other countries show, trying to pass a comprehensive law may not be the most optimal way of approaching land regularization. First, land regularization is often controversial and it may be difficult to generate the political consensus necessary to approve it. Second, land regularization could be technically cumbersome, financially onerous, and susceptible to corruption. As a result, it may be more strategic to take an incremental approach with piecemeal reforms, piloting results along the way, and scaling up when instruments have been refined. One example of a piecemeal reform is the restoration of the chain of title in the property registry, which in some countries may only require a change to the regulations or technical norms.³⁵

89. *Detailed information about land tenure and land use is crucial to guide implementation.* The preparation of territorial diagnostics ensures that a diversity of land tenure regimes are taken into consideration. The diagnostic should be standardized and prepared from a variety of sources. In particular, the diagnostic should include consultations with multiple informants, as some of them may have incentives for hiding information, such as is the case of municipal authorities who often do not want to recognize communal lands. In some cases, it might be possible to partner with other agencies involved in territorial development to share costs and expand the benefits. The diagnostics should inform the preparation of an implementation strategy that takes into account the particularities of the area. In addition, information about beneficiaries' socio-economic characteristics should be systematically collected during implementation to monitor and evaluate the intervention.

90. *Social communication campaigns should be implemented by a dedicated unit and involve the participation of technical and legal staff.* An intensive communication campaign is not only required at the beginning of Project activities to inform the population, but these efforts should be maintained throughout implementation. Community meetings and household visits are a preferred medium for outreach over printed and audio-visual materials. For this reason, there should be dedicated personnel from the start of implementation to conduct the social communication campaign, assist in conflict resolution, and attend special cases, such as communal lands. These personnel should be trained in the technical aspects of the cadastral process to be able to explain it to the

³⁵ The chain of title is the list of successive conveyances arranged consecutively from original source of title down to the present holder. The chain, however, is considered broken when there are gaps in the list of conveyances.

population. Technical and legal staff should also be sensitized to local practices and informed about beneficiaries' concerns to be able to adjust institutional processes.

91. *The approach to implementation of cadastral surveying should provide flexibility and support learning and innovation based on an evolving strategy.* Project design only included the option of implementing cadastral surveying through large international contracts, while lacking an overall cadastral surveying strategy. After initial delays, it became clear that a cadastral surveying strategy was needed for the Project, which should have also considered options to respond to specific situations such as the high levels of conflict in some of the municipalities and social and geographical characteristics of the participating municipalities. When working with private firms, it was rapidly realized how critical it is to adequately assess and strengthen the capacity of the implementing agency to prepare bids and then manage multiple contracts. In particular, costing estimates should be based not only on the number of parcels but also on other relevant factors such as topography and social conflicts. Bid reviewers should possess technical knowledge about cadastral works to properly evaluate the proposals. During implementation, there should be dedicated personnel for the supervision of contracts and they should receive intensive training in contract management. In the case of high social conflict, it is recommended that the agency conduct the cadastral survey directly rather than through outsourcing, to have more control and faster response to sensitive circumstances. Overall, it might be pertinent for the agency to retain the responsibilities for social communication and grievance redress service, given that these require a technical capacity that is beyond the scope of work and expertise of surveying firms.

7. Comments on Issues Raised by Borrower/Implementing Agencies/Partners

(a) Borrower/implementing agencies

92. The Borrower, through RIC, confirmed their agreement with the overall outcome rating, as well as with the fact that the draft ICRR is consistent with their own evaluation.³⁶

93. In its comments, RIC highlights some aspects that would be relevant for a future land project in Guatemala. These include: (a) the next phase would benefit from the lessons learned from the design and implementation, as well as from the factors and risks that affected the implementation and results of the two previous phases; (b) the need to increase the cost-effectiveness of the cadastral process, making adjustments to the relevant legal framework that would enable a more efficient and effective process; (c) the sustainability of updating and maintaining the cadaster in participating municipalities requires strengthening the institutional mechanisms needed to develop cadastral products and services from the information generated by the Project. It will also require consolidating the integration of the Registry and Cadaster; and (d) expansion of the Project area should be based on the use of the cadaster as a basic tool for rural development, focusing on the multipurpose use of the cadastral information. Such efforts should include: (i) territorial planning at the municipal level, linking public investment with territorial economic development; (ii) strengthening the capacity to collect and manage property taxes; (iii) land

³⁶ See formal response from Government in Project files.

use planning that reflects the potential to generate long term sustainable investments; (iv) management of basic municipal services; (v) natural resources management and planning, and disaster risk management; and (vi) legal security of land tenure and use for increased access to credit and productive assets.

(b) Cofinanciers

N/A

(c) Other partners and stakeholders

N/A

Annex 1. Project Costs and Financing

(a) Project Cost by Component (in USD Million equivalent)

Components	Appraisal Estimate (USD millions)	Actual (USD millions)	Percentage of Appraisal
(1) Cadastral and land regularization	31.95	26.78	83.82
(2) Maintenance of cadastral information and municipal services	13.32	15.24	114.44
(3) Institutional Strengthening for Land Administration	7.76	3.05	39.27
(4) Project management, monitoring and evaluation	8.62	4.54	52.71
Total Baseline Cost	61.65	49.61	80.48
Physical Contingencies	0.16	0.00	
Price Contingencies	0.49	0.00	
Total Project Costs	62.30	0.00	
Front-end fee PPF	0.00	0.00	
Front-end fee IBRD	0.00	0.16	
Total Financing Required	62.30	49.77	79.89

(b) Financing

Source of Funds	Type of Cofinancing	Appraisal Estimate (USD millions)	Actual/Latest Estimate (USD millions)	Percentage of Appraisal
Borrower		0.00	0.00	.00
International Bank for Reconstruction and Development		62.30	49.77	79.89

Annex 2. Outputs by Component

The Project Development Objective (PDO) was to foster the process of achieving land tenure security in the Project area through the provision of efficient and accessible cadastral and land administration services.

The PDO was to be achieved through: (i) cadastral and land regularization activities, (ii) maintenance of cadastral information and municipal services, including strengthening municipal capacity, and (iii) strengthening the institutional capacity for land administration. The results matrix was modified through two formal restructurings, and these changes are detailed in [Attachment 1](#) below.

Table 1. PDO Outcome Indicators

Indicator	Baseline	Target	Result
35% of land parcels in the Project area are integrated into RIC's Public Registry.	0%	35%	16.54%
The technological platform that includes RIC's Public Registry (SIRCAT) is assessed to be satisfactory regarding its functionality, and physical and data security.	0	Assessed as satisfactory	Assessed as satisfactory
At least 50% of land conflicts identified during the cadastral establishment process are resolved.	0	50%	53.98%
Less than 10% of parcels incorporated in the RIC database have reports of absenteeism or not attendance of the owner/occupant.	13%	10%	2.94%
Target population with use or ownership rights recorded as a result of the Project.	320,915	1,128,712	965,076
Number of women beneficiaries with rights recorded.	163,667	575,643	492,188

Component 1 – Cadastral and land regularization

This component aimed at carrying out the cadastral process and limited land regularization activities in 55 municipalities—later reduced to 41 in the first Project restructuring—in eight departments. Institutions involved in implementation included Registry of Cadastral Information (RIC), the Property Registry (RGP), the National Geographic Institute (IGN), The National Council of Protected Areas (CONAP), the Office of Territorial Reserves (OCRET), the Guatemalan Institute of Anthropology and History (IDAEH), the Secretariat of Agrarian Affairs (SAA), the Land Fund (FONTIERRAS), and participating municipalities. Component costs amounted to US\$26.78 million (53.98% of the total disbursed). The component included the following sub-components:

1.1 Cadastral process. This sub-component financed preparatory activities for cadastral fieldwork, a social communication campaign, systematic parcel-based surveying, technical and legal analyses, and the certification and registration of communal lands. Outcomes include 274,536 parcels surveyed, which represents 91.5 percent of the target of 300,000.

Of the surveyed parcels, 45,400—or 16.54 percent—were registered in RIC’s Public Registry, which was a partial achievement of the target of 35 percent. At Project closing, an additional 75,000 parcels—or 27.32 percent of those surveyed—were only pending the publication of notifications to complete the registration process, which RIC is expected to continue. Some 965,076 individuals benefited from having their use or ownership rights recorded, which represents 85.5 percent of the target of 1,128,712. Of these, 492,188 or 51 percent of total population are estimated to be women. In addition, a total of 96,088 parcels with use or ownership rights recorded had a women as sole or joint owner/occupant. Importantly, only 2.94 percent of owners/occupants did not participate in cadastral activities, which surpassed the ceiling target of 10 percent of absenteeism or non-attendance, and speaks to the highly participatory nature of the cadastral process.

Twenty five communities requested the certification of their communal land, four of which—or 16 percent—received it before Project closing,³⁷ which represents a partial achievement of the target of 80 percent of identified communal lands receiving certification. One of these is in indigenous peoples’ communal lands. For an additional five communities—or 20 percent of those identified—the process was nearly completed by Project closing. Other communal lands could not be certified because they had boundary conflicts or organizational issues. Following the certification of the four communal lands, the Project partnered with the University of San Carlos to support the communities in developing a participatory zoning process of their lands. The process engaged community leaders and members, and included the identification of land uses and capacity, and the creation of thematic maps for determining the zoning of the communal lands. In addition, the Project supported a pilot in support of the FAO Voluntary Guidelines on the Responsible Governance of Tenure. FAO partnered with RIC, the NGO Utz Che’, and a local surveying company to develop a pilot for land use planning in one of the communal lands identified by the Project. The pilot consisted in training community members in the use of the software ‘open tenure’ for them to record tenure relationships existing in their community.³⁸ By Project closing, FAO was in the process of planning the roll out to other communities and establishing arrangements for a community server and ongoing technical assistance.

The sub-component also supported alternative conflict resolution mechanisms. Of a total of 1,771 conflicts identified during the cadastral process, 956 conflicts—or 53.98 percent—were resolved, which surpassed the target of 50 percent. In addition, of the 250 conflicts previously identified by SAA in the Project area, 65—or 26 percent—were resolved, which represents a partial achievement of the 30 percent target.

³⁷ The communal lands certification benefitted the indigenous community of *El Bongo*, Municipality of El Estor, Department of Izabal; the peasant communities of *San Isidro* and *Matanzas*, Municipality of San Jeronimo, Department of Baja Verapaz; and the peasant community of *San Vicente*, Municipality of Guanagazapa, Escuintla.

³⁸ Open tenure is an open source software solution that uses a web-based community server to store the tenure data. Community members used tablet devices to record in the field a range of tenure relationships and map them using satellite imagery and GPS measurements.

