BRIEFING NOTE

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Vanuatu National Leasing Profile:A Preliminary Analysis

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Alienation of customary land represents a significant, and increasing, challenge in many parts of the world. In Vanuatu the 1980 constitution restored perpetual land rights to "indigenous custom owners and their descendants". Implementing this principle after decades of land alienation often proved to be difficult and contested. Government infrastructure, tourism, business, agriculture, industry, urbanization, and the desire to use land to secure financial loans are some of the driving forces behind the creation of leases. The Justice for the Poor program's national leasing profile represents the first comprehensive attempt to document nation-wide leasing activities in Vanuatu and highlights the importance of maintaining a uniform and reliable database of land lease registration that could inform land use planning decisions.

This note summarizes findings from an analysis of Vanuatu national leasing data drawn from the Vanuatu Department of Lands databases for the period of 1980–2010. It provides a preliminary indication of how much of Vanuatu is currently under lease, where land is being leased, how leased land is being used, the length of leases, and the extent that leases have been subdivided. The profile also highlights areas where data collection needs to be improved.[1]

Context

Land alienation has a long history in Vanuatu, from the extraction of sandalwood trees and the establishment of cotton plantations and Christian missions in the 1860s, to the development of copra plantations in the 1900s and the agricultural, residential, and tourism developments that followed. At independence in 1980, the new Constitution restored perpetual land rights to the "indigenous custom owners and their descendants" and proclaimed that the "rules of custom shall form the basis of ownership and use" in the country.[2]

While the Constitution abolished all existing land titles, the *Land Reform Act of 1980* provided for their replacement in certain circumstances.[3] The regulation allowed "alienators" who have a freehold or other interest in the land to remain in occupation of it until either a lease agreement is negotiated with the custom owners or payment is made for improvements to the land. The new regulation also provided for the negotiation of agreements between former title-holders and custom owners for the continued occupation of the land. Much of the urban land was owned at independence by the British or French governments, the Condominium, or a municipality (land in the urban areas of Port Vila and Luganville); this land came under the definition of "state land" in the *Land Reform Act* and was vested in the government as "public land" at independence. Thus, the land in Vanuatu is either under custom landholding (in rural areas) or government landholding (in urban areas). These features reflect the classification of leases by "rural" and "urban" and shape the presentation of this analysis.

Implementing the constitutional principle of custom landholding after decades of land alienation often proved difficult and was frequently contested. Although the leasing arrangement was originally intended to restore investor confidence and maintain agricultural development in newly independent Vanuatu, it soon evolved into the method of acquiring new leases over previously unalienated[4] land. Government infrastructure, tourism, business, agriculture, industry, urbanization, and the desire to use land to secure financial loans are some of the driving forces behind the creation of leases.

[1] See the Annex, which highlights the serious gaps in the data.
[2] Sections 73–75, Constitution of the Republic of Vanuatu.
[3] Chris Lunnay et al., "Vanuatu Review of National Land Legislation, Policy and Land Administration" (Canberra: AusAID, 2007).
[4] Land not alienated during the French-British Condominium, which remained in the hands of customary landholders.

Concerns over actual and perceived problems of land alienation through leasing in postindependent Vanuatu triggered the convening of the National Land Summit in 2006.[5] The summit was followed by an Interim Transitional Implementation Strategy and a National Land Review, all of which set the stage for a legislative and administrative reform agenda, and served as a guide to short- and long-term assistance to the land sector.[6] This policy guidance formed the basis of the "Vanuatu Short-Term Land Reform Initiatives Project," funded by the Australian Agency for International Development (AusAID) from 2007 to 2010. During this time, the Vanuatu Ministry of Lands, with support from AusAID, also finalized a Land Sector Framework 2009–2018,[7] which focused on five areas in need of reform: (i) enhancing the governance of land; (ii) engaging customary groups; (iii) improving the delivery of land services; (iv) creating a productive and sustainable sector; and (v) ensuring the access and tenure security of all groups. To support the implementation of the Land Sector Framework, Australia and New Zealand are jointly funding a five-year land program "Mama Graon," which commenced in January 2011.

Number and Area of Leases

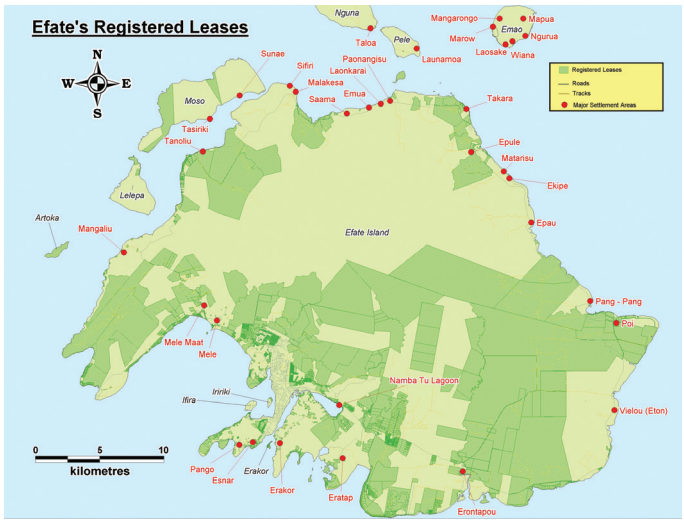
The total land area of Vanuatu is approximately 12,236 square kilometers scattered over roughly 80 islands. The 2009 population census[8] figures suggest a total population of 243,023 persons, of whom 176,816 are rural and 52,207 urban.

