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ANALYSIS OF DATA FROM RWANDA'S LAND ADMINISTRATION AND INFORMATION SYSTEM

January 2014

This report is made possible by the support of the American People through the United States Agency for International Development (USAID).

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Contract No. AID-696-C-12-0002
Chemonics International, Inc.

Recommended Citation

NGOGA, Thierry: Analysis of Data from Rwanda's *Land Administration and Information System*- Kigali, Rwanda: USAID|LAND Project

This publication was produced for review by the United States Agency for International Development. It was prepared by NGOGA Thierry on behalf of LAND Project. The authors' views expressed in this publication do not necessarily reflect the views of the United States Agency for International Development or the United States Government.

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ACRONYMS

LAIS	Land Administration and Information System
LTRP	Land Tenure Reform Programme (LTRP)
RNRA	Rwanda Natural Resource Authority
USAID	United States Agency for International Development

1.0 LAND ADMINISTRATION DATA ANALYSIS

1.1 Context

Over the last ten years, Rwanda has been embarking on an ambitious land tenure reform programme (LTRP). The LTRP started with the establishment of the National Land Policy in 2004 followed by the Organic Land Law in 2005 and subsequent implementing laws and orders. One of the key principles of both the policy and law was the requirement to register all land across Rwanda. To facilitate compliance, a systematic land registration program was started by the Government of Rwanda in 2006 with a pilot phase, and then a roll out program kicked off in 2009. These efforts enabled more than 10.3 million parcels to be registered across the country.

Following systematic land registration, the Rwanda Natural Resources Authority (RNRA) established a land administration and information system (LAIS) that would not only serve as a comprehensive electronic land register, but also allow the government to measure progress made on various aspects and indicators of land reform and thereby help establish a system for monitoring achievement of land reform objectives based on existing administrative data.

Reporting on updated indicators could also be used as a tool to assess land governance and feed into a range of national development sectors and regional and global initiatives. Land administration data are often requested by various stakeholders, including government ministries, research institutes, donor agencies and civil society organizations. Most of the required data range from ownership details, land prices, mortgage details, land disputes, etc.

It is against this background that RNRA, with the support of the USAID-funded LAND Project, commissioned a short study to look at what information the LAIS can currently provide based on existing data, what data gaps and other issues may warrant attention, and what measures can be proposed to enable the LAIS to provide the types of data required by both the RNRA and other stakeholders. It is expected that a comprehensive land information system equipped with robust analytical tools can provide a basis for sound policy formulation and contribute to increasing awareness of the importance of land governance and the role of land in economic development.

1.2 Scope of analysis

Using data gathered from the LAIS, the current report provides information on the following:

- The distribution of land-related disputes by district;
- Types of land-related disputes, including, but not limited to inter-family, intra-family (e.g. inheritance, umunani and consent-to-transfer), between private parties, between private parties and the State, boundary, transfer-related, and expropriation disputes;
- Profile of disputants (men, women, orphans, widows, married couples, age range, etc.);
- Number of disputes resolved and means of resolution (e.g., family council, abunzi, courts, etc.);
- Number of disputes pending resolution;

- Geographic location and size of land parcels under dispute;
- Tenure status of disputed land (state land, emphyteutic lease, sublease, freehold); and
- Land use(s) of disputed land.

The significance of this analysis is primarily to:

- Establish baseline information on land-related disputes that can facilitate monitoring trends in land disputes, such as whether they are increasing or decreasing, where disputes are concentrated, and their nature. Such information would enable government, civil society and other actors to frame and target appropriate interventions in order to manage disputes and prevent them from escalating. It is assumed that RNRA would share these data with agencies/organisations that are involved in resolving such disputes.
- Contribute to ongoing efforts to establish a land administration monitoring and evaluation system that will continuously measure progress and respond to current data needs on various land indicators and thereby inform policy.

In addition to the analysis described above, this report provides a summary analysis of other key indicators including:

- Number of parcels where lease fees are required to be paid, the value of lease fees per district, and lease fees by land use;
- The distribution and average of land prices per district/sector/cell and per square meter; the average land price per different land use types; and the most commercial land use type by district/sector/cell;
- Number of women registered as sole owners per district/sector/cell; the number of women registered as co-owners per district/sector/cell; the number of male only-owned, female only-owned and male-female co-owned parcels sold, their size, land use, and their values per district/sector/cell; and the number of parcels bought by men alone, women alone, and male-female couples, their size, land use, and their values per district/sector/cell; and
- Number of parcels mortgaged by district/sector/cell; the number of mortgages registered by type of owner (male, female) and by size; the value of mortgages per district/sector/cell; the number of parcels owned by women only that are mortgaged and their value per administrative entity; the number of parcels owned by men only that are mortgaged and their value per administrative entity; the number of parcels owned jointly by men and women that are mortgaged and their value per administrative entity; the number of mortgages registered per year/administrative entity; and the total area of land mortgaged per land use.

2.0 METHODOLOGY

All data used in analysis of the above-described indicators were derived from the LAIS. Data on some indicators including, share of land registered in the sole name of women, men, co-ownership, land transactions, mortgage details were gathered from LAIS version 1. With support from RNRA's database and application administrators, specific queries were run to generate the information and data needed.

With respect to land disputes, queries were run through the newly-created land disputes interface which now accommodates details of all land disputes registered during the systematic land tenure regularization exercise. There has not been any field work or surveys conducted to supplement or confirm these figures. This somewhat limits the ability to explain findings and derive recommendations for addressing land disputes, calling instead for research and analysis on the present state of land-related disputes.