Activities under this sub-component also included the delimitation of municipal boundaries, delimitation and demarcation of selected protected areas, delimitation of territorial reserves,³⁹ and delimitation and geo-referencing of archeological and ceremonial sites. The Project surveyed the total boundaries of 14 municipalities, and partially surveyed the boundaries of another 27 municipalities.⁴⁰ However, the delimitation of municipal boundaries does not depend exclusively on surveying, and disagreements between municipalities affected Project outcomes in this area. At Project design, 13 protected areas were to be demarcated. Following the first Project Restructuring that downsized the project scope to 41 municipalities, this indicator was changed accordingly. Seven protected areas,⁴¹ whose boundaries totaled approximately 427 km according to CONAP's records, were then identified for delimitation and demarcation. Four protected areas were excluded from the Project after the MTR because demarcation required technical studies for zoning which were not budgeted. The target for this indicator should have been reduced from 427 to 346 km, but it was not formally revised. Outcomes include the delimitation of 463.36 km of protected areas' boundaries, of which 306.47 km were demarcated, which represents a partial achievement of the original target of 427 km delimited and demarcated. An additional 110.25 km of national reserve areas' boundaries were delimited and 74.75 km were demarcated, which represents a partial achievement of the target of 100 km. In addition, 299 archeological sites and 201 ceremonial sites were identified, georeferenced, and incorporated in the Registry of the Department of Cultural Resources, which greatly surpassed the targets of 195 and 25 sites, respectively.

1.2 Land regularization and titling. This sub-component financed the annotation of titles in the Property Registry and limited land regularization activities. The Project considered three mechanisms to support land regularization:

- *Land adjudication in National Lands:* The Land Fund was created in 1999 as part of the 1996 Peace Accords to replace the Institute of Agrarian Transformation (INTA). According to the 24-99 decree (1999), the Land Fund facilitates access to land for micro, small, and medium-sized farmers, especially those organized in cooperatives. When the Land Fund beneficiaries are family members, the title is issued jointly to the couple. However, the Land Fund is only allowed to sell or adjudicate lands that are owned by the State. Project provided resources and data on parcels to the Land Fund in order to facilitate the land adjudications. Out of 5,000 parcels identified as eligible for titling, the Project titled 1,289 parcels to Land Fund beneficiaries.

³⁹ In Guatemala, all rural areas within 3 km of the ocean coastline or 300 meters of lakes and navigable rivers are considered territorial reserves of the state. The Project included areas adjacent to the Izabal Lake in the municipality of El Estor that fell under this regime.

⁴⁰ In 17 municipalities, between 51 and 99 percent of boundaries were surveyed, while in 10 other municipalities less than 50 percent of the boundaries were surveyed.

⁴¹ The seven protected areas were: *Biotopo Mario Dary Rivera*, *Biosphere Reservation Sierra de las Minas*, *Wildlife Sanctuary Bocas del Polochic*, and the areas around the volcanoes *Fuego*, *Agua*, *Pacaya*, and *Quezaltepeque* where hunting and fishing are permanently restricted. For the purposes of demarcation activities, the Project focused on the first three areas since CONAP had not yet approved land coordinates for the delimitation of the restricted areas around the volcanoes.

- *Special Titling*: The RIC Law allowed the RGP to issue titles for unregistered parcels where the only inconsistency is not having any previous record in the RGP. When the beneficiaries are members of a family, the titles have to be issued on behalf of the couple, as joint tenants. This regularization mechanism is available in the whole country except in the Petén Department, the area of the *Franja Transversal de Norte*,⁴² national reserves, and protected areas. Some parcels eligible for special titling were identified during the legal analysis, but no titles were issued under this modality because of the lack of a specific regulation.
- *Regularization in Municipal Lands*: According to the Municipal Code, municipalities are allowed to adjudicate their own lands to private individuals. Usually this regularization mechanism benefits individuals who are already occupying the plot and pay a lease to the municipalities. In this case, the title is facilitated by the municipality and issued directly to the person who has a formal lease with the municipality. For this reason, joint tenancy is not so frequent in these cases. Municipality could also transfer ownership of communal lands to a community. The Project supported with land surveying and facilitating fee reductions for cadastral, notary, and registral services in support of regularizing 390 parcels in the municipality of San Jerónimo, Baja Verapaz.

Table 2. Component 1 Indicators

Indicator	Baseline	Target	Result
Land parcels with use or ownership rights recorded as a result of the Project.	64,183	300,000	274,536
80% of communal lands in the Project area identified and certified according to the process established in the Specific Regulation on Communal Lands and Indigenous Peoples Development Plan.	0	80%	16%
427km of protected areas' boundaries and 100km of national areas' boundaries delimited and demarcated in the project area.	0	427km / 100km	463.36km delimited & 306.47 demarcated in protected areas / 110.25 km (delimited) & 74.75 km (demarcated) in territorial reserves.
195 archeological sites and 25 ceremonial sites in the Project area identified, geo-referenced and incorporated into the database of the Department of Cultural Resources' Registry.	0	195 / 25	299 / 201

⁴² This is an area covering the departments of Izabal, Alta Verapaz, Quiché, and Huehuetenango.

Indicator	Baseline	Target	Result
30% of land conflicts identified previously by SAA within the Project area are resolved.	34%	30%	26%
At least 60% of individual parcels or communal lands identified as eligible for regularization or special titling are titled and registered in RGP, and benefit women and indigenous peoples.	0	60%	33.58%

Component 2 – Maintenance of cadastral information and municipal services

This component aimed at developing the framework at the national and municipal level to maintain cadastral information updated, as well as promoting initiatives to use cadastral information for local development and territorial planning. Institutions involved in implementation included RIC and participating municipalities, with the support of SEGEPLAN and the Ministry of Finance.⁴³ Component costs amounted to US\$15.24 million (30.72% of the total disbursed). The component included the following sub-components:

2.1 Establishment of RIC’s municipal cluster offices. This sub-component financed the establishment of nine municipal cluster offices in the Project area, surpassing the target of six offices; seven of these offices are expected to offer cadastral services permanently.⁴⁴

2.2 Maintenance of cadastral information via private intermediaries. Activities financed under this sub-component included the certification and registration of 766 professional surveyors and 1,088 technical surveyors in RIC’s Registry of Surveyors, greatly surpassing the targets of 100 professional and 250 technical surveyors, respectively. It is expected that these professionals will substantially increase the capacity of the local private sector for carrying out cadastral activities. The sub-component also achieved the target of incorporating in RIC’s Public Registry all new transactions related to change of rights within the Project area.

2.3 Provision of land administration services at the municipal level. This sub-component financed training and technical assistance to municipalities for the formulation of land use plans, the administration and collection of property taxes, and the modernization of municipal cadastral offices. Outcomes include a total of 22 municipalities already using RIC’s cadastral database to update their own cadasters and develop territorial planning activities, slightly surpassing the target of 20 municipalities. All 22 municipalities received some capacity building for the multipurpose use of cadastral information, 18 were trained in Quantum GIS, and six benefited from workshops on participatory mapping for territorial

⁴³ The Project collaborated with SEGEPLAN to carry out the workshops on participatory mapping for territorial planning activities; the Ministry of Finance supported technical assistance to municipalities for the administration and collection of property taxes.

⁴⁴ The permanent offices are located in the municipalities of Antigua Guatemala, Department of Sacatepéquez; Cobán, Department of Alta Verapaz; Salama, Department of Baja Verapaz; Chiquimula, Department of Chiquimula; Escuintla, Department of Escuintla; Teculután, Department of Zacapa; and El Estor, Department of Izabal.

planning activities.⁴⁵ Although financial and time constraints⁴⁶ did not allow for the development of territorial plans during the life of the Project, it laid the base for strengthening municipal capacities in this area. Following the approval by RIC’s Board of Directors of the Institutional Policy for the Multi-Purpose Use of Cadastral Information in 2010, the sub-component also financed the development of SITMuni,⁴⁷ which established a link between RIC and the municipalities to enable the sharing and updating of cadastral information. Nine of the 22 municipalities installed SITMuni and were trained in its use.

Regarding the strengthened capacity to collect property taxes, an assessment undertaken in 22 municipalities revealed that, on average, the cadastral survey reported 186 percent more parcels than the National Directive of Cadaster and Real Estate Appraisal (DICABI) tax base, and 226 percent more parcels than the municipal cadastral registry. While there is no precise information about the effect of the cadastral survey on increasing the property tax base and revenue, there is anecdotal evidence that both increased. However, the municipalities need additional time to update the tax payers’ database. Once they do, this would be a major achievement for strengthening local governments, since the current level of revenue from property taxes is marginal.

Table 3. Component 2 Indicators

Indicator	Baseline	Target	Result
6 cluster offices established in the project area during cadastral surveying process, of which at least 5 offer cadastral services permanently.	0	6 (5)	9 (7)
100 professional surveyors and 250 technical surveyors certified and registered in RIC’s Registry of Surveyors.	0	100 / 250	766 / 1,088
100% of new transactions within the Project area, related to change of rights (<i>dominio</i>) in RGP, are incorporated in RIC’s Public Registry.	0	100%	100%
At least 20 municipalities use cadastral information for territorial planning and other uses, and send information for cadastral update and maintenance.	0	20	22

Component 3 – Institutional strengthening for land administration

This component aimed at improving the legal framework and strengthening institutional capacity for land administration. Institutions involved in implementation included RIC and

⁴⁵ Siquinala, Department of Escuintla; San Bartolome Milpas Altas, Department of Sacatepequez; Salama and San Jeronimo, Department of Baja Verapaz; Teculután and Gualan, Department of Zacapa.

⁴⁶ According to SEGEPLAN, each Territorial Plan is estimated to cost around US\$25,000 and take about ten months to develop.

⁴⁷ SITMuni is a management system for municipal territories composed of several modules and based on the cadastral information generated by RIC, as well as information generated by the municipalities and other institutions.