According to the data shown in table 1, as of December 2010 there were approximately **13,815** registered leases in Vanuatu, covering **1,141.6 square kilometers** of land, representing **9.5 percent** of the total area of Vanuatu. This includes **5,420 subdivisions**, but excludes 989 leases that have been cancelled by the Department of Lands. However, these figures are **indicative only** and need to be treated with caution, as the quality of the data is questionable. For example, area data were missing for 8 percent of the records, and the approximate backlog of unregistered documents is estimated to be 4,000 leases as of October 2011,[9] suggesting that the area under lease may actually be much higher.

The area leased is highest in the provinces of Shefa (490.9 square kilometers) and Sanma (452.3 square kilometers). Within these provinces, leasing on Efate and the outer islands (44 percent) and Santo (10 percent) accounts for the majority of the leased land. On Efate (Port Vila), 69.5 percent of urban land is under lease, and on Santo (Luganville), the figure is 69.6 percent. Although the greatest number of leases are found in the urban and peri-urban areas of Efate and Santo, there are some islands that also have extensive areas under lease—for example, Bokissa (90.9 percent), where there has been considerable tourism development,[10] (See the Bokissa island Eco resort web page, http://www.bokissa.vu/island.html) and Aore (65.3 percent), where there has been a lot of subdivision activity (84 percent of the island's 291 leases are subdivisions).[11] (See table 9 for a breakdown of subdivision plots by island and table 4 for a breakdown of lease class by island.)

The map below provides a visual presentation and geographical distribution of leases on the main island of Efate. The total coastline of Efate is estimated to be 215 kilometers. Registered leases along the coast cover approximately 121.5 kilometers, which is about 56.5 percent of the total coastal area on Efate.

Figure 1: Map of Land Leases on Efate



Urban and Rural Leases

Out of the total 13,815 leases, 7,010 are urban leases in Port Vila and Luganville (over government-owned land), comprising 1 percent of the land under lease in Vanuatu, and

[5] See "Vanuatu National Land Summit Resolutions" (Port Vila: Government of the Republic of Vanuatu, 2006). The summit resolutions highlighted, among other goals, the need to strengthen group customary ownership; to ensure participation of all groups in decision making about land use; to review the custom owner identification process; to increase public awareness of land rights and laws; to remove the minister's power to approve leases over disputed land; to ensure public access to the sea; to ensure fair land dealings between parties; and to comply with environmental and social impact assessment requirements.

[6] Lunnay et al., "Review of National Land Legislation."

[7] Land Sector Framework 2009–2018, July 2009.

[8] Vanuatu National Statistics Office, "2009 National Census of Population and Housing, Summary Release" (Port Vila: Ministry of Finance and Economic Management, 2009).

[9] AusAID, "Mama Graon Vanuatu Land Program, Annual Plan," Report No. C-2.7 (Canberra: AusAID, 2011), unpublished.

[10] See the Bokissa island Eco resort web page, http://www.bokissa.vu/island.html.

[11] Aore was a plantation island prior to independence and was probably one of the early freehold titles converted to a lease.

Table 1. Number of Leases and Area Leased (km²) by Province/Island, December 2010

Province/Island	No. of Leases	Area Leased (km²)	Area of Province/ Island (km²)	% under Lease
Shefa	**9,858**	**490.9**	**1,500.6**	**32.7%**
Efate/Outer Islands*	9,821	426.4	970.4	44.0%
(Efate – rural)	*(5,399)*	*(418.0)*	*(958.6)*	*(43.6%)*
(Efate – urban)	*(4,422)*	*(8.2)*	*(11.8)*	*(69.5%)*
Epi	21	63.1	445.3	14.0%
Shepherd Islands	16	1.4	84.9	1.6%
Sanma**	**3,706**	**452.3**	**4,200.0**	**10.8%**
Santo	3,396	390	3,958.9	10.0%
(Santo – rural)	*(808)*	*(382.0)*	*(3,946.8)*	*(9.7%)*
(Santo – urban)	*(2,588)*	*(7.8)*	*(11.2)*	*(69.6%)*
Aore	291	37.9	58.1	65.3%
Malo	17	23.8	182.4	13.0%
Bokissa	2	0.6	0.7	90.9%
Malampa	**121**	**114.2**	**2,760.6**	**4.1%**
Malekula	104	113.6	2,053.2	5.5%
Ambrym	13	0.5	675.4	0.1%
Paama	4	0.1	32.0	0.3%
Tafea	**83**	**80.3**	**1,613.3**	**5.0%**
Tanna	70	13.66	561.6	2.0%
Erromango	12	32.4	891.1	3.6%
Aneityum	1	34.2	160.6	21.3%
Penama	**32**	**2.8**	**1,193.4**	**0.2%**
Pentecost	16	0.3	490.9	0.1%
Ambae	14	0.4	400.4	0.1%
Maewo	2	2.1	302.1	0.7%
Torba	**15**	**1.2**	**726.3**	**0.2%**
Banks	15	1.2	726.3	0.2%
Total	**13,815**	**1,141.6**	**11,994*****	**9.5%**