The land dispute interface is currently a stand-alone database that will be integrated into LAIS 2 once this system is ready to be used by RNRA. This means that some of the disputes recorded in the current disputes interface may have since been recorded as solved in LAIS or new disputes may have been recorded in LAIS since creation of the database. Until the database is integrated into LAIS2, it is difficult to ascertain how many disputes recorded in the disputes interface are still pending resolution and how many new disputes have been added following the completion of LTR.

3.0 KEY FINDINGS

3.1 Land disputes

The following findings are based on data on land disputes recorded during the LTR up to 2012;¹ they cannot claim to provide an accurate picture of the current status of land disputes in Rwanda.

- The number of disputes registered at the end of demarcation and adjudication in June 2012 was around 10,700. This is far less than what is currently recorded in the disputes interface, which is 20,154, a difference of almost 50%. Such a large discrepancy in reported figures calls for verification of the reported figure of 10.3 million parcels registered across the country by June 2012 since parcels where disputes were recorded would not have been registered.
- Land disputes are scattered across the country in both rural and urban areas. Musanze District, Northern Province has by far the highest number of disputes at 3,252, followed by Rwamagana, Eastern Province (1,294), Nyamagabe, Southern Province (1,242) and Nyabihu, Western Province (1,099) (see Table 1).
- Land disputes are found on all types of land use including residential, agriculture, commercial, forest land etc. However, because many parcels in LAIS do not have a

¹ All data on disputes were generated from the disputes interface by Honore NIYONSENGA (Database administrator) in August and September. Honore was responsible for the dispute interface before his departure for further studies in late September. A few clarification needed on the data were provided by Theophile Ndegeya using the same disputes interface.

land use associated with them, the distribution of disputes over different categories was not assessed.

- Land disputes are prevalent in both leasehold and freehold tenure systems (14, 501 and 383 disputes, respectively²), while 59,401,197 square meters of land in Rwanda is recorded as being under dispute (2.2% of total surface area of Rwanda) (see Table 2).
- Although data on the types of disputes was generated, we have elected not to report them out of concern that they may be misleading. When disputes were entered into the database, data enterers were instructed to assign them only one dispute category from a list of 15 categories.

In fact, it is highly likely that most disputes could feasibly be classified under more than one category (e.g. a dispute over succession could also be classified as an ownership dispute and an intra-family disputes; a boundary dispute could be an intra- or interfamily dispute, etc.).

Hence, the figures may underrepresent the prevalence of different types of disputes. It is recommended that a reclassification be carried out that will allow disputes to be classified according to all relevant categories and therefore allow for multiple designations.

- The number of females involved in land disputes (4,789) is higher than the number of males (4,022).
- There is no information in LAIS regarding the number of disputes resolved and means of resolution (e.g., family council, Abunzi, courts, etc.), nor the number of disputes pending resolution. Hence, it was not possible to assess these measures.

² These figures do not add up to the presented total land disputes (20,154) because some parcels in LAIS do not have tenure type associated to them.