RGP. Component costs amounted to US\$3.05 million (6.15% of the total disbursed). The component included the following sub-components:

3.1 Review of legal and institutional frameworks. This sub-component supported the approval process of the Regulations on the RIC Law, and the Specific Regulation on Communal Lands, thus meeting the set targets. The Specific Regulation on Communal Lands, which was a condition for the initial disbursement, required an extensive consultation process with indigenous peoples' representatives that lasted longer than two years. Still, there is uncertainty about the legal safeguards provided by certification. To address these issues, the Project commissioned a comprehensive study by the NGO CEIDPAZ to provide recommendations for improving the regulations and procedures for recognition. Recommendations from this study include the following: (i) the diagnostic carried out prior to cadastral surveying should serve as a basis to define the approach for a subsequent specific diagnostic carried out with community participation to self-identify whether the community meets the requirements for communal land certification; (ii) the contents of the request form should provide more information about the community (e.g., indigenous vs. peasant), and be clearer about its purpose (i.e., that it is a request for certification of the communal land); (iii) to comply with UN Convention No. 169 and the RIC Law, RIC—rather than community leaders—should consult with the community, and the request for surveying the perimeter of the communal land should emanate from the community assembly; (iv) where there is inconsistency between the Specific Regulation on Communal Lands and its Operations Manual, the former should be applied; (v) the abundance of procedures and activities required to register certified communal lands should be reviewed with the aim of shortening the wait time for communities; and (vi) there is a need to establish the accountability of analysts and registry officers in RIC's Public Registry to ensure the legal certainty and transparency of the registration process.

3.2 Integration of the Registry-Cadaster System. This sub-component financed the development of an information platform that aimed to integrate RIC's and RGP's databases. The target was partially achieved as several modules, although not all, were developed. A technical audit of the technological platform that includes RIC's Public Registry (SIRCAT) looked into five elements: (i) infrastructure and networks, (ii) database, (iii) development and maintenance of applications, (iv) technical support, and (v) physical security of information. The quantitative assessment resulted in a 72.8 percent rating, based on which SIRCAT is assessed as satisfactory. Regarding the integration of RIC's and RGP's databases, the system's audit identified weaknesses in the infrastructure and platform that could compromise the security of the information. The audit identified 30 risk factors, of which more than half represent high risk for the availability, integrity and/or confidentiality of the information; however, 24 of the 30 risk factors require a solution with trivial to moderate level of complexity.⁴⁸ The audit highlights the urgent need to purchase a data storage center.

⁴⁸ The high risk factors that require complex solutions include: RIC's contingency plan for information back-ups lacking approval, old data cable, data center with obsolete equipment, Oracle applications that cannot be updated beyond Windows XP, and the fact that the storage network is almost full and has several deteriorated components.

Table 4. Component 3 Indicators

Indicator	Baseline	Target	Result
Regulations on the RIC Law, and Specific Regulation on the certification of Communal Lands approved by RIC.	No regulations	Regulations on the RIC Law, and Specific Regulation on Communal Lands approved by RIC	2 Regulations approved.
An integrated Registry-Cadaster information platform operates satisfactorily.	0	100%	80%

Component 4 – Project management, monitoring, and evaluation

This component aimed at supporting project management and coordination. Planned component costs amounted to US\$4.54 million (9.15% of the total disbursed). The component, which fell under RIC’s responsibility, included the following sub-components:

4.1 Project administration. The sub-component financed Project administration. The budget, annual operative plans and the M&E system were issued on time, thus meeting the target of the respective indicator. Financial information on the Project was systematized and reported timely at various levels (by component, sub-component, activity, indicators, department, municipality, etc.), however the FM database was kept in an excel file, rather than developing the envisaged system to enable the monitoring of physical and financial progress: this justifies the partial achievement of the respective indicator. SISERIC, RIC’s institutional M&E system, did not meet the Bank’s reporting requirements. To address this issue, the Project relied on information provided by SISERIC on a monthly basis, as well as on its own M&E database and the baseline data on outcome indicators. The evaluation of the M&E system looked at four elements: the relevance of the design and the functionality of the instruments for collecting and analyzing information, the use of the system, the reliability of the information, and the use of the information to strengthen Project implementation. The evaluation concluded that the M&E system was well structured, complete and adequate to RIC’s institutional needs. The design of the system is relevant, instruments are used appropriately, and the information is reliable. Weaknesses include lack of a modern information technology system and the need to generate reports to inform decision making both at central and municipal level.

4.2 Inter-institutional coordination. This sub-component supported coordination activities with the co-executing agencies: RGP, SAA, CONAP, Land Fund, IGN, OCRET, IDAEH, and the participating municipalities. In addition, RIC also collaborated with SEGEPLAN for the delivery of capacity building activities.

Table 5. Component 4 Indicators

Indicator	Baseline	Target	Result
Budget, annual operative plans, M&E issued on time as per the Loan Agreement.	0	100%	100%

Monitoring and Evaluation and FM systems for the Project developed and operating.	0	100%	50%
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Attachment 1 – Changes to the Results Matrix

Project Outcome Indicators	Core	D=Dropped C=Continued N=New R=Revised	Baseline			Cumulative Target Value							
			UoM	Value	Date	YR1 2008	YR2 2009	YR3 2010	YR4 2011	YR5 2012	YR6 2013	YR7 2014	YR8 2015
35% of parcels in the Project area are integrated into RIC's Public Registry.	<input type="checkbox"/>	R	Percentage	0.00	01-Jul-2010	0%	0%	0%	0%	0%	8%	12%	16.54%
The technological platform that includes RIC's public registry is assessed to be satisfactory regarding its functionality, and physical and data security.	<input type="checkbox"/>	N	Text	0	01-Jul-2010	--	--	0	0	0	0	0	Assessed as satisfactory
At least 50% of land conflicts identified during the cadastral establishment process are resolved.	<input type="checkbox"/>	R	Percentage	None	12-Jan-2007	0%	0%	0%	0%	75% (150 of 200)	75% (644 of 869)	81%	53.98%
Less than 10% of parcels incorporated in the RIC database have reports of absenteeism or not attendance of the owner/occupant.	<input type="checkbox"/>	N	Percentage	0	12-Jan-2007	--	--	--	--	--	14%	3%	2.94%
Target population with use or ownership rights recorded as a result of the project.	<input checked="" type="checkbox"/>	N	Number	0.00	12-Jan-2007	--	--	--	--	--	369,830	640,008	965,076

Number of women beneficiaries with rights recorded.	<input type="checkbox"/>	N	Number	0.00	12-Jan-2007	--	--	--	--	--	188,613	326,404	492,188
80% of new transactions in the project area conducted with validated and integrated cadastral and registral information.	<input type="checkbox"/>	D	Percentage	None	12-Jan-2007	--	--	--	--	--	--	--	--
Satisfactory rating (third level on a four-scale basis) by at least 50% of users of RIC's public registry (and by at least 50% of female users).	<input type="checkbox"/>	D	Text	None	12-Jan-2007	--	--	--	--	--	--	--	--
At least 70% of the targeted population in the project area participates in the cadastral survey (at least 40% participating population is of indigenous descent and x% of participants are women).	<input type="checkbox"/>	D	Text	None	12-Jan-2007	--	--	--	--	--	--	--	--
Intermediate Results													
Intermediate results – Component 1: Cadaster and land regularized													
Revised Intermediate Result – Component 1: n/a													
Land parcels with use or ownership rights recorded as a result of the project.	<input checked="" type="checkbox"/>	N	Number	0.00	12-Jan-2007	--	--	--	--	--	73,966	160,002	274,536

Land parcels with use/ownership rights recorded as a result of project-female.	<input checked="" type="checkbox"/>	N	Number	0.00	12-Jan-2007	--	--	--	--	--	25,888	56,001	96,088
80% of communal lands in the project identified and certified according to the process established in the Regulations for Communal Lands and Indigenous Peoples Plan (IPP), of which at least 50% are in indigenous people's communal lands.	<input type="checkbox"/>	C	Percentage	0	12-Jan-2007	0%	0%	0%	0%	0%	0%	0%	16%
427 kms of protected areas' boundaries and 100 kms of national reserve areas' boundaries delimited and demarcated in the project area.	<input type="checkbox"/>	R	Number	0	12-Jan-2007	0	0	0	0 km / 23.11 km	427 km delimited / 88.2 km delimited	427 km delimited / 88.2 km delimited	427 km delimited / 88.2 km delimited	463.36 km delimited & 306.47 km demarcated in protected areas / 110.25 km (delimited) & 74.75 km (demarcated) in territorial reserves
195 archeological sites and 25 ceremonial sites in the project area identified, geo-referenced and incorporated into the database of the Department of Cultural Resources' Registry.	<input type="checkbox"/>	R	Number	0	12-Jan-2007	0	0	55 / 23	169 / 73	299 / 203	299 / 203	299 / 203	299 archeological sites / 201 ceremonial sites

30% of land conflicts identified previously by SAA within the Project area are resolved	<input type="checkbox"/>	N	Percentage	0.00	12-Jan-2007	--	--	--	--	--	20%	24%	26%
At least 60% of individual parcels or communal lands identified as eligible for regularization or special titling are titled and registered in RGP, and benefit women and indigenous peoples	<input type="checkbox"/>	R	Percentage	0	12-Jan-2007	0.00	0.00	0.00	2.4%	2.4%	12%	26%	33.58%
2,800 lineal km of municipal boundaries identified and agreed among the relevant parties.	<input type="checkbox"/>	D	Text	0	12-Jan-2007	--	--	--	--	--	--	--	--
60% of parcels in private lands as eligible for the special titling procedure prescribed in the RIC Law are titled and registered in RGP.	<input type="checkbox"/>	D	Percentage	0	12-Jan-2007	--	--	--	--	--	--	--	--
80% of surveyed parcels in the project area (including national, private, and communal lands) incorporated into RIC's database (target: 280,000 out of 350,000).	<input type="checkbox"/>	D	Percentage	0.00	12-Jan-2007	--	--	--	--	--	--	--	--

10% of identified communal lands are regularized and registered in RGP.	<input type="checkbox"/>	D	Percentage	0.00	12-Jan-2007	--	--	--	--	--	--	--	--
At least 15,000 families in the Project area benefited from regularization processes and registry in RGP, of which x% are poor.	<input type="checkbox"/>	D	Number	0	01-Jul-2010	--	--	--	--	--	--	--	--
At least 14 CORS (active geodesic network) stations are functioning at the national level, and the passive geodesic network established in the project area.	<input type="checkbox"/>	D	Number	0	01-Jul-2010	--	--	--	--	--	--	--	--
Intermediate results – Component 2: Cadastral information and municipal services maintained													
Revised Intermediate Result – Component 2: n/a													
6 cluster offices established in the project area during cadastral surveying process, of which at least 5 offer cadastral services permanently.	<input type="checkbox"/>	R	Number	0	12-Jan-2007	0	0	6	6	6	9	9	9 offices established / 7 offer services permanently
100 professional surveyors and 250 technical surveyors certified and registered in RIC's Registry of Surveyors.	<input type="checkbox"/>	R	Number	0	12-Jan-2007	0	0	16 / 34	172 / 118	172 / 118	477 / 836	578 / 977	766 professional / 1,088 technical surveyors