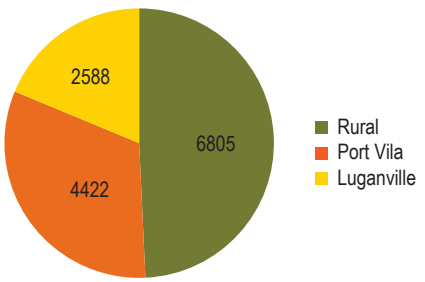
Notes: Area missing = 8 percent; no missing data for island; includes subdivisions; 989 cancelled leases removed.
* Efate/Outer Islands include Emao, Erakor, Hideaway, Ifira, Iririki, Lelepa, Moso, Nguna, Kakula, Hat (Eretoka), and Pele
** Includes Ratua, Asuleka, and Parumamasa islands
*** This figure is less that the total land area of Vanuatu, as a number of islands do not have leases.

Table 2. Number and Area of Rural/Urban Leases, December 2010

Rural/Urban	Number	Area Leased (km²)	% Area Leased
Rural	6,805	1,125.6	99%
Urban	7,010	15.9	1%
Port Vila	*4,422*	*8.2*	*69.5%*
Luganville	*2,588*	*7.8*	*69.6%*
Total	**13,815**	**1,141.6**	**100%**

Notes: Area missing = 8 percent; includes subdivisions; 989 cancelled leases removed.

Figure 2: Number of Rural/Urban Leases, December 2010



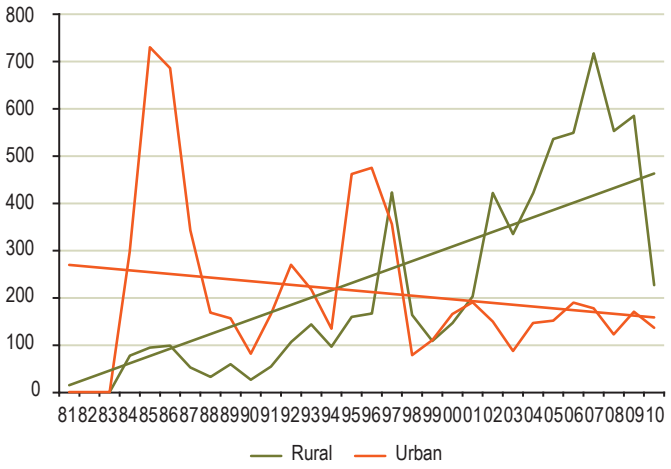
Notes: Area missing = 8 percent; includes subdivisions; 989 cancelled leases removed.

6,803 are rural leases over customary land, comprising 99 percent of the land under lease.

Leasing Activity

Figure 3 shows that there have been three periods since 1980 when the number of rural leases registered has dramatically increased: 1984–87, 1995–97, and 2002–09. Lease activity rose rapidly after 1983, possibly because the *Alienated Land Act*, which provided the framework for negotiations between settler occupants (alienators) and landholders, did not come into effect until 1982, and also because alienators had to be recognized as such and then negotiate leases with identified landholders. The greater size of land leased in the early years after independence probably reflects the predominantly agricultural nature of such leases, many of which were accommodating existing plantations and farms. The increase in leasing during 1995–97 points to the shift in government policy toward increased foreign investment. This period is also characterized by escalating subdivision and abuse of ministerial power to grant leases over customary land.[12] Over

Figure 3: Leasing Activity Trend, Rural and Urban Leases 1981–2010



Notes: N = 13,000. Year missing = 12 percent; area missing = 8 percent; includes 989 cancelled leases.

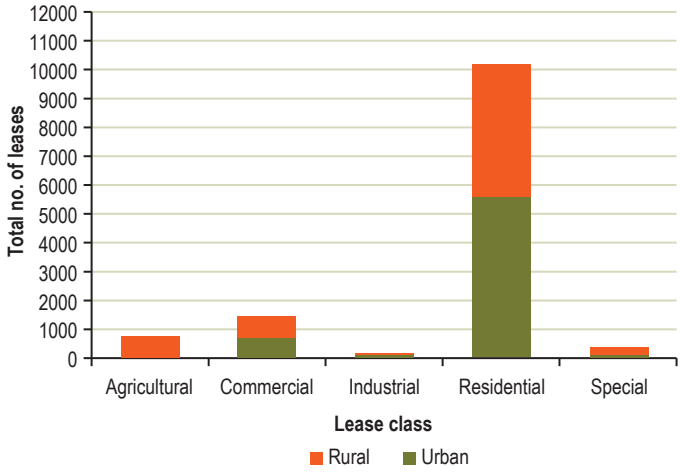
the last decade (2001–10), an average of 608 leases per year were registered; 895 new leases were granted in 2007 and 1,800 between 2008 and 2010, despite the concerns about leasing expressed at the 2006 National Land Summit.