Figure 1: Spatial distribution of all land disputes

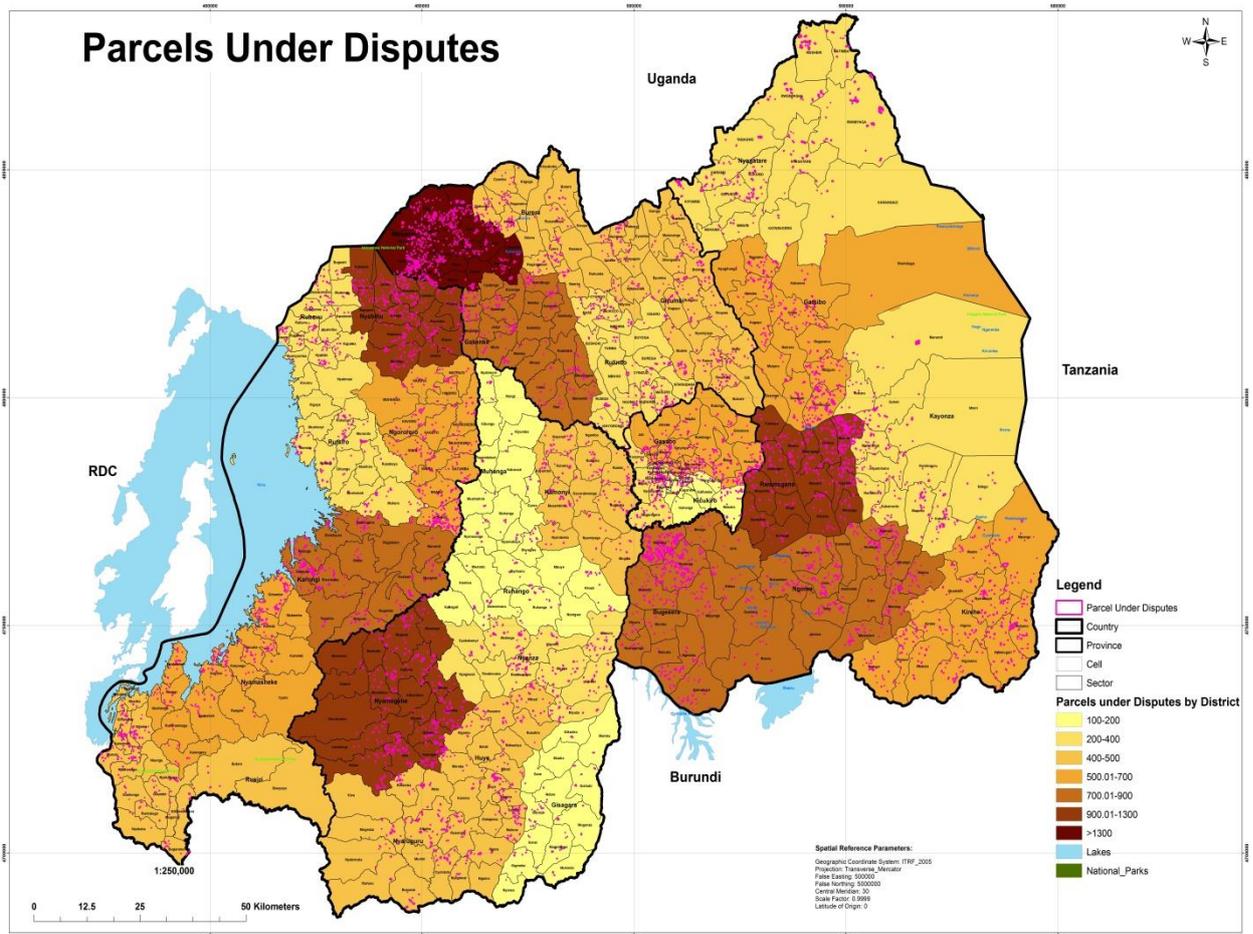


Table 1: Distribution of land disputes by district

PROVINCE	DISTRICT	Nber Parcels	Percentage
Kigali City	GASABO	676.0	3
	NYARUGENGE	337.0	2
	KICUKIRO	188.0	1
S/Total		1,201.0	6
Southern	GISAGARA	162.0	1
	NYAMAGABE	1,242.0	6
	NYARUGURU	478.0	2
	HUYE	554.0	3
	RUHANGO	125.0	1
	KAMONYI	553.0	3
	NYANZA	375.0	2
MUHANGA	146.0	1	
S/Total		3,635.0	18
Western	NYAMASHEKE	640.0	3
	RUSIZI	517.0	3
	RUTSIRO	326.0	2
	NYABIHU	1,099.0	5
	KARONGI	863.0	4
	NGORORERO	761.0	4
	RUBAVU	363.0	2
S/Total		4,569.0	23
Northern	MUSANZE	3,252.0	16
	RULINDO	414.0	2
	GAKENKE	797.0	4
	GICUMBI	512.0	3
	BURERA	487.0	2
S/Total		5,462.0	27
Eastern	KAYONZA	353.0	2
	RWAMAGANA	1,294.0	6
	BUGESERA	949.0	5
	NGOMA	843.0	4
	GATSIBO	748.0	4
	NYAGATARE	407.0	2
	KIREHE	693.0	3
S/Total		5,287.0	26
GRAND TOTAL		20,154.0	100

Table 2: Land disputes by tenure type

Province	District	Tenure type and area			
		Emph. Lease	Area/sqm	Freehold	Area/sqm
Eastern					
	Bugesera	706	6243965.216	2	33453.70557
	Gatsibo	537	3262870.013	59	172857.5807
	Kayonza	249	2906736.978	3	148125.2349
	Kirehe	482	3612899.308	4	750535.2417
	Ngoma	659	2459754.283	18	15620.44951
	Nyagatare	317	5567926.541	11	103443.3113
	Rwamagana	1064	4901294.958	93	95574.3739
S/total		4014	28955447.3	190	1319609.898
Kigali City	Gasabo	435	1801392.108	3	5517.63656
	Kicukiro	132	548145.865	0	0
	Nyarugenge	279	578057.1841	1	3842.696
S/total		846	2927595.157	4	9360.33256
Northern	Burera	357	449390.9758	4	61312.02844
	Gakenke	448	762785.2323	70	64666.63116
	Gicumbi	430	1037324.326	3	1520.290249
	Musanze	2546	5007789.416	17	15738.95109
	Rulindo	328	565518.5574	19	41596.01309
S/total		4109	7822808.508	113	184833.914
Southern	Gisagara	114	390905.0927	1	2604.9316
	Huye	465	1313312.738	2	5802.795
	Kamonyi	329	873316.9637	3	10465.6175
	Muhanga	97	298563.484	0	0

	Nyamagabe	853	4033268.419	26	38069.08219
	Nyanza	315	1488440.352	1	10233.343
	Nyaruguru	324	1397984.694	12	4982.68894
	Ruhango	104	490541.7118	1	126.5811
S/total		2601	10286333.46	46	72285.03933
Western	Karongi	494	2082300.985	50	52357.52448
	Ngororero	481	1445072.31	65	79680.15283
	Nyabihu	696	984471.2638	12	6543.322735
	Nyamasheke	435	1013359.33	12	11239.11777
	Rubavu	262	492973.3432	1	213.58533
	Rusizi	352	827668.3898	44	82813.70507
	Rutsiro	211	687128.1244	36	57102.2517
S/total		2931	7532973.746	220	289949.6599
GRAND TOTAL		14,501	57,525,158.16	383	1,876,038.843

3.2 Land transactions

*Mortgages*³

- Districts and sectors with urban characteristics have more mortgages registered than rural districts. The three Kigali districts account for 11,882 (46%) parcels mortgaged out of 25,657 parcels mortgaged across the country, while mortgages of land in Gasabo district alone account for 35.6% of the total value of mortgages nationwide (see Table 4). In terms of size, 14, 307, 569 square meters of land in Kigali city is mortgaged (out of 84,336,442 square meters of land mortgaged across the country) or 17 % of total land mortgaged in Rwanda
- 77% of all parcels with registered mortgages are jointly-owned by couples, 12% (3,049) are mortgaged parcels solely-owned by men, while 8% of mortgaged