100% of new transactions within the Project area, related to change of rights (dominio) in RGP, are incorporated in the Public Registry of RIC.	<input type="checkbox"/>	R	Percentage	0	12-Jan-2007	0%	0%	0%	0%	0%	0%	0%	100%
At least 20 municipalities use cadastral information for territorial planning and other uses; and send information for cadastral update and maintenance.	<input type="checkbox"/>	R	Text	0	12-Jan-2007	0	0	0	0	0	0	0	22
500 technicians trained in land administration through RIC's Land Use and Cadaster Training Center.	<input type="checkbox"/>	D	Number	0	12-Jan-2007	--	--	--	--	--	--	--	--
At least 30 municipalities have received technical assistance and training for administration and collection of property taxes (IUSI).	<input type="checkbox"/>	D	Number	0	01-Jul-2010	--	--	--	--	--	--	--	--
Intermediate results – Component 3: Institutions Strengthened for Land Administration													
Revised Intermediate Result – Component 3: n/a													

Regulations on the RIC Law and regulations on the certification of communal lands approved by RIC.	<input type="checkbox"/>	C	Text	No regulations on the RIC Law or Special Regulations on Communal Lands	12-Jan-2007	None	2	2	2	2	2	2	2	2 Regulations completed.
An integrated Registry-Cadaster information platform operates satisfactorily.	<input type="checkbox"/>	C	Number	0	12-Jan-2007	0	0	10%	30%	30%	60%	80%	80%	
A draft Land Regularization Law prepared by RIC, RGP, Land Fund and SAA.	<input type="checkbox"/>	D	Text	No Law	12-Jan-2007	--	--	--	--	--	--	--	--	--
500 technicians trained in land administration through RIC's School for Development and Training for Territorial Development Planning and Cadaster (ESCAT).	<input type="checkbox"/>	D	Text	0	12-Jan-2007	--	--	--	--	--	--	--	--	--
100% of registry books in the Second Property Registry indexed and digitized.	<input type="checkbox"/>	D	Percentage	0	01-Jul-2010	--	--	--	--	--	--	--	--	--
Virtual portal operating for updating and exchange of property registration.	<input type="checkbox"/>	D	Number	0	01-Jul-2010	--	--	--	--	--	--	--	--	--
Intermediate results – Component 4: Project managed, monitored and evaluated														
Revised Intermediate Result – Component 4: n/a														

Budget, annual operative plans, M&E issued on time as per the Loan Agreement.	<input type="checkbox"/>	C	Percentage	0.00	12-Jan-2007	70%	80%	100%	100%	100%	100%	100%	100%
Monitoring and Evaluation and FM systems for the Project developed and operating.	<input type="checkbox"/>	N	Number	0	01-Jul-2010	--	--	--	--	50%	--	--	75%
Spatial data infrastructure in operation (application and standards).	<input type="checkbox"/>	D	Number	0	12-Jan-2007	--	--	--	--	--	--	--	--

Annex 3. Economic and Financial Analysis

1. Introduction

This Annex presents the main results and methods used for various analysis that were undertaken to assess the economic feasibility of the Project as a whole, the cost effectiveness of the Project's approach with respect to the cadastral/regularization process, the financial sustainability of the municipal offices of the Registry of Cadastral Information (RIC), and the projected net impact that the Project is likely to have on fiscal revenue. When appropriate the results of these analyses are compared to those performed in an ex-ante basis at the time of the First Project Restructuring, and the reasons behind any major divergence are analyzed. It is also worth noting the methodological challenge of quantitatively estimating all Project's impacts. The contribution of improving land tenure security to social development as part of the Peace Accords, for instance, cannot be quantified in a single metric.

2. Economic Feasibility Analysis

Results

Due to the reduced scope of land regularization activities and accomplishments, the Project did not achieve the level of economic efficiency expected in the ex-ante analysis. An ex-post cost-benefit analysis was conducted to evaluate the economic efficiency of the Project. The analysis was based on actual expenses during implementation, estimated post-implementation operating costs, and actual physical outputs. The economic benefits included in the ex-ante and ex-post analyses are those expected from an increase in property values, which are a proxy measure for an array of benefits derived from land tenure security such as increased access to financing, increased investment, and a more dynamic land market, among others.

The ex-ante analysis conducted at appraisal was adjusted during the First Project Restructuring to account for the reduction in the number of targeted municipalities. This analysis only considered the increase in property values derived from land regularization. It assumed that the Project was going to regularize 15,000 parcels. Since the Project only regularized 1,513 parcels, the ex-post analysis displays negative feasibility indicators. The Economic Net Present Value (ENPV) is less than zero and the Economic Internal Rate of Return (EIRR) is less than the discount rate of 12 percent. In order to break even under those assumptions, the Project would have had to regularize at least 10,010 parcels.

When including economic benefits from the cadastral process the analysis suggests that the Project was a sound investment for Guatemala. The ex-ante analysis excluded other ways in which the cadastral process increases land tenure security such as community verification during public information displays and inscription in RIC's Public Registry. Commercial banks' practices in the area covered by the project, and interviews with land appraisers, supported the premise that the cadastral process (and not only land regularization) has an upward effect on land values. Under this expanded analysis, the Project has an ENPV of approximately Q. 182,008,318 and an EIRR of 30 percent.

Methodology

The ex-post cost-benefit analysis was based on actual expenses during implementation, estimated post-implementation operating costs, and actual physical outputs from which the economic benefits are derived. The economic benefits accounted for are the expected increase in property values, a proxy measure for an array of benefits derived from enhanced land tenure security (such as increased access to financing, increased investment, and a more dynamic land market, among others) after regularization. The Economic Net Present Value (ENPV) and the Economic Internal Rate of Return (EIRR) were estimated as main economic feasibility indicators.

The main general assumptions that were used for the ex –ante analysis and thus incorporated in the base scenario for the ex-post cost-benefit analysis are:

- Period of analysis of 20 years, including years of implementation;
- Discount rate of 12%;
- Economic prices are equal to market prices;
- The without-project scenario is neutral (i.e. no changes in net benefits throughout the period of analysis);
- It only considers benefits derived from land regularization;
- Economic benefits are constant and spread-out through the whole period of analysis.

Costs. The costs used for the cost-benefit analysis are those that reflect the actual expenses that the country incurred during implementation. In this particular case, all of the expenses during implementation were covered by the loan. Table 1 presents the actual implementation costs from 2008 to 2015.

Table 1. PAT II Implementation Costs (Q.)

Items	2008	2009	2010	2011	2012	2013	2014	2015	Total
Working Capital			16,573,749	42,467,784	46,592,184	56,488,355	58,748,948	30,417,299	251,288,319
Fixed Investments			1,392,947	12,785,939	96,650	10,314	1,436,782	6,434,229	22,156,861
Operational Costs	11,299,815	5,929,455	6,283,130	19,322,769	16,327,543	19,758,139	21,047,540	12,887,341	95,626,463
World Bank Commission	1,157,090								
Total	12,456,905	5,929,455	24,249,825	74,576,492	63,016,377	76,256,808	81,233,271	49,738,869	387,458,004

Source: Sistema Nacional de Deuda Pública, Control de Desembolsos Históricos, Provenientes de Préstamos Externos

Benefits. Economic benefits were estimated based on the basis of the number of regularized land parcel resulting from project implementation. At restructuring the Project aimed at regularizing 15,000 parcels. The actual number of parcels regularized by the project was 1,513.

For the purposes of this analysis, land regularization is associated to the highest level of land tenure security after the cadastral and titling and registration processes provide spatial

and legal certainty to the title holder. Enhanced land security sparks the generation of an array of economic processes that result in the increase of the value of the property. Estimating the level of those increments could be a complicated matter, requiring complex data gathering mechanisms and instruments, and econometrical and/or statistical analysis of the data.

A survey of 167 land-holders of both regularized and non-regularized parcels was applied to obtain a measure of their perceived value of their properties. This information would have been used to estimate an arithmetic factor or a simple econometric equation for calculating the relative increment in land values due to regularization, with the possibility of establishing a degree of statistical confidence. The information collected from this survey was not deemed complete or consistent enough and thus it was not used.

Given the above, the estimation of the economic benefits was done by using the same assumptions used for the ex- ante analysis. Table 2 presents the average land values and the estimated value increments by cadastral statuses that were used in the estimation of the economic feasibility indicators.

Table 2. Basis for estimating relative increment in land value due to regularization

ITEM	Not Surveyed	Surveyed	Regularized
Average Land Value	Q. 22,167	Q. 35,833	Q. 65,000
Value/M ²	Q. 2.22	Q. 3.58	Q. 6.50
% Increase		+61%	+82%
% increase value for regularized over no-cadaster land			+193%

Source: Ex-ante economic analysis of PAT II

The average land prices for the rural areas of municipalities covered by the project, and used as baseline for estimating of the absolute increments in land value applying the percentage increases shown in Table 2, are based on real transactions of land acquired by FONTIERRAS at market prices (1999). Urban land prices were estimated by using a factor of 1.5 to convert rural land prices to urban land prices. This factor was established based on the expert opinion of the Heads of Credit and Trust-funds of the Rural Development Bank (BANRURAL)⁴⁹ Due to lack of information the values for Zacapa, Chiquimula and Quiche were based on those of neighboring Departments. Table 3 shows the baseline values estimated for both rural and urban land, by Department for the without project-scenario.

⁴⁹ Ex-ante Economic and Financial Analysis of PAT II, 2006.

Table 3. Base-line land values in areas covered by PAT II, without project

Departments	Without project	
	Value (Q)/m ²	
	Urban	Rural
Sacatepéquez	10,29	6,86
Escuintla	3,84	2,56
Quiché	2,75	1,83
Baja Verapaz	2,72	1,81
Alta Verapaz	0,89	0,59
Zacapa	1,13	0,75
Chiquimula	1,13	0,75
Izabal	1,13	0,75
Average	2,98	1,99

Source: Estimations made base on study by Carrera

The land values used for the with-project scenario are shown in Table 4. The flow of economic benefits was constructed on the basis of the information shown on Tables 2, 3, and 4, above, and applied to the 1,513 regularized land-parcels.