Figure 3 also shows that the proportion of rural leases granted in comparison to urban leases has been increasing since 2000, which may be explained by the greater availability of land to lease outside the rather constrained urban areas.

Lease Class

When a lease is registered, it is assigned a lease class prescribing the purpose for which the land can be used. Classes of lease include agricultural, commercial, residential, special, and industrial. Special leases include a variety of public service activities, such as churches, telecommunications sites, schools, hospitals/clinics, access ways, airports, conservation areas, government buildings, post offices, and community centers. A range of hybrid lease classes have also increasingly been used in recent years, including commercial/tourism, commercial/industrial, commercial/residential, and residential/tourism. It is unclear exactly what these categories mean, however, and whether they have been consistently applied. For example, the only use of the residential/tourism lease class in the data set is for 31 subdivisions on the island

Figure 4: Lease Class by Number, Urban and Rural Leases, December 2010



Notes: N = 12,980. Lease class missing = 6 percent; area missing = 8 percent; 989 cancelled leases removed.

of Aore in 2006 and one new lease on Efate in 2005. Given their relatively small numbers, these three categories have been included in the commercial/tourism category for the purposes of analysis.

The majority of leases throughout the country are residential (79 percent), although the land area of these leases is only 4 percent of the total area under lease. The preponderance of these leases are on the main islands of Efate and Santo. A further 11 percent are for commercial/tourism purposes, comprising 9 percent of land area under lease. Agricultural leases, while involving only 6 percent of leases, account for

[12] See Ombudsman Reports 98-10; 099-09; 99-06 available at http://www.vanuatu.usp.ac.fj/library/Online/ombudsman/Vanuatu/Digest/digest_index.html#Digested%20Reports.

Table 3. Lease Class by Number and Area, Urban and Rural Leases, 2010

	Rural		Urban		Total			
Lease type	No	Area (km^2)	No.	Area (km^2)	No.	% of All Leases	Area (km^2)	% of Leased Area
Agricultural	785	823.7	2	0.9	787	6%	824.6	82%
Commercial/Tourism	750	87.5	734	4.2	1,484	11%	91.7	9%
Industrial	30	2.1	103	0.7	133	1%	2.8	0%
Residential	4,561	37.7	5,654	7.4	10,215	79%	45.1	4%
Special	251	43.1	110	1.1	361	3%	44.2	4%
Total	**6,377**	**994.1**	**6,603**	**14.3**	**12,980**	**100%**	**1,008.3**	**100%**

Notes: Lease class missing = 6 percent; area missing = 8 percent; 989 cancelled leases removed.

Table 4. Number of Leases, Lease Class by Island, December 2010

Island	Agricultural	Commercial / Tourism	Industrial	Residential	Special
Ambae	0	0	0	0	13
Ambrym	1	3	0	1	8
Aneityum	1	0	0	0	0
Aore	10	42	0	205	1
Banks	2	1	0	2	2
Bokissa	0	1	0	1	0
Efate/Outer Islands	561	1,094	37	7,600	166
Epi	7	7	0	1	3
Erromango	2	0	8	0	1
Maewo	0	0	0	0	2
Malekula	15	47	1	2	35
Malo	12	2	0	0	3
Paama	0	0	0	0	3
Pentecost	0	0	0	0	16
Santo	167	262	86	2,395	63
Shepherds	5	0	0	0	11
Tanna	4	25	1	8	32
Total	**176**	**1,484**	**133**	**10,215**	**359**

Notes: N = 12,980. Lease class missing = 6 percent; 989 cancelled leases removed.

82 percent of the area under lease. The remaining 4 percent are industrial or special leases, making up 1 percent of the land area under lease.

Table 4 gives an indication of the nature of leasing activity on each island. The majority of agricultural and commercial leases are located on Efate and the outer islands, followed by Santo and Malekula. It is interesting to note that although the total number of special leases is relatively small (3 percent of all leases), a number of islands (Ambae, Maewo, Paama, and Pentecost) have only this class of lease.

Table 5 shows the distribution of agricultural leases and average lease size among the different islands. Notably, despite the large number of agricultural leases on Efate and the outer islands, they amount to a relatively small area of land in comparison to the size of agricultural leases on Santo and Malekula, suggesting that those on Efate are small in area and consist of small family holdings rather than large agricultural enterprises.