³ Mortgage data were generated by Theophile Ndageya in October and a few data in November. Theophile is a database and application administrator at RNRA. It is important to note the number of parcels mortgaged includes farm land, residential or commercial plots and houses. Distribution of mortgage registration In Rwanda by type of owner and by property type and their corresponding surface area can be found in table 12 in annex

parcels (2,266) are solely-owned by women (see Tables 5 and 6). This indicates that women are active in mortgaging land, though not quite as much as men. In terms of mortgage value, however, the total average value across all districts for mortgages for parcels solely owned by men is more than twice the total average value of parcels solely owned by women (see Table 5). Mortgage values are by far the highest for parcels jointly owned by couples (see Tables 5 and 6). Exploration of the impacts of mortgaging land on women's and men's livelihoods is critical to know whether policy should seek to further encourage this practice.

- Mortgaging land has sharply increased from 113 mortgages registered in 2009 to 10,223 registered mortgages in 2013 (see Table 7), likely reflecting the issuance of land certificated under the LTR, which may serve as collateral to secure loans. Still, considering the 10.3 million parcels to have been registered under the LTR, this reflects less than 0.01% of parcels are under a registered mortgage. 84,336,442 square meters of land is mortgaged in Rwanda. Nyagatare district alone has 15,724,922 square meter of land mortgaged most of which is farm land while Nyaruguru district accounts for only 280,734 square meters of land mortgaged.

Details about the distribution of mortgage by district, nature of property and type of ownership are given in table 12 in annex;

Table 4: Number of mortgages registered by district and loan value

Province	District	Number of parcels mortgaged	Total Loan Value (in Rwf)	Percentage of Total Loan Values
Eastern	Bugesera	694	15,725,606,832	2.6%
	Gatsibo	535	8,873,704,946	1.5%
	Kayonza	714	9,471,645,248	1.6%
	Kirehe	348	9,852,985,626	1.6%
	Ngoma	353	14,328,088,185	2.4%
	Nyagatare	959	13,323,777,171	2.2%
	Rwamagana	819	14,092,868,273	2.4%
	TOTAL	4,422	85,668,676,281	14.3%
Kigali City	Gasabo	5,350	213,293,755,146	35.6%
	Kicukiro	4,677	115,682,435,999	19.3%
	Nyarugenge	1,855	66,376,694,353	11.1%
	TOTAL	11,882	395,352,885,498	66.0%

Northern	Burera	472	2,136,242,325	0.4%
	Gakenke	386	2,950,717,802	0.5%
	Gicumbi	534	7,974,353,028	1.3%
	Musanze	1,493	19,165,223,862	3.2%
	Rulindo	266	3,215,362,944	0.5%
	TOTAL	3,151	35,441,899,961	5.9%
Southern	Gisagara	160	1,668,621,432	0.3%
	Huye	657	9,483,666,654	1.6%
	Kamonyi	722	8,011,800,669	1.3%
	Muhanga	701	7,190,455,099	1.2%
	Nyamagabe	247	2,939,178,533	0.5%
	Nyanza	522	5,302,933,806	0.9%
	Nyaruguru	101	1,138,709,499	0.2%
	Ruhango	403	2,473,925,164	0.4%
	TOTAL	3,513	38,209,290,856	6.4%
Western	Karongi	188	905,146,500	0.2%
	Ngororero	171	1,178,657,031	0.2%
	Nyabihu	295	1,730,677,536	0.3%
	Nyamasheke	286	3,066,799,914	0.5%
	Rubavu	1,146	18,459,692,678	3.1%
	Rusizi	513	14,268,395,175	2.4%
	Rutsiro	90	4,549,295,814	0.8%
	TOTAL	2,689	44,158,664,648	7.4%
GRAND TOTAL		25,657.00	598,831,417,244	100%

Table 5: Number of parcels and area under registered mortgages by type of owner

Type of owners	Number of mortgages	Area in m²	% of total number of mortgages
Female sole owners	2,266	6,501,643.84	8.9%
Male sole owners	3,049	9,606,634.51	11.9%
Joint ownership (female & male)	19,771	116,447,356.55	77.3%
Non-natural person	485	9,815,540.23	1.9%
Total	25,571	142,371,175.13	100.00

Table 6: Number of mortgages registered and amount by gender

Province	District	Mortgaged parcels owned by women solely	Loan amount	Mortgaged parcels owned by men solely	Loan amount	mortgaged parcels jointly owned by male and female	Loan amount
Eastern	Bugesera	45	1,328,739,408	120	1,943,764,443	512	10,908,842,396
	Gatsibo	40	215,132,540	82	779,343,611	407	9,096,863,627
	Kayonza	55	779,440,314	128	1,077,836,784	523	9,816,559,777
	Kirehe	18	586,162,138	31	361,032,849	294	14,543,335,787
	Ngoma	21	162,360,000	37	2,546,719,072	287	9,039,111,631
	Nyagatare	58	425,576,084	133	2,504,439,179	763	15,607,403,795
	Rwamagana	72	951,291,130	125	3,577,946,449	598	9,869,505,908
S/Total		309	4,448,701,614	656	12,791,082,387	3,384	78,881,622,921
Kigali C.	Gasabo	528	13,861,102,134	593	17,055,964,104	4,076	180,054,018,937
	Kicukiro	454	8,833,069,803	515	29,284,262,782	3,630	114,475,959,889
	Nyarugenge	260	2,518,775,407	219	8,415,526,408	1,333	47,954,902,495
S/total		1242	25,212,947,344	1,327	54,755,753,294	9,039	342,484,881,321
Northern	Burere	16	141,500,000	40	239,900,000	413	2,685,508,245
	Gakenke	27	202,170,000	32	139,403,450	316	2,470,498,302
	Gicumbi	37	265,579,200	50	297,530,915	434	9,952,801,913
	Musanze	114	1,679,574,233	169	2,162,996,091	1,191	19,160,609,130
	Rulindo	12	100,000,000	24	86,565,000	224	3,390,306,937
S/total		206	2,388,823,433	315	2,926,395,456	2,578	37,659,724,527
Southern	Gisagara	13	118,200,000	19	365,760,000	124	1,564,722,864
	Huye	53	639,056,521	90	3,752,111,527	499	5,733,231,564
	Kamonyi	70	1,087,108,628	123	871,596,354	525	14,274,564,101
	Muhanga	57	544,561,608	89	536,289,579	545	6,355,856,687
	Nyamagabe	13	333,707,420	30	456,530,345	192	2,561,201,424
	Nyanza	63	1,453,361,892	92	1,074,916,132	360	4,905,196,451