Table 4. Base-line land values in areas covered by PAT II, with project

Departments	With-project (Q/m ²)			
	Surveyed		Regularizad	
	Urbano	Rural	Urbano	Rural
Sacatepéquez	16,67	11,11	19,86	13,24
Escuintla	6,22	4,15	7,41	4,94
Quiché	4,45	2,96	5,30	3,53
Baja Verapaz	4,40	2,93	5,24	3,49
Alta Verapaz	1,43	0,96	1,71	1,14
Zacapa	1,82	1,22	2,17	1,45
Chiquimula	1,82	1,22	2,17	1,45
Izabal	1,82	1,22	2,17	1,45
Average	4,83	3,22	5,75	3,84

Source: Consultant Estimations based on information presented in Tables 2 and 3

As previously mentioned the analysis was also done using an alternative scenario. This alternative scenario included economic benefits not accounted for in the base scenario, namely the economic benefits derived from the enhanced sense of security of land-holders whose property has gone through the cadastral process. In this case, in a much similar manner than in the case for regularized land, the premise is that spatial certainty derived from the cadastral process also generates increments in land values, albeit much likely smaller than those generated as a result of regularization. This is supported by expert accounts of land appraisers consulted during the preparation of the ICRR and the existence of lending practices by commercial banks that lend against property that has gone through

the cadastral process, and does not have a registered title, at lower valuation than regularized properties.

3. Cost-effectiveness Analysis

In order to complement the cost-benefit analysis, a cost-effectiveness analysis with respect to the alternative manners of carrying out the cadastral process was carried out. The analysis was conducted to assess whether the cadastral process, as currently mandated by the RIC Law, would have been less costly than using a demand-driven approach (i.e. a without-project scenario) or the Project's systematic approach. The analysis concluded that the cost of surveying all parcels covered by the project on a demand-driven basis would have costed 3.7 times of what it actually did with the systematic cadastral process.

However, as a point of further consideration, it's worth noting that the cadastral process is based on a methodology for legal cadaster that is relatively costly. The cost of the cadastral and legal analyses as well as the inscription in RIC's Public Registry represents around 70 percent of total costs for urban parcels and 62 percent of costs for rural parcels. With that in mind, a more thorough review of alternatives for the cadastral process would be required to assess how to streamline legal procedures and improve efficiency while maintaining the policy objectives of the Peace Accords.

Methodology

As described above, the cost-effectiveness analysis compared costs under the same parameter of achievements of two different approaches. The information used for the first approach, the with-project scenario is basically actual project implementation information, namely the number of parcels that went through the cadastral/regularization process and the expenditures during project implementation. The information for the second approach, the without project scenario was estimated from interviews to a group of expert informants with first-hand knowledge of the processes and the corresponding costs outside the systematic approach of the project carried out during the preparation of this ICR.

The variables used on each of the models are presented in the following tables. Table 5 presents the variables used for the with-project scenario, while Table 6 presents those for the without-project scenario. The present value for each flow of costs was estimated, and their relationship was expressed in the form of a ratio of 3.7 to 1 of the present value of the without-project scenario⁵⁰ to the present value of the with-project scenario. This means that in order to obtain the same physical outputs obtained by the project through the systematic approach, it would have costed 3.7 times as much, or 270% more, to do it with the individual demand-driven approach.

⁵⁰ It is important to take into consideration that, according to the RIC Law, this institution is the only one allowed to determine whether a parcel is regular or irregular.

Table 5. Set of Variables used for with-project scenario.

Variables	
Working capital investment	Q. 251,288,319
Fixed assets	Q. 22,156,861
Operational Costs RIC (loan)	Q. 112,855,733
Period of analysis	8 years
Number of surveyed land parcels	274,536
Number of parcels with cadastral analysis	93,095
Number of parcels with legal analysis and registered in RIC's Public Registry	45,400
Number of regularized parcels	1,513
Discount Rate	12%

Source: RIC.

**Table 6.
Set of Variables used for without-project scenario.**

Variables	
Total costs for service provision at market prices	Q. 1,254,700,968
Period of analysis	8 years
Number of surveyed land parcels	274,536
Number of parcels with cadastral analysis	93,095
Number of parcels with legal analysis and registered in RIC's Public Registry	45,400
Number of regularized parcels	1,513
Discount Rate	12%

Source: RIC and consultant estimations based on expert testament

Table 7.
Present value of costs with and without project scenarios

Modelo	Present Value
w-Project	Q. 339,013,997
w/o-Project	Q. 1,254,700,968

Source: Consultant's analysis

$$\text{Cost Effectiveness Indicator} = \frac{1,254,700,968}{339,013,997} = 3.7$$

4. Financial Sustainability Analysis

Results

To assess the financial sustainability of the municipal offices of the RIC that operate in the geographic area covered by the project, a simple self-sufficiency analysis was undertaken. The results of the analysis showed that the rate at which the generated income covered the operational costs of all offices combined ranged from as little as 5% in 2011 to as high as 87 percent in 2015. However, when both extremes, the first and last year of the period were eliminated from the analysis, the average coverage rate was 67 percent. Furthermore, when estimating three-year moving averages the coverage rate increased from 49% for the 2011-2013 period, 67 percent for the 2012-2014 period, and 77% for the 2013-2015.

Methodology

In order to estimate a self-sufficiency indicator an annual budget for the continued operation of the municipal offices of the RIC beyond project closure was estimated. This budget is presented in Table 8.

Table 8. Estimated budget for municipal offices of the RIC

Description of expenses	Monthly expenses	Maintenance and update of the Cadaster	Annual Expenses
1. Personnel			Q 285,000
1 Customer service attendant	Q5.000,00	Q5.000,00	Q 60,000
1 GIS technician	Q7.500,00	Q3.750,00 (1)	Q 45,000
3 Surveying technicians	Q15.000,00	Q7.500,00 (1)	Q 90,000
2 Social workers	Q10.000,00	Q2.500,00 (2)	Q 30,000
1 Cadastral analyst	Q5.000,00	Q5.000,00	Q 60,000
2. Operational costs	Q 31,059. 23	Q7.989,81 (3)	Q95,877.72
Total		Q31.739,81	Q 380,877.72

Source: Information provided by RIC

- (1) 50% for maintenance and updating
- (2) 25% for maintenance and updating
- (3) 25% for maintenance and updating

From the income side the analysis accounted for all income generated by the sales of cadastral products and services in the municipal offices of the RIC in the area covered by the project during the period 2011-2015. The products and services provided by these offices include, among others: certificates for dismemberment and/or unifications; certification of cadastral plans; certificates of approval of plans of dismemberment or unification and their renewal; certification of full cadastral record, completed stages or specific actions that are requested; certification of cadastral regularity or irregularity; plans, maps, topographic surveying, various types of courses, etc.). Table 9. Presents the total sales generated by the municipal offices of the RIC accounted for in the self-sufficiency analysis.

Table 9. Revenue generated by RIC's municipal offices from cadastral services

OFFICE	TOTAL INCOME IN QUETZALES				
	2011	2012	2013	2014	2015
PUERTO BARRIOS	Q58,798.00	545,361.00	Q661,504.00	Q682,27.00	Q601,967.00
SAN JERONIMO	Q5,359.00	Q178,922.00	Q367,957.00	Q238,541.00	Q300,212.00
DE COBAN	Q32,579.00	Q497,192.00	Q767,693.00	Q620,480.00	Q724,490.00
CHIQUIMULA	Q6,517.00	Q64,407.00	Q92,158.00	Q134,324.00	Q116,632.00
TECULUTAN	Q6,967.00	Q23,378.00	Q12,254.00	Q6,782.00	Q51,883.00
SACATEPÉQUEZ	Q7,990.00	Q182,994.00	Q206,072.00	Q270,258.00	Q313,091.00
ESCUINTLA	Q11,790.00	Q47,815.00	Q104,064.00	Q103,887.00	Q212,004.00
TOTAL INCOME	Q130,000.00	Q1,550.069.00	Q2,211.712.00	Q2,056,550.00	Q2,320.229.00

Source: Cadastral Products and Services Office of RIC

5. Fiscal Impact Analysis

Results

The Project is expected to have a positive impact on the collection of the real estate tax (IUSI) managed by the municipalities. The municipal impact assessment prepared for the ICRR estimates that on average the cadastral information collected by the Project may have increased the number of parcels in the tax base by a 186 percent compared to the records at the National Directive of Cadaster and Real Estate Appraisal (DICABI) and by a 226 percent compared to the municipal cadastral registry.⁵¹ However, there are no precise figures of the quantitative effects because the municipalities are still in the process of updating their tax registries. A projection based on a set of conservative assumptions for a sample of 19 municipalities estimates the sum of net fiscal impact for the incremental collection of the IUSI at around USD 4.7 million, using a discount rate of 12 percent. When

⁵¹ The municipal impact assessment covered the twenty-two municipalities that received technical assistance for the implementation of multipurpose cadaster.

using the currently recommended discount rate of 6 percent, the net tax revenue would be 74 percent higher at USD 7.9 million.

Methodology

The analysis projects net fiscal revenues from the collection of IUSI at the municipal level for a period of 20 years. The main premise behind the analysis is that cadastral information generated by the Project and the more dynamic land market associated with cadastral surveying and regularization activities generate ample opportunities for municipalities to increment the collection of this real estate tax, as their tax base increases.

Although information on the collection of the IUSI was available for the municipalities, by year, for the period 2012-2015, no information was available with respect to the number of parcels associated with those revenues. This makes it more complicated to establish a robust set of assumptions in which to base the tax revenue projections in the post-implementation phase of the period of analysis. Given this shortcoming the analysis undertaken used a set of conservative assumptions to compare with the ex-ante analysis. The revenues taken into consideration for the analysis were those for the 19 municipalities that had 100% of their land parcels surveyed by the Project out of 41 municipalities. This revenue information is presented in Table 10.

Table 10. Revenue from real estate property tax (IUSI) in municipalities with 100% cadastral coverage

DEPARTMENT	MUNICIPALITIES	TOTAL PARCELS	SINGLE PROPERTY TAX REVENUE (Q.)			
			2012	2013	2014	2015*
Alta Verapaz	Santa Catalina la Tinta	7,250	0.00	0.00	0.00	4,882
	Senahú	8,183	274,012	227,205	192,086	568,039
	Tactic	14,553	138,926	149,054	163,549	150,558
	Tamahú	10,974	33,047	25,976	2,081	88,178
	Tucurú	15,877	NRD	3,703	79,1262	NRD
Baja Verapaz	Purulhá	12,925	225,588	208,187	239,261	146,175
	Salamá	25,088	503,831	542,592	651,845	709,197
	San Jerónimo	10,723	145,615	165,044	197,179	223,903
Chiquimula	Jocotán	17,833	10,235	18,864	19,344	24,602
Izabal	El Estor	13,999	854,263	979,007	963,509	785,066
	Magdalena Milpas Altas	4,494	59,903	94,944	100,418	133,715
Sacatepéquez	Pastores	6,099	180,628	156,131	204,702	261,876
	Santa Lucía Milpas Altas	4,655	802,876	1,010,044	1,624,157	1,510,866
	San Bartolomé Milpas Altas	4,045	131,071	166,015	152,242	192,715
	Cabañas	5,742	35,667	37,168	60,231	46,646
	Gualán	17,030	335,330	462,413	414,050	2,980,915
Zacapa	San Diego	4,060	656	240	410	1,147
	Teculután	8,631	807,443	921,265	1,033,500	1,144,488
	Usumatlán	6,641	243,634	194,849	177,414	173,552
TOTAL	19	198,802	4,242,725	5,362,701	6,114,995	9,014,520

Source: Estimates of property tax revenue based on data from SICOIN GL

*January to November

The costs used for the analysis are based on the average annual costs of the IUSI offices in the relevant municipalities during the period 2012-2015 (Q. 2,403,120). Using these costs and the revenues shown in table 10, above, a flow of incremental net revenues was constructed and its present value estimated.