Table 5. Average Lease Size for Agricultural Leases by Island, December 2010

Island	No. of Leases	Area Leased (km²)	Average Area Leased (km²)
Ambrym	1	N/A	N/A
Aneityum	1	34.2	34.2
Aore	10	23.5	2.3
Ambrym	1	N/A	N/A
Efate	561	300.6	0.5
Epi	7	62.6	8.9
Erromango	2	32.1	16
Malekula	15	111.6	7.4
Malo	12	23.6	2
Santo	167	224.4	1.3
Shepherd Islands	5	1.3	0.3
Tanna	4	11	2.7
Total	**787**	**824.9**	**1.1**

Notes: Lease class missing = 6 percent; area missing = 8 percent; 989 cancelled leases removed.

Lease Term

The quality of data on terms of leases is poor, are fully 24 percent of records are missing information. The following figures should therefore be seen only as indicative.

The maximum time for which a lease can be granted is 75 years.[13] Of the total number of 10,277 leases for which there is data, approximately 98 percent are for 50 years or more, 54 percent are for a term of 50 years, and 46 percent for the maximum 75-year term. This figure is even higher for subdivision plots, of which 71 percent are for 75 years. The remaining 2 percent are for between 5 and 49 years.

Table 6. Percentage of 50- and 75-Year Leases by Cadastre, December 2010

Lease Type	50 yrs	75 yrs	All
Leases	67%	33%	100%
Subdivisions	29%	71%	100%
All Leases	54%	46%	100%

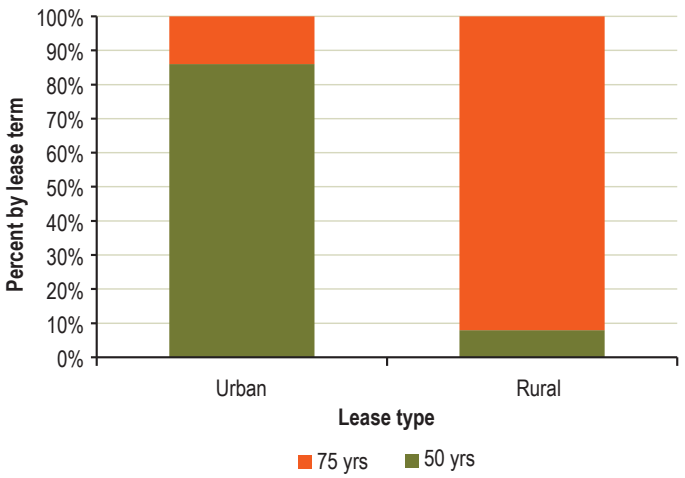
Notes: N = 9,926. Lease term missing = 24 percent; 989 cancelled leases removed.

Table 7. Percent of Rural and Urban Leases for 50 and 75 years, December 2010

Urban/Rural	50 yrs	75 yrs	All
Urban	86%	14%	100%
Rural	8%	92%	100%

Notes: N = 10,277. Lease term missing = 24 percent; 989 cancelled leases removed.

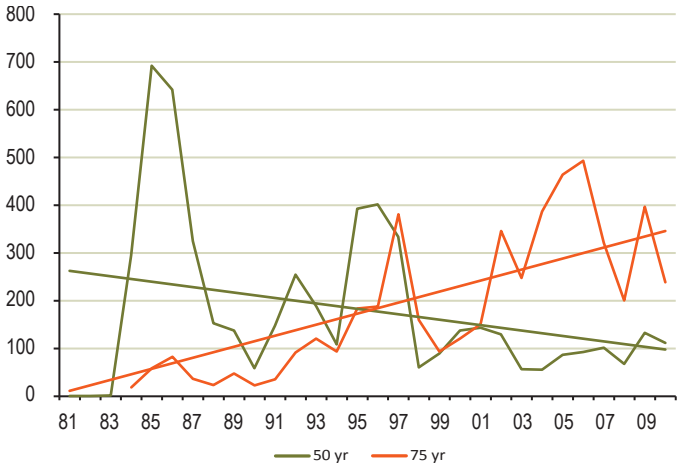
Figure 5: Percent of Rural and Urban Leases for 50 and 75 years, December 2010



Notes: N = 10,277. Lease term missing = 24 percent; 989 cancelled leases removed.

Figure 5 shows that a much higher proportion of these 75-year leases are rural leases, as fully 92 percent of rural leases are for 75 years, compared to only 14 percent of urban leases. Over 80 percent of urban leases, however, are for a term of 50 years.

Figure 6: Lease Term by Year for 50- and 75-Year Leases, 1981–2010



Notes: N = 10,420. Lease term missing = 24 percent; year missing = 12 percent; includes 989 cancelled leases.

[13] Only leases for more than three years are required to be registered. The Land Leases Act (sec. 32) stipulates that a term of lease cannot be more than 75 years.

There appears to be an increasing trend to grant leases for the highest available term of 75 years. Since 1997, more 75-year than 50-year leases have been granted; however, the intention of the legislation at independence was that the general maximum for lease periods in rural areas would be 30 years, and that 75-year leases would be granted only for major development projects.[14]

Figure 7: Lease Term by Lease Class for 50- and 75-Year Leases, December 2010

Notes: N = 10,137. Lease term missing = 24 percent; lease class missing = 6 percent; 989 cancelled leases removed.