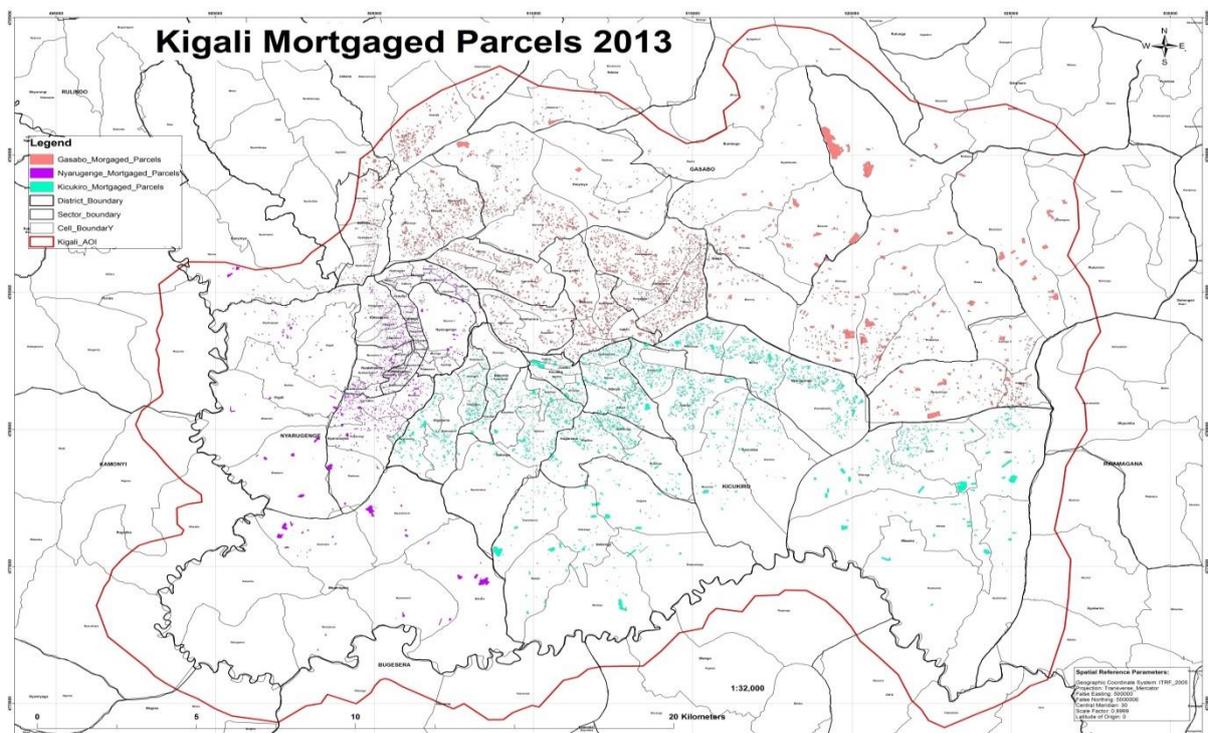
	Nyaruguru	5	18,300,000	14	71,000,000	74	477,926,956
	Ruhango	28	128,620,090	52	317,207,750	312	2,812,977,374
S/total		302	4,322,916,159	509	7,445,411,687	2,631	38,685,677,421
Western	Karongi	13	88,410,000	23	225,565,340	148	1,750,892,590
	Ngororero	8	30,550,000	19	160,664,414	140	1,364,842,617
	Nyabihu	17	190,944,000	22	85,650,000	254	2,335,812,593
	Nyamasheke	15	652,097,958	18	67,176,135	240	1,643,994,725
	Rubavu	113	1,439,284,336	121	1,146,560,945	886	19,852,442,229
	Rusizi	37	540,616,512	33	377,218,932	400	11,770,555,961
	Rutsiro	4	31,000,000	6	656,211,007	71	564,673,800
S/Total		207	2,972,902,806	242	2,719,046,773	2,139	39,283,214,515
GRAND TOTAL		2,266.00	39,346,291,356	3,049	80,637,689,597	19,771	536,995,120,705