The main assumption made with respect to the behavior of the revenue used during the ex-ante analysis was that, post-implementation, the collection of the IUSI would grow by 16% per year. During the ex-ante analysis there was no consideration of tax collection costs.

In order to produce an estimation of the fiscal impact, but with more conservative and perhaps realistic assumptions than that those used in the ex-ante analysis, the following changes were introduced to the methodology and the underlying assumptions used at the ex-ante analysis:

- The ex-post analysis takes into consideration the incremental collection costs incurred by municipalities to increment fiscal revenue.
- In terms of the projected flow of project costs for the **without-project scenario**, the post-implementation collection costs were assumed to grow at the average annual inflation rate for the 2010-2014 period of 4.2 percent. For the **with-project scenario**, costs were assumed to have increased by 25 percent in 2016, the first year of the post-implementation period, and to grow thereafter at the same inflation rate of 4.2 percent per year
- In terms of IUSI revenues, the analysis assumed that for the **without-project scenario** these would increase by the same 4.2 percent average annual inflation rate for the 2010-2014 period. The **with-project scenario** assumed that they would grow after project closure at an annual rate half of that assumed in the ex-ante analysis (i.e. 8 percent instead of 16 percent).

The present value of the incremental net fiscal revenue for the 19 municipalities considered in the analysis was estimated at USD 4.7 million using a discount rate of 12 percent. If the analysis would use the currently recommended discount rate of 6 percent the net tax revenue would be 74 percent higher at USD 7.9 million.

Annex 4. Bank Lending and Implementation Support/Supervision Processes

(a) Task Team members

Names	Title	Unit	Responsibility/ Specialty
Lending			
Alfaro, Keisgner De Jesus	Sr. Procurement Specialist	LCSPT	Procurement
Alliali, Solange	Sr. Legal Counsel	LEGLA	Legal
Bouquet, Maria Alejandra	Rural Development Specialist	LCSER	Rural Development
Chaman, Karla	Communications Officer	EXTCD	Communication
Corsi, Anna	Land Administration Specialist	LCSER	Land Administration
De Dinechin, Frederic	Sr. land Administration Specialist	LCSER	Team Leader
De la Fuente Hoyes, Patricia	Sr. Finance Officer	LOAG1	Financial Management
Galeana, Fernando	Junior Professional Associate	LCSES	Operations
Garcia-Corzo, Waleska	Country Economist	LCCGT	Economics
Gonzalez, Mary Lisbeth	Sr. Social Scientist	LCSES	Social Development
Kamine, Jorge	Legal Counsel	LEGLA	Legal
Ledec, George Campos	Lead Ecologist	LCSEN	Environmental Safeguards
Lehnhoff, Monica	Procurement Specialist	LCOPR	Procurement
Molares-Halberg, Marta Elena	Lead Counsel	LEGLA	Legal
Morales Noval, Ketty Hilda	Team Assistant	LCSES	Program Support
Morel, Xiomara A.	Sr. Finance Officer	LOAG1	Financial Management
Mroczka, Fabienne	Financial Management Specialist	LCOAA	Financial Management
Munoz, Jorge A.	Sr. Land Administration Specialist	LCSER	Former Team Leader
Ninio, Alberto	Lead Counsel	LEGEN	Legal
Pichon, Francisco J.	Sr. Natural Resources Management Specialist	LCSER	Natural Resources Management
Prada, Luis	Sr. Procurement Specialist	LCOPR	Procurement
Raposo, Gustavo	Finance Analyst	LOAG1	Financial Management
Roncal, Teresa	Operations Analyst	LCSER	Operations
Tong, Zhong	Agricultural Economist	LCSER	Agricultural Economics
Uquillas Rodas, Jorge E.	Sr. Sociologist	LCSEO	Social Safeguards
Vargas, Manuel	Sr. Financial Management Specialist	LCOAA	Financial Management

Supervision/ICR			
Alfaro, Keisgner De Jesus	Sr. Procurement Specialist	GGODR	Procurement
Bernardini, Tuuli Johanna	Environmental Specialist	GENDR	Environmental Safeguards
Blasco, Antonio Leonardo	Sr. Financial Management Specialist	GGODR	Financial Management
Bouquet, Maria Alejandra	Rural Development Specialist	GSURR	Rural Development
Castro F. Raposo, Gustavo	Finance Analyst	WFALS	Financial Management
Castro, Carlos Eduardo	ST Consultant	LCSAR - HIS	Cadastral Surveying
Cherres Wedemeyer, Maribel M.	Sr. Country Program Assistant	ECCU1	Program Support
Corsi, Anna	Sr. Land Administration Specialist	GSURR	Land Administration
De la Fuente Hoyes, Patricia	Sr. Financial Management Specialist	GGODR	Financial Management
De Souza, Eduardo Franca	Financial Management Specialist	GGODR	Financial Management
Faria, M. Manuela	ST Consultant	GSURR	Communication
Galeana, Fernando	ST Consultant	GSULN	Land Administration
Garcia-Corzo, Waleska	Country Economist	LCSPE - HIS	Economics
Gonzalez, Mary Lisbeth	Sr. Social Development Specialist	GSURR	Social Development
Kamine, Jorge	Counsel	LEGLA-HIS	Legal
Kotouzas, Stamatis	Land Administration Specialist	GSURR	Land Administration
Larrea, Alvaro	Sr. Procurement Specialist	GGODR	Procurement
Ledec, George Campos	Lead Ecologist	GENDR	Environmental Safeguards
Lehnhoff, Monica	Procurement Specialist	GGODR	Procurement
Meza, Carlos	ST Consultant	GSURR	Land Administration
Molares-Halberg, Marta Elena	ST Consultant	LEGES	Legal
Morales Noval, Ketty Hilda	ET Temporary	GSU10	Program Support
Morel, Xiomara A.	Lead Financial Management Specialist	GGODR	Financial Management
Moreno Horta, Ivonne Astrid	ST Consultant	GSURR	Land Administration
Mrocza, Fabienne	Sr. Financial Management Specialist	GGODR	Financial Management
Paiement, Jason Jacques	Social Development Specialist	CRKI2	Social Safeguards
Pantoja, Enrique	Operations Advisor, Task Team Leader	OPSPQ	Team Leader

Pichon, Francisco J.	Sr. Natural Resources Management Specialist	AFTA1 - HIS	Natural Resources Management
Rodrigues, Gabriela Vaz	Junior Professional Associate	LCSAR - HIS	Operations
Roncal, Teresa	ST Consultant	GENDR	Operations
Stanley, Victoria	Sr. Rural Development Specialist	GSULN	Rural development
Socias, Tomas	Procurement Specialist	GGODR	Procurement
Tong, Zhong	Agricultural Economist	LCSAR - HIS	Agricultural Economics
Uquillas Rodas, Jorge E.	ST Consultant	OPSPF	Social Safeguards
Us Alvarez, Hugo Amador	ET Consultant	LCSSO - HIS	Social Safeguards
Valencia, Juan Jose	ST Consultant	GSULN	Integrated Cadaster-Registry Systems
Velasco, Osmar	ST Consultant	GSULN	Municipal Strengthening
Zavala Castillo, Reina Altagracia	ST Consultant	GSULN	Institutional Capacity Development

(b) Staff Time and Cost

Stage of Project Cycle	Staff Time and Cost (Bank Budget Only)	
	No. of staff weeks	USD Thousands (including travel and consultant costs)
Lending		
FY05	19.86	85.59
FY06	36.5	133.95
FY07	25.3	116.61
Total:	81.66	336.15
Supervision/ICR		
FY07	7.69	43.05
FY08	27.34	133.76
FY09	23.28	137.72
FY10	28.41	161.39
FY11	19.75	101.27
FY12	18.32	124.99
FY13	16.57	129.14
FY14	21.98	141.82
FY15	23.27	150.72
FY16	3.1	51.13
Total:	189.71	1,174.99

Annex 5. Beneficiary Survey Results

The independent final evaluation included several studies that elicited the views of Project beneficiaries:

- i. Study on the perception of Project benefits among beneficiaries
- ii. Evaluation of the Project's social aspects
- iii. Evaluation of the Project's municipal impact

In addition, the Project commissioned a comprehensive study by the NGO CEIDEPAZ to provide recommendations for improving the regulations and procedures for recognition, which also provides important findings regarding beneficiaries' perceptions. This Annex summarizes the methodology applied and the most pertinent results of these studies.

i. Study on the Perceptions of Project Benefits among Beneficiaries

Survey results were completed by focus groups carried out with project beneficiaries to assess their perceptions of the Project and its impacts at various levels, as well as their satisfaction with the cadastral process and with RIC.

Focus groups methodology: Sixteen focus groups were conducted with a total of 114 beneficiaries, 32.5 percent of whom were women. Focus groups took place in six municipalities that benefited from cadastral activities (treatment group), and another three where the cadastral process did not take place (control group). Beneficiaries were divided in three main groups according to the stage of the cadastral process reached—public viewing, registration in RIC's Public Registry, and regularization—in both rural and urban areas. Beneficiaries who had already been notified about the legal status of their parcel were expected to have a higher perception of benefits than those who have just participated in public viewings; those who benefitted from land regularization were expected to perceive the most benefits.

Findings: Overall, there are no significant differences between the perceptions of the treatment and control groups, nor between the groups from urban and rural areas. Among the treatment groups, there were no significant differences either, with the exception of the groups whose parcels have been regularized and who expressed greater tenure security. In general, beneficiaries had a positive perception of the Project. They credit it with having reduced conflict on the one hand, and increased tenure security on the other. Beneficiaries also had a very positive perception of RIC.

Overall, beneficiaries agreed that the Project positively contributed to the following outcomes:

- **Reduced risks to tenure security:** Beneficiaries considered that the Project somewhat increased tenure security, although some risks remain, in particular concerning possible conflicts over limits of individual parcels.