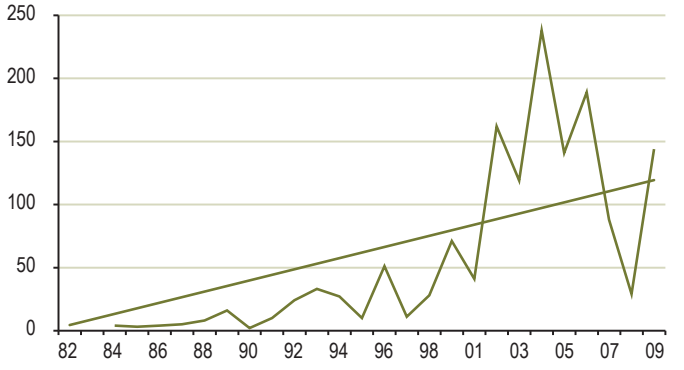
Figure 7 illustrates that the majority of residential leases are for 50 years; 75-year leases dominate all other lease types, with as much as 85 percent of agricultural leases having 75-year terms.

Ministerial Leases over Disputed Land

At independence in 1980, while the government carefully considered the return of land to customary landholders, it provided in section 78(1) of the Constitution that "where… there is a dispute concerning the ownership of alienated land, the Government should hold such land until the dispute is resolved."[15] To handle this transition, section 8(1) of the Land Reform Act 1980 gave the Minister of Lands "general management and control over all land…where ownership is disputed." This includes the power to "conduct transactions in respect of the land including the granting of leases in the interest and on behalf of the custom owners" (section 8(2)(b)) and to "take all necessary measures to conserve and protect the land on behalf of custom owners" (section 8(2)(c)).

Given the transitional nature of the legislation described above, it would have been expected that the number of leases signed by the Minister of Lands on behalf of customary landholders after independence would gradually decline, on the assumption that customary landholders had resolved disputes over ownership and had taken responsibility for their own lease negotiations.[16] National leasing data, however, indicate the contrary. Figure 8 shows that the number of leases over customary land signed by the Minister of Lands as lessor has increased markedly over time—though it should be noted that lessor information was missing for 29 percent of leases.

Figure 8: Number of Rural Leases Signed by the Minister, 1980–2009



Notes: N = 1458. Lessor missing = 29 percent; year missing = 189.

Table 8. Number of Ministerial Leases by Island, 1980–2009

Island	Number
Efate – urban	2,404
Efate – rural	1,388
Santo – urban	785
Santo – rural	87
Malekula	38
Tanna	6
Erromango	6
Aore	5
Epi	2
Malo	2
Ambae	1
Pentecost	1
Total	**4,725**

Note: Lessor missing = 29 percent.

[14] Ministerial Statement on Land Policy Implementation (Port Vila: Ministry of Lands and Natural Resources, 1980).
[15] See section 78(1) of the Constitution of Vanuatu.
[16] J. Haccius, "The Interaction of Modern and Custom Land Tenure Systems in Vanuatu," SSGM Discussion Paper 2011/1 (Canberra: Australian National University, 2011).

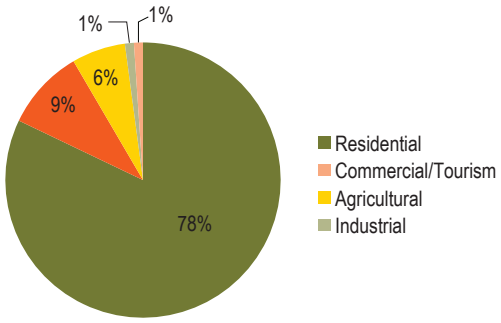
The 2006 Land Summit raised concerns about the unrestricted use of the Minister of Lands' power to sign leases over disputed customary land. Numerous Vanuatu Ombudsman decisions have also criticized the misuse of ministerial powers with respect to land. National leasing data show that out of the 6,803 rural leases, 1,458 were signed by the minister as lessor. Table 8 shows that the majority of rural leases signed by the minister as lessor are on Efate, followed by Santo, Malekula, and Tanna.

Subdivisions

Land subdivisions are regulated under the Land Leases Act, in which the leaseholder surrenders the original title and subdivides it into multiple lots/titles. The practice by investors of leasing large tracts of land (often prime agricultural or beachfront) and subsequently subdividing and selling it for residential purposes was identified as an issue of concern by custom landholders during the National Land Summit.