Table 7: Mortgages registered since 2009

Province	District	Year					
		2009	2010	2011	2012	2013	Up to August 2014
Eastern	Gatsibo	1	3	21	117	250	143
	Kayonza	2	9	20	185	337	161
	Ngoma	2	12	32	108	106	93
	Nyagatare	2	8	29	215	460	242
	Rwamagana	3	18	48	234	332	184
	Kirehe	0	3	34	132	120	58
	Bugesera	0	6	49	200	281	155
S/total		10	59	233	1191	1886	1036
Kigali City	Gasabo	31	145	626	1692	1941	914
	Kicukiro	49	171	581	1454	1669	745
	Nyarugenge	9	48	196	623	666	313
S/total		89	364	1403	3,769	4,276	1,972
Westen	Karongi	1	2	12	39	76	58
	Ngororero	0	0	8	36	97	30
	Nyabihu	0	0	4	46	165	80
	Rubavu	5	26	113	320	474	207
	Rutsiro	0	2	0	5	32	51
	Nyamasheke	0	0	25	44	112	105
	Rusizi	0	3	37	129	209	135
S/total		6	33	199	619	1,165	666
Northern	Rulindo	0	4	27	65	101	69
	Gicumbi	1	24	77	163	153	115
	Burera	0	1	26	92	218	134

	Gakenke	0	0	49	76	147	113
	Musanze	4	20	101	400	684	283
S/total		5	49	280	796	1,303	714
Southern	Kamonyi	0	5	33	141	377	166
	Muhanga	1	10	45	229	282	134
	Ruhango	0	4	29	75	205	90
	Nyanza	0	6	52	138	236	89
	Huye	2	10	64	137	296	147
	Gisagara	0	5	21	37	57	40
	Nyaruguru	0	5	9	9	43	35
	Nyamagabe	0	3	10	68	97	69
S/total		3	48	263	834	1,593	770
GRAND TOTAL		113	553	2,378	7,209	10,223	5,158

Figure 2: Spatial distribution of parcels mortgaged in Kigali City



Selling and buying land⁴

Figures presented below are based on details of the purchaser rather than the seller of parcels since LAIS does not hold information pertaining to the seller.

- Purchased parcels are unevenly distributed across the country with urban areas having the majority of purchased parcels; and
- Both men and women are involved in purchasing land. LAIS shows that men individually bought 4,731 parcels across the country whilst women individually bought 2,850 parcels, and women and men jointly bought 9,175 parcels (see table 8).

NB: Figures on transaction prices could not be obtained since the sale price is recorded on the sales contract. This means that to get the sale price, every sale contract scanned and stored in LAIS would have been checked manually to find out the price of every parcel sold as it cannot be automated.

Table 8: Land purchase (men vs women)

Province	District	Parcels bought by women only	Parcels bought by men only	Parcels bought by men and women jointly
Kigali City	Kicukiro	718	1,047	1,814
	Nyarugenge	293	396	466
	Gasabo	604	905	1,643
S/total		1,615	2,348	3,923
Northern	Musanze	182	356	890
	Gicumbi	26	61	126
	Burera	30	47	184
	Rulindo	19	25	54
	Gakenke	6	10	38
S/total		263	499	1,292
Southern	Nyanza	35	66	106
	Nyamagabe	3	15	54
	Kamonyi	98	214	425
	Gisagara	8	15	31
	Huye	35	81	191
	Ruhango	27	44	115
	Muhanga	24	44	169
	Nyaruguru	4	17	46
S/total		234	496	1,137
Western	Karongi	19	36	94
	Rubavu	155	180	413
	Rutsiro	7	26	111

⁴ Data on selling and buying land were generated by Theophile in October

	Ngororero	11	9	42
	Nyabihu	20	27	229
	Rusizi	29	39	172
	Nyamasheke	5	9	47
S/total		246	326	1,108
Eastern	Kirehe	19	53	97
	Kayonza	51	154	201
	Bugesera	147	286	491
	Gatsibo	14	35	62
	Nyagatare	57	163	275
	Rwamagana	190	322	500
	Ngoma	14	49	89
S/total		492	1,062	1,715
		2,850	4,731	9,175

Annual lease fees and property tax⁵

- Taxes and lease fees in Rwanda are payable on parcels of two hectares or more for rural land designated for agriculture and farming purposes, whereas these are applied to all parcels irrespective of size with respect to urban land (residential, commercial, industrial). LAIS shows the number of parcels where tax and lease fees are required to be paid is 1,545,105 or 15% of all land registered across the country. If most of this 15% is located in urban areas, this is not necessarily a concern. However, if a significant portion corresponds to parcels in rural areas (and assuming the figure is accurate), this could indicate that there are a number rural parcels that are bigger than two hectares. It is also possible that errors were made in recording parcel areas or attributing lease fees to parcels that are not subject to paying lease fees;
- The amount of lease fees and property tax due was not obtained as LAIS is not able to generate these figures. It is worth mentioning that some of the lease fees recorded on the system have since changed in different districts.⁶ Therefore even if LAIS was able to generate the figure, it would have been a reference figure and not an accurate one;
- Parcels where lease fees are required to be paid and those under freehold tenure where property tax is required to be paid are in both urban and rural areas; and
- Some rural cells have a high number of parcels that are subject to pay annual lease fees. For example, Akabare Cell of Musha Sector in Rwamagana district has 3,444 parcels that are subject to pay lease fees. This figure is high

⁵ Although lease fees and property tax are determined by the district council, LAIS has a list of parcels where lease fees and property tax are required. Therefore, data provided here refers only to the parcel list generated by LAIS. Data on this indicator were provided by Theophile in October and additional data in November

⁶ Amounts of fees due that were recorded on leases during the LTR do not necessarily match with what districts are assessing in fees. Law N° 59/2011 of 31/12/2011 establishing the source of revenue and property of decentralized entities and governing their management provides guidance on how fees and taxes should be assessed and requires districts to establish a list of parcels liable for lease fees or property taxes. However, previous research by the author revealed that districts had not prepared these lists. Rather lease fees would only be assessed and charge lease fees when land holders visit the district land office for another purpose.

considering that this cell has rural characteristics. It also suggests that many parcels in Akabare cell are likely to be greater than two hectares.