- ***Strengthened property rights for indigenous peoples and women:*** Overall, beneficiaries agreed that the Project strengthened the land rights of indigenous peoples and women.
- ***Strengthened municipal capacity to use cadastral information:*** Overall, beneficiaries agree that municipal capacity to use cadastral information has been strengthened, although in some municipalities there is a perception that the municipality is not making use of the information.

ii. Evaluation of the Project's Social Aspects

This study aimed to assess the impact of including social aspects in cadastral activities. It included workshops, meetings and interviews with key informants, and visits to beneficiary communities.

Methodology: Five workshops with direct Project beneficiaries⁵² aimed at carrying out a participatory evaluation of the Project's social aspects. In addition, three visits to beneficiary communities and interviews with community leaders sought to assess beneficiaries' perceptions of the Project approach.

Findings: Beneficiaries were generally very appreciative of the Project and its impact, in particular the activities carried out by RIC; however, they were critical of activities carried out by firms. Specific findings include the following:

- ***Territorial diagnostics:*** Beneficiaries expressed mixed views regarding the territorial diagnostics, with some complaining about the diagnostics carried out by firms. Community leaders mentioned that the latter were not conducted in a participatory manner, did not contain information on land tenure, and were not socialized with the communities either.
- ***Social communication:*** Beneficiaries praised the fact that the technical staff responsible for the Project's social and communication aspects spoke Mayan languages and conducted informational meetings in the local language, thus enabling a greater acceptance and trust in the process on the part of the communities; this was particularly true in rural areas.
- ***Capacity building for community leaders:*** Community leaders acknowledged the usefulness of the capacity building activities in which they had participated, as it enabled them to understand the cadastral process. As a lesson learned, they suggested that such activities could become regular capacity building and/or information processes at the local level.
- ***Social Support Offices:*** All interviewees agree that implementation of these offices was very positive and contributed to solving problems related to the cadaster, resolving conflicts and supporting communal lands.

⁵² Workshop participants included community leaders and members of both genders, municipal representatives, technical staff from RIC, representatives from SAA and the Land Fund, and representatives from the surveying companies.

iii. Evaluation of the Project's Municipal Impacts

One of the important beneficiaries of the Project are the municipalities in the project area. The evaluation of the Project's municipal impacts sought to assess the satisfaction of beneficiary municipalities regarding the technical assistance and capacity building received.

Methodology: The study included: (i) interviews to staff in the 22 municipalities that made progress in the multiple use of cadastral information, and (ii) an online survey of municipal staff.

Findings: Municipal staff were generally very appreciative of the support they received from the Project, and demonstrated commitment to and ownership of the tools developed by the Project for municipal land management. Specific findings include the following:

- **Capacity building:** All beneficiaries praised the capacity building activities as the most valuable contribution they received from RIC. Most beneficiaries noted that the capacity building process was very effective in training municipal employees in the use of spatial software, as well as in showing what other municipalities were doing in this area.
- **SITMuni:** All respondents agreed that SITMuni is a very important tool for managing the municipal cadaster. They also made suggestions for improving the system, given that in most cases the information available to municipalities is limited to land parcels and cannot be modified.⁵³
- **Institutional strengthening:** Respondents revealed that the Project enabled them to position the cadaster office within the municipality, and improve the organizational structure of the municipal tax office; some municipalities took the opportunity to strategically reposition their cadaster offices within the municipal organizational chart.

iv. Systematization of the Application of the Specific Regulation on Communal Lands

The Project commissioned a comprehensive study by the NGO CEIDEPAZ to provide recommendations for improving the regulations and procedures for recognition of communal lands.⁵⁴ Among other aspects, this study sought to assess the perceptions of communities who benefited from the communal lands certification about the process.

⁵³ Suggested improvements include the ability to download geographical information in shape files to create thematic maps, as well as access to additional layers of information such as municipal boundaries, protected areas, communal lands, archeological and ceremonial sites, and territorial reserve areas. Some municipalities already have access to all these options, but in most the process is not yet completed.

⁵⁴ The final report of this study was delivered to RIC in August, 2015.

While this study is not formally part of the final evaluation, the results are relevant to assess beneficiaries' perspectives on the Project and its benefits.

Methodology: The study included focus groups with community leaders, traditional authorities, and members of the first three communities who received communal land certification.⁵⁵

Findings: Communities are generally very satisfied with the certification of communal land, and stress that it makes them feel secure and motivated to work collectively. Specific findings include the following:

- ***Request for certification of communal land:*** All three communities agreed that the key motivation to request the certification was to ensure that future generations have access to the land and natural resources.
- ***Benefits of the certification of communal land:*** The main benefit cited by communities was the possibility of “working together,” referring to the community dynamics where identity, belonging, cooperation and solidarity lead to community development. Some respondents also highlighted that they felt supported by governmental institutions. One disadvantage however, mentioned by a member of one of the three communities, was that the communal status of the land may lead to “free riders” enjoying the benefits of others’ work. Communities have not yet seen benefits in terms of agricultural development.
- ***Land tenure security:*** In general, communities feel secure with the communal land certification, and mention that they are now more motivated to work in the communal lands, rather than migrating to other areas. Other perceived benefits include the expected end to land grabbing from private companies.
- ***Community organization:*** Communities express mixed views on how the process contributed to their internal organization. While beneficiaries in the peasant community of *Matanzas* mention that the process enabled leaders and the community to work together harmoniously, in *San Isidro* community members mentioned disagreement among the various organizations within the community, which could weakness rather than strengthen it.

⁵⁵ Peasant communities of *San Isidro* and *Matanzas*, Municipality of San Jerónimo, Department of Baja Verapaz; and indigenous community *El Bongo*, Municipality of El Estor, Department of Izabal.

Annex 6. Stakeholder Workshop Report and Results

N/A

Annex 7. Summary of Borrower's ICR

The Land Administration Project – Phase II was designed within the framework of the APL approved by the GoG in 1998. It aimed to increase land tenure security in eight departments of Guatemala through the provision of efficient and accessible cadastral and land administration services. Expected outcomes included: increased land values and increased investments in properties subject to the cadastral process, strengthened land market in the Project area, strengthened municipal capacity for land administration, increased municipal revenues, and strengthened land rights of indigenous peoples and women in the Project area. The Project was organized in four components: (i) establishment of the cadaster and regularization of land tenure, (ii) cadastral maintenance and municipal land administration services, (iii) institutional strengthening of the registry and cadaster, and (iv) Project management and M&E. Co-implementing institutions included: RGP, SAA, OCRET, CONAP, IGN, the Land Fund, and IDAEH.

Context. The Project was designed in 2006 under stable macroeconomic conditions, which along with the implementation of DR-CAFTA increased the country's economic activity. However, although per capita income was US\$4,155, the country's ranking in the Human Development Index (17 out of 177 countries) was low for its income level. Guatemala had a population of 12.6 million, of which 56.2 percent lived below the poverty line, and 21 percent lived in extreme poverty. Development indicators were worse for indigenous peoples, who made up 48 percent of the population, as 75 percent lived in rural areas, 81.4 percent worked in the informal sector (compared to 58.9 percent of non-indigenous), and 41.7 percent were illiterate (compared to 17.6 percent of non-indigenous).

Land has always been one of the most important resources of the country but tenure was insecure, particularly in rural areas where an estimated 40 percent of parcels were not registered. Land issues figured prominently in the Peace Accords of 1996 as strengthened land tenure was considered a trigger for economic growth, in particular for private investment. Government efforts can be summarized in three phases: from 1997 to 2000, the country undertook eight pilot projects for cadastral establishment with support from Donors; from 2001 through 2005, cadastral activities were extended to 33 municipalities; in 2005, the RIC Law was approved, marking the creation of RIC and a new phase in land administration in the country. The GoG's priority was to institutionalize the establishment, maintenance and updating of the cadaster, and the Project was included in the Government strategy as well as in the Bank's CAS.

Achievement of PDO. The Project had important results in terms of providing cadastral and land administration services to strengthen tenure security. Results included: (i) 274,536 parcels with use or ownership rights recorded, of which 45,400 were registered in RIC's Public Registry; (ii) an assessment of RIC's technological platform (SIRCAT) considered it satisfactory (based on a 72.8 percent rating) in terms of integrity of functions, strategic planning of the system, organization, risk management, and vulnerability of the information; (iii) of the 1,771 conflicts identified during the cadastral process, 956 (or 53.98 percent) were resolved, surpassing the target of 50 percent; (iv) only 2.94 percent of owners/occupants of surveyed parcels did not participate in Project activities, well below

the ceiling target of 10 percent; and (v) an estimated 965,076 beneficiaries had their use or ownership rights recorded. Project design was considered adequate to face the existing challenges as the PDO was clearly articulated and responded to the low level of tenure security. During implementation, progress toward achieving the PDO was considered *modestly satisfactory*. However, given that several PDO indicators met or surpassed targets, it is proposed to rate it as *satisfactory*.

Important intermediate outcomes included: (i) of the 274,536 parcels with use or ownership rights recorded, 96,088 had a woman as the sole or joint owner/occupant, surpassing the target of 85,000; (ii) of the 25 requests for certification of communal lands, 4 were issued before Project closing, one of which is in indigenous peoples communal lands; (iii) 299 archeological sites and 201 ceremonial sites were georeferenced and incorporated in the Registry of the Department of Cultural Resources, greatly surpassing the respective targets of 195 archeological and 25 ceremonial sites; (iv) of a total of 5,000 parcels identified as eligible for regularization or special titling, 1,679 were title and registered in RGP, all of which benefited indigenous peoples; (v) of the nine municipal cluster offices established by RIC, at least seven are expected to continue to offer cadastral services; (vi) 766 professional surveyors and 1,088 technical surveyors were certified and registered in RIC's Registry of Surveyors, greatly surpassing the respective targets of 100 professional and 250 technical surveyors; (vii) 22 municipalities make use of cadastral information for multiple purposes or send information for cadastral update and maintenance, surpassing the target of 20 municipalities. Importantly, the Regulations on the RIC Law and on Communal Lands were issued timely.

Regarding the expected outcomes, overall, beneficiaries perceived the cadastral process has having contributed to strengthen the land rights of women ad indigenous peoples. However, the cadastral process is not perceived to influence land values, increases in investments made in surveyed parcels, access to credit, or access to subsidies; beneficiaries also considered that the cadastral process had not contributed to improved environmental management. Finally, beneficiaries believed that municipalities strengthened their capacity to use cadastral information for local development.