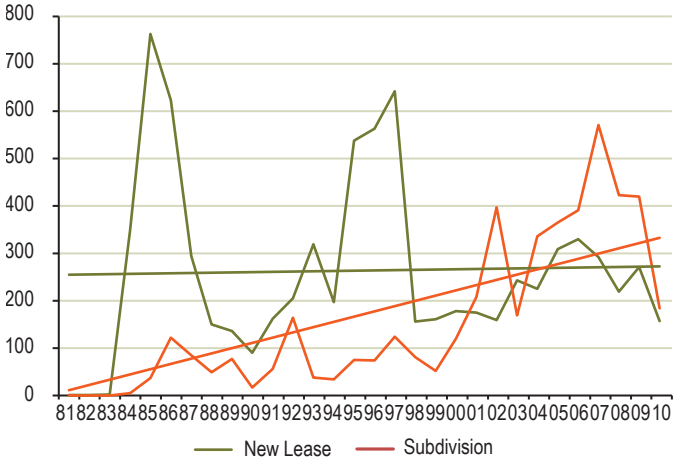
Table 9 shows that out of the 13,815 leases in Vanuatu, 5,420 are subdivisions. The highest number of subdivision plots are found on Efate and the outer islands (3,993), Santo (1,141), and Aore (243); 3,798 of those plots are on rural land, compared to 1,622 in the urban areas of Port Vila and Santo. The majority of subdivisions (78 percent) are for land used for residential purposes.

Figure 9: Subdivision Plots by Lease Type, December 2010



Notes: N = 5420. Lease type missing = 6 percent; 171 cancelled leases removed.

Figure 10: Subdivision Plots and New Leases by Year, 1980–2010



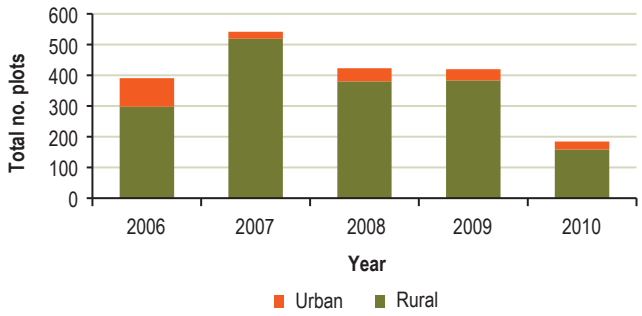
Notes: N = 12,585. Year missing = 12 percent; includes cancelled leases; excludes boundary alterations and combination leases.

Table 9. Number and Area of Subdivision Plots per Island, December 2010

Island	Number	Area (km²)	Area of Island (km²)	% of Island under Lease	% of Island Subdivided
Efate/Outer Islands	3,993	53.4	970.4	44.0%	6%
(Efate/Outer Islands – rural)	*(3,220)*	*(52.3)*			
(Efate/Outer Islands – urban)	*(773)*	*(1.1)*			
Santo	1,141	40.5	3,958.9	10.0%	0%
(Santo – rural)	*(292)*	*(38.7)*			
(Santo – urban)	*(849)*	*(1.8)*			
Aore	243	11	58.1	65.3%	19%
Malekula	31	0.1	2,053.2	5.5%	0%
Epi	7	0	445.3	14.0%	0%
Bokissa	2	0.6	0.7	90.9%	86%
Tanna	2	0.2	561.6	2.0%	0%
Pentecost	1	N/A	490.9	0.1%	N/A
Total	**5,420**	**105.9**	**11,994**	**10%**	**1%**

Notes: Cadastre missing = 274; area missing = 8 percent; 171 cancelled leases removed.

Figure 11: Urban and Rural Subdivision Plots, 2006–10



Notes: N = 1,989. Year missing = 12 percent; includes cancelled leases.

Figure 10 shows that the number of subdivisions has been increasing over the years. Thus, despite the resolution of the 2006 National Land Summit to place a moratorium on subdivisions, there has not only been no reduction in subdivision activity, there has been an increase since that time, with a total of 1,989 subdivisions registered between 2006 and 2010.

Figure 11 shows that the majority of subdivision plots created since 2006 were in rural areas (1,738 out of 1,989 subdivisions).

Data Quality Issues

This study has revealed a number of data quality issues. For example, there is no single, centralized register of leases, and data used in this profile had to be retrieved from different databases kept by different departments for different purposes. There was also data missing for a number of the variables, rendering it difficult to build an accurate, overall picture of leasing. Of particular concern is the high number of missing values for 2007 and 2008, where approximately 64 percent of records were missing data for at least one variable. This fragmented, incomplete, and dispersed data situation may be attributable to a number of factors, such as data collected and used for different purposes, changes in data programs, and the physical relocation of records. Nevertheless, a uniform and reliable data set is a fundamental requirement for registering land interests. (See the Annex for more detailed information on missing values and data quality issues.)

Particular areas that would benefit from improved data management include:

- Distinguishing leases that have been surveyed from those that have been registered
- Improving data recording quality, particularly for area, rents, premiums, lease term, year registered, and lease class
- Collecting data on foreign versus local lease holding as part of the leasing data
- Creating a mortgage register to determine the extent to which custom landholders are leasing land
- Monitoring the location of leased land—for example, whether it is coastal or prime agricultural land

Annex: Notes on the Data

The data presented in this paper are drawn from the following government databases: the e-survey database, the Valuation database, Saperion, the e-registry database, VLAMS, and the Cadastral GIS database.[17] These databases vary in quality and coverage, with missing data from the databases for many of the variables. For example, 24 percent of the records are missing data on lease term, 12 percent are missing data on year leased, 8 percent on area, and 6 percent on lease class. The data for renting are poor; 40 percent of the records have no data at all on rent or premiums, and the data that is available lacks enough detail to draw any meaningful conclusions.