Table 9: Distribution of parcels where lease fee and tax is required

Province	District	Number of parcels	Surface area
Eastern	BUGESERA	79,829	391,572,970
	GATSIBO	68,420	394,550,400
	KAYONZA	81,966	744,424,663
	KIREHE	89,685	499,769,215
	NGOMA	71,698	294,969,033
	NYAGATARE	99,106	1,063,349,934
	RWAMAGANA	57,652	242,817,422
Sub/total		548,356	3,631,453,638
Kigali City	GASABO	61,691	156,286,314
	KICUKIRO	42,843	64,339,661
	NYARUGENGE	27,929	46,992,565
Sub/total		132,463	267,618,540
Northern	BURERA	45,553	66,890,895
	GAKENKE	50,680	131,110,949
	GICUMBI	57,398	176,417,920
	MUSANZE	35,925	52,332,733
	RULINDO	36,171	97,722,445
Sub/total		225,727	524,474,943
Southern	GISAGARA	34,441	182,797,778
	HUYE	38,473	161,117,975
	KAMONYI	44,039	160,972,892
	MUHANGA	38,793	153,354,787
	NYAMAGABE	31,616	260,200,618
	NYANZA	38,577	224,205,526
	NYARUGURU	28,677	220,568,516
	RUHANGO	30,265	163,218,032
Sub/total		284,881	1,526,436,124
Western	KARONGI	41,730	223,381,830
	NGORORERO	42,712	103,057,591
	NYABIHU	43,679	78,225,996
	NYAMASHEKE	63,563	192,067,394
	RUBAVU	55,331	51,377,359
	RUSIZI	72,510	140,761,728
	RUTSIRO	34,153	123,999,033
Sub/total		353,678	912,870,931
Grand Total		1,545,105	6,862,854,176

3.3 Land ownership by sex⁷

- The number of men registered as sole owners to date is 1,747,903. However, by February 2014, the number of parcels owned by men as sole owners amounts to 1,135,254 parcels (see Table 10). The difference might reflect more than one man being registered on a single parcel and therefore a tendency to classify parcels registered in the name of more than one male as sole ownership by a man. Alternatively, there might be an error in the recording of the data.
- As of September 2014, the number of women registered as sole owners is 802,114, whereas the number of parcels owned by women sole owners was 1,958,058 in February 2014 (See Table 10). This would seem to suggest the opposite situation to that of men, i.e. that women independently own more than one parcel.
- Western Province has the highest number of women sole owners whereas Southern Province has the highest number of men sole owners (See Table 10)
- The number of women and men co-owners (generally married couples) is 1,642,422 across the country. By February this year, the number of parcels jointly-owned by men and women was 5,093,156. This may suggest that women and male co-owners might have more than one parcel registered in their names.

Table 11: Number of male sole owners, female sole owners, and joint male-female owners

Province	District	Number of men sole owners	Number of women sole owners	Number of women and men co-owners
Eastern	Bugesera	20,881	24,370	56,124
	Gatsibo	20,721	30,368	66,679
	Kayonza	18,901	23,720	49,248
	Kirehe	19,470	23,612	70,457
	Ngoma	21,183	26,937	51,627
	Nyagatare	19,477	27,225	55,014
	Rwamagana	20,873	28,496	49,322
S/total		141,506	184,728	398,471
Kigali City	Gasabo	20,737	24,936	57,304
	Kicukiro	9,273	10,683	31,078
	Nyarugenge	8,983	10,735	20,429

⁷ Data on this indicator were generated by Theophile

S/total		38,993	46,354	108,811
Northern	Burera	16,383	28,768	79,763
	Gakenke	21,046	33,502	76,920
	Gicumbi	23,997	41,672	72,780
	Musanze	27,643	31,362	54,456
	Rulindo	20,664	28,184	84,522
S/total		109,733	163,488	368,441
Southern	Kamonyi	25,508	26,310	57,502
	Muhanga	17,655	24,807	51,710
	Ruhango	21,183	30,074	31,639
	Nyanza	28,038	22,923	30,844
	Gisagara	34,469	22,198	37,155
	Huye	26,831	24,782	29,697
	Nyaruguru	21,741	14,281	48,904
	Nyamagabe	23,064	24,958	42,164
S/total		198,489	190,333	329,615
Western	Karongi	24,057	29,198	55,056
	Rutsiro	19,949	27,935	62,718
	Nyabihu	24,782	35,031	59,315
	Ngororero	22,337	34,477	64,451
	Rubavu	27,571	34,379	61,585
	Rusizi	22,174	28,669	68,205
	Nyamasheke	18,187	27,522	65,754
S/total		159,057	217,211	437,084
GRAND TOTAL		647,778	802,114	1,642,422