The project was evaluated according to its relevance, effectiveness, and efficiency. In terms of relevance, the final evaluation found the Project to be highly relevant to the situation of the country and related Government policies, namely the Peace Accords, the National Policy for Integrated Rural Development, the National Development Plan *K'atun: Our Guatemala 2032* and the RIC Law. In terms of effectiveness, the Project was *moderately satisfactory* in achieving its objectives. Regarding efficiency, the cost-effectiveness analysis concluded that the project was efficient in its use of resources when compared with a cadastral process carried out on demand.

Sustainability. It is unclear whether Project outcomes will be sustained. Risks to the sustainability of outcomes include: (i) high risk that cadastral information generated by the Project is neither completed nor managed, (ii) high risk that the cadastral process will not be sustainable, i.e., that the sale of cadastral products and services will not cover process costs, (iii) substantial risk that institutional processes will deteriorate, and (iv) substantial

risk that the info-technology platform will not be maintained. RIC developed a transition plan with several measures to address these risks.

Bank Performance. Bank performance was assessed on the basis of the quality of the technical assistance during Project preparation, and the supervision of Project implementation. The technical assistance during preparation was considered *satisfactory*, particularly given the relevance and strategic focus of the advice provided, as well as the focus on poverty, gender, and social development aspects. Furthermore, assistance on fiduciary aspects was consistent throughout preparation. Supervision of project implementation was considered *satisfactory*, particularly given the focus on development impacts, and the proactive identification of opportunities to address challenges. Overall Bank performance was *satisfactory*.

Borrower Performance. Assessment of borrower performance considered both the Ministry of Finance and RIC. Performance of the Ministry of Finance was considered *moderately satisfactory*, given some weaknesses related to timely resolution of problems, fiduciary aspects, and following up on M&E arrangements. The performance of RIC was considered *moderately satisfactory*, given some weaknesses related to timely resolution of problems, and adequacy of the transition plan. Overall borrower performance is considered *moderately satisfactory*.

Lessons Learned. The main lessons learned from the Project can be grouped as follows:

- *Implementation of social aspects:* (i) the importance of preparing territorial diagnostics, and of these being carried out directly by the government agency, rather than by firms; (ii) the key role of Social Support Offices in implementing the IPDP, operationalizing the Specific Regulation on Communal Lands, and resolving land related conflicts; (iii) the relevance of social monitoring forms filled during home visits, with disaggregated data by gender and ethnic group, which enabled the creation of a baseline for monitoring social impacts; (iv) the relevance of the Client Attention System in facilitating access to cadastral services; (v) the importance of planning inter-institutional coordination activities; (vi) the importance of coordinating with municipalities the operationalization of the Specific Regulation on Communal Lands; and (vii) the need to improve training programs at ESCAT, which should be based on modules and offered continuously.
- *Environmental aspects:* (i) the need to clearly identify in Project documents the roles and responsibilities of co-implementing agencies; and (ii) the need to disseminate results.
- *M&E System:* (i) the need for planning activities to be carried out by multi-disciplinarian teams and in a participatory manner, to ensure that indicators and targets are suitable; (ii) the relevance of co-implementing agencies participating in Project preparation and planning; (iii) the need to improve contract management; (iv) the need to modernize the technological platform for M&E, as well as to strengthen results monitoring with a focus on preventing problems; (v) the need to improve the flow of information at all levels of management to strengthen decision making; (vi) the need to constantly record data, and update planning instruments and targets based on experience and changing conditions; and (vii) the need to

- improve the integration of physical and financial planning, as well as to strengthen the integration of the M&E system with co-implementing agencies.
- *Cadastral process and information:* (i) the relevance of using cadastral information for multiple purposes, including conflict resolution; (ii) the need to carry out cadastral surveying activities in a culturally suitable manner; (iii) the suitability of contracting activities related to the cadastral process based on targets rather than products delivered; and (iv) the need to implement a policy for cadastral products and services, supported by a marketing strategy.
 - *Info-technology:* the need to develop and formally issue a security policy for managing the information network, including a contingency plan.
 - *Municipal aspects:* (i) the relevance of engaging with municipalities to define models for the cadastral process that are suitable to local governments; (ii) the relevance of establishing cooperation agreements with the National Association of Municipalities to facilitate the establishment of agreements with individual municipalities; and (iii) the need to strengthen the role of municipalities in the establishment of the cadaster, as well as to ensure the continuity of capacity building for municipal staff.

Annex 8. Comments of Cofinanciers and Other Partners/Stakeholders
N/A

Annex 9. List of Supporting Documents

Final Evaluation Documents:

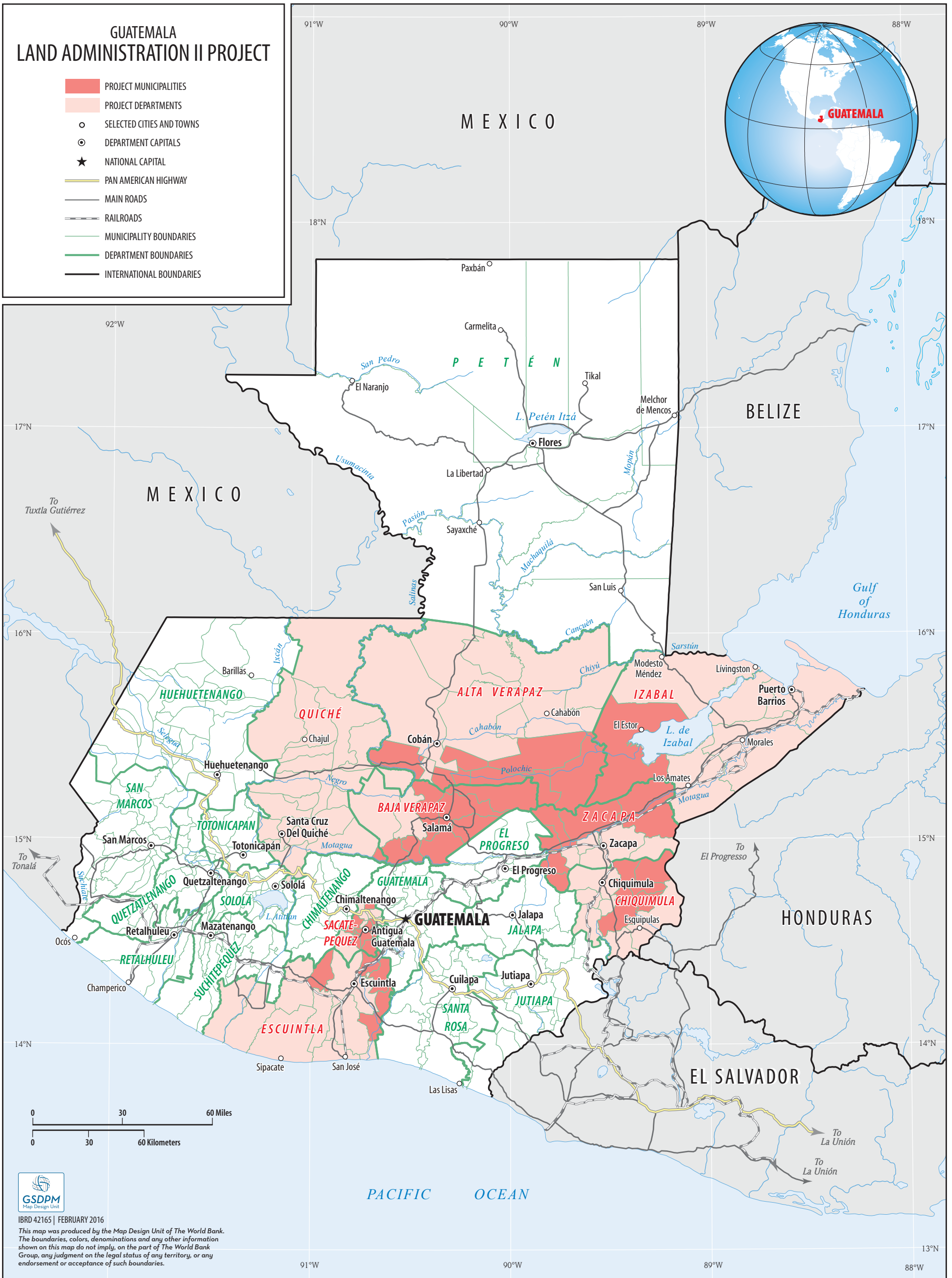
- Report on Results of the Systematization of Experiences within RIC in the Implementation of the Specific Regulation on Communal Lands and Evaluation on the Level of Engagement and Coordination with Governmental and Non-Governmental Organization and Advocacy to Strengthen Land Governance and Customary Land Tenure Systems, Center for Research and Projects for Development and Peace - CEIDEPAZ (August 2015)
- Analysis and Proposals to Harmonize the Institutional Norms with the Institutional Procedures, Instruments, and Methodologies in Order to Make Viable the Process of Certification of Communal Lands and their Constitution as Juridical Entities, Center for Research and Projects for Development and Peace - CEIDEPAZ (August 2015)
- Evaluation of the Implementation of the Social Aspects of the Project, Registry of Cadastral Information (October 2015)
- Evaluation of the Planning, Monitoring, and Evaluation System (SISERIC), Registry of Cadastral Information (October 2015)
- Ex-post Evaluation of the Attention to Agrarian Conflicts, Registry of Cadastral Information and Secretariat of Agrarian Affairs (October 2015)
- Evaluation of the Cadastral Information of Phase I, Registry of Cadastral Information (October 2015)
- Evaluation of the Environmental Aspects, Registry of Cadastral Information (October 2015)
- Evaluation of the Municipal Impact of the Project, Registry of Cadastral Information (November 2015)
- System Audit to the Registry of Cadastral Information, Final Report to the Information Technology Directive (December 2015)
- Systematization of Experiences 2008-2015, Registry of Cadastral Information (December 2015)
- Final Project Evaluation, Registry of Cadastral Information (January 2016)

World Bank Documents:

- Project Appraisal Document (November 15, 2006)
- Performance Assessment of Three Projects – El Salvador Land Administration Project, Guatemala Land Administration Project, and Guatemala Land Fund Project, Independent Evaluation Group (June 30, 2010)
- Country Partnership Strategy for the Period FY2013-2016

GUATEMALA LAND ADMINISTRATION II PROJECT

- PROJECT MUNICIPALITIES
- PROJECT DEPARTMENTS
- SELECTED CITIES AND TOWNS
- DEPARTMENT CAPITALS
- NATIONAL CAPITAL
- PAN AMERICAN HIGHWAY
- MAIN ROADS
- RAILROADS
- MUNICIPALITY BOUNDARIES
- DEPARTMENT BOUNDARIES
- INTERNATIONAL BOUNDARIES



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