Table A1. Number Missing of Four Main Variables (Lease Term, Year Leased, Lease Class, Area)

Number Missing	Percentage
0	59.39
1	26.13
2	12.59
3	5.88
4	0.01

The data set contains 14,802 leases. Excluding 989 cancelled leases, the remaining data set contains 13,813 observations. Examining the four main areas of analysis—lease term, year of registration, lease type, and area under lease—approximately 59 percent of lease entries are complete, with no missing values.

As shown in table A3, approximately 26 percent have one missing value, 13 percent have two, six percent have three, and one observation has four missing values. Because these

[17] The application number comes from e-registry and Saperion; lease type from VLAMS, e-registry, Saperion, and Cadastral GIS; cadastre from e-survey; lease term from the old valuation database, e-registry, and Saperion; area from e-survey and Cadastral GIS; and rent from e-registry (calculation formulas) and Saperion.

values are not missing at random, meaning that certain characteristics are more likely to be associated with missing values, there will be some resulting bias in the estimations. We expect these errors to be small, however, due to the cross-checking done against hard copy leases for the islands of Epi and Tanna. Apart from missing values, only slight inconsistencies were identified in terms of the accuracy of the data in the national data set when compared with the information on the hard copy leases for Epi and Tanna.

In general, the occurrence and frequency of missing values were higher in more recent years, with a large spike in 2007 and 2008. It is unclear whether these omissions occurred in the process of the physical move of the land records or the transfer of information from hard copy to electronic files,[18] or through the under-resourcing of the land records section. It is probably a combination of all of these factors, but the data gaps in this period are of particular concern, especially given the expectations of closer monitoring in the aftermath of the 2006 Land Summit.

The other main variables of interest also show some systematic patterns of missing values, but these differences are unlikely to substantially bias the results. Leases with at least one missing value tend to be smaller than those with complete information, but this difference is driven by a few, very large outlier leases with full information. Rural leases have a higher frequency of missing values, but the difference is only 44 percent with at least one value missing, compared to 37 percent with full information. The average number of missing values (of the four variables of interest) for a given record does not vary between urban and rural designations. Plots with a special designation (as opposed to agricultural, commercial, residential, etc.) are more likely to have missing values, but these are relatively few. Agricultural plots are the least likely to have missing information.

These correlations are based on simple descriptive statistics (detailed results included in tables A2–A7 below) and no more complex analysis or imputation techniques have been utilized for this preliminary analysis.

[18] This period coincides with the launch of the Registry's Saperion system (from 2007 to 2008), which stopped functioning in 2008 due to software license problems. It was replaced only in July 2009 with the current e-registry system.

Missing Data Tables

Table A2. Missing by Variable

Variable	Percentage
Lease Term	24
Year Leased	12.62
Lease Class	6.057
Area	8

Table A3. Number Missing of Four Main Variables (Lease Term, Year Leased, Lease Class, Area)

Number missing	Percentage
0	59.39
1	26.13
2	12.59
3	5.88
4	0.01

Table A4. At Least One Other Variable Missing by Year

Year	Percentage	n	Year	Percentage	n	Year	Percentage	n
1981	0%	1	1991	26%	205	2001	33%	361
1982	0%	1	1992	23%	356	2002	26%	536
1983	0%	2	1993	27%	321	2003	43%	396
1984	27%	313	1994	21%	214	2004	37%	489
1985	25%	718	1995	21%	590	2005	29%	662
1986	21%	678	1996	20%	593	2006	42%	715
1987	18%	367	1997	16%	752	2007	64%	876
1988	21%	173	1998	18%	223	2008	63%	651
1989	25%	202	1999	26%	200	2009	36%	749
1990	42%	89	2000	25%	286	2010	38%	355

Table A5. At Least One Other Variable Missing by Lease Type

Category	Percentage	n
Agricultural	26%	787
Commercial	33%	1,483
Industrial	40%	134
Residential	37%	10,216
Special	54%	361

Table A6. At Least One Other Variable Missing by Lease Term

Lease Term	Percentage	n
Less than 50	15%	142
50	7%	4,462
51–74	13%	39
75	13%	4,475
More than 75	0%	1

Table A7. At Least One Other Variable Missing by Area

Area	Percentage	n
<1,000	26%	2,968
1,000–1,999	36%	4,854
2,000–2,999	37%	1,263
3,000–3,999	34%	591
4,000–9,999	33%	1,136
>10,000	27%	1,308

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- Is grounded in social and cultural contexts
- Recognizes the importance of demand in building equitable justice systems
- Understands justice as a cross-sectoral issue

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