4.0 RECOMMENDED WAY FORWARD

Challenges	Recommendations	Actions required	Responsible
<ul style="list-style-type: none"> No responsible staff or department dedicated to collect data to populate LAIS or analyze data periodically; Lack of uniform reporting and data standards for LAIS; 	<ul style="list-style-type: none"> Appoint/recruit staff responsible for data collection and data administration reporting; Set standard queries to harmonize data generation, plus a regular schedule for reporting and review of analyses; Provide training to the recruited data reporting staff 	<ul style="list-style-type: none"> Determine the appointed staff's profile; Design standard queries for all types of data needed. These have to be the same used by data providers within RNRA; Communicate formally all standards queries to all responsible staff Train appointed data staff on land governance indicators reporting and analysis 	<ul style="list-style-type: none"> DDG Lands and Mapping; RNRA's software development team with support from M&E support team under the guidance of the DDG L&M who would bring in an international comparative perspective
<ul style="list-style-type: none"> Lack of a reliable system for identification and collection of land revenues due 	<ul style="list-style-type: none"> Establish a uniform land revenues collection system 	<ul style="list-style-type: none"> RNRA to map and draw up a list of all parcels where property tax and lease fee are required and share it with all districts; Districts to design the revenues collection system based on input from RNRA (cadastral data) 	<ul style="list-style-type: none"> RNRA, Lands and Mapping department to generate the list parcels where lease fees and property tax are required; Districts to cross check the list and establish the revenues collection system (MINALOC, MINECOFIN or RRA to help with the design of a such system)

<ul style="list-style-type: none"> • Lack of data on prices and size of land purchased and sold, as well as sex of the selling party(ies) 	<ul style="list-style-type: none"> • Introduce interim/temporal land price data capture system 	<ul style="list-style-type: none"> • Design a simple excel template that would capture sale price before LAIS is able to do so adequately; • Train LAIS processors on how to use the template and how to generate reports on the land market in various districts • Integrate function to record pricing data into LAIS 2 	<ul style="list-style-type: none"> • L&M's M&E support team with support from external consultant
<ul style="list-style-type: none"> • LAIS currently incomplete –some functions are neither fully-integrated nor available, such as spatial details of the parcel, disputes details etc. • No reporting module in LAIS; 	<ul style="list-style-type: none"> • Finalise LAIS2 and integrate all missing functions such as GIS, disputes details etc; • Develop a comprehensive reporting module in LAIS2 	<ul style="list-style-type: none"> • Complete remaining LAIS functional design and integrate disputes' interface; • Develop a reporting package to provide statistical and management reports to assist RNRA and other stakeholders in need of various land administration data; 	<ul style="list-style-type: none"> • Consultants with experience working on the LAIS system
<ul style="list-style-type: none"> • Lack of specific indicators where regular reporting is required (e.g. land transacted by women and men, average land price by area, parcels with complete vs incomplete information, land owned by the state vs. by individuals or companies, etc) • Lack of regular reporting systems and 	<ul style="list-style-type: none"> • Determine land administration indicators to report on; • Introduce regular (monthly, quarterly and annual) reporting systems 	<ul style="list-style-type: none"> • Determine the list of indicators to report on; • Determine the reporting timeframe; and decide about data format. 	<ul style="list-style-type: none"> • RNRA Management, M&E support team with support from external consultant

data format			
<ul style="list-style-type: none"> No direct collaboration between L&M department and the justice system in handling land disputes⁸ 	<ul style="list-style-type: none"> Discuss with the justice system including Abunzi coordination office on land disputes registered during LTR and establish mechanisms of sharing land disputes data as a way of speeding up resolutions Work with the justice sector to create a classification system for land-disputes, which can assign a dispute multiple categories if applicable. Review existing caseload and update their classification accordingly 	<ul style="list-style-type: none"> L&M department to hold a meeting with identified partner justice institutions (public and CSOs working on land disputes), share land disputes data held by RNRA and agree on data sharing mechanisms; Make a proposal on the establishment of a platform involving both L&M department and justice institutions on land disputes reporting. This could be done at zonal level to make the platform more active and efficient 	<ul style="list-style-type: none"> L&M department management; External Consultant
<ul style="list-style-type: none"> Lack of robust and clear disputes categorization 	<ul style="list-style-type: none"> It is recommended that a reclassification be carried out that will allow disputes to be classified according to 	<ul style="list-style-type: none"> Provide a clear definition for each disputes category; Based on disputes categorization, review all data entered in the 	RNRA

⁸ Although the L&M department is not responsible for land disputes resolution, it holds important data that can support the justice system including the Abunzi. The suggestion is that the L&M department should be able to share land disputes details with the justice system on a regular basis to speed up the resolution process, and also to ensure proper monitoring of land disputes resolution. The justice system would in turn inform the L&M department of the disputes that have been resolved and provide supporting documents without waiting for individuals to bring court orders. Ways on how this platform would work precisely can be explored further.

	all relevant categories and therefore allow for multiple designations	disputes interface (if not yet migrated to LAIS, if data is already migrated to LAIS 2, the review can be done through a duplicated dummy or test environment to avoid and work interruption) and amend accordingly;	
<ul style="list-style-type: none"> • Parcels with incomplete information (for example some parcels do not have a land use associated to them) 	<ul style="list-style-type: none"> • Identify all parcels with incomplete information (through a query) and add all missing details 	<ul style="list-style-type: none"> • Run a query to identify all parcels with incomplete information; • Categorise all parcels according to missing information and classify them by geographical location (district, sector and cell); • Inform relevant land owners and respective local authorities about the missing information and urge them to provide the information (this can be done through deputy registrars and district land officers or during the second land week planned in the first quarter of 2015) 	RNRA and DLOs
<ul style="list-style-type: none"> • Error in data recording 	<ul style="list-style-type: none"> • Although LTR (which requires a bulk of data entry) is almost complete, there is a need to review all procedures for data entry and ensure that all checks are properly documented and followed 	<ul style="list-style-type: none"> • Review data entry checking procedures; • Train all data entry checkers on how to check data, so entry is done properly and errors are minimised; • Communicate all data entry checking procedures to everyone involved in data entry 	RNRA