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SECURING LAND RIGHTS: MAKING LAND TITLING WORK IN RWANDA, 2012–2017

Leon Schreiber drafted this case study based on interviews conducted in Kigali, Musanze, and Huye, Rwanda, in June and July 2017. Fortunee Bayisenge, Lecturer and Dean of the Faculty of Development Studies at the Protestant Institute of Arts and Social Sciences, collaborated on the research. *The British Academy-Department for International Development Anti-Corruption Evidence (ACE) Program funded the development of this case study. Case published September 2017.*

SYNOPSIS

In June 2012, Rwanda's national land registry completed a nearly four-year project that mapped every one of the country's 10.4 million parcels and prepared title documents for 8 million landholders. It was an unprecedented accomplishment in a country in which lack of land titling had weighed on the economy and led to escalating conflict over access to land. The mapping program promised to reduce tensions by establishing an orderly system for registering and transferring landownership. However, the system could work only if Rwandans registered every transaction, and in 2012, a survey found that only about one of every eight landowners had even bothered to pick up their official titles. The registry urgently had to both make it easier to register transactions and build public awareness about the importance of keeping the land database up-to-date. A registry team launched a nationwide campaign to raise awareness about the importance of titling and of reporting all land transactions. Managers simplified procedures and registration forms. And to provide greater access in rural areas, where titling was nearly unknown, the registry decentralized services and introduced a new software platform to speed transactions. By mid 2017, more than 7 million people had collected their titles, and registrations of sales, purchases, and other kinds of transfers had begun to improve. Still, the number of transactions reported in 2016 fell short of the registry's target, indicating that further work lay ahead.

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INTRODUCTION

Despite a stunningly successful multiyear effort to map and record the boundaries of all 10.4 million land parcels in Rwanda, the country's national land registry "couldn't afford to toss flowers in the air and start celebrating" when the project reached completion in 2012, recalled Thierry Hoza Ngoga, who headed technical operations during the registration program. Getting to the point where all the land was registered represented a "huge step," he said, but "registration alone was not enough."

The national land registry, formally called the Lands and Mapping Department of the Rwanda Natural Resources Authority (RNRA), risked becoming a victim of its own success. In the push to complete the titling program, the registry's leadership team had lacked the time and resources to prepare for the challenges that would emerge once the process was complete. "Now that people had seen what they could do, the demands [for land administration services] were set to increase," said Ngoga, who later became a World Bank consultant.

The team's leader was Emmanuel Nkurunziza, whom President Paul Kagame had picked to lead the ambitious nationwide registration program. Nkurunziza was a professional surveyor and urban planner with a doctorate in public policy from the United Kingdom's University of Birmingham. During the campaign to register land, Nkurunziza submitted a monthly progress report to the office of the president.

Because the land department's role had fundamentally changed from land titling to registry maintenance, the organization had to redefine its way of doing business. Together with Deputy Director General Didier Sagashya and others, Nkurunziza now had to transform the institution from one focused solely on registering individual parcels and into a full-fledged land registry capable of maintaining up-to-date records on all land transactions in Rwanda. The shift required major operational changes. Although central control had proved appropriate and effective during the titling process, the team had to refine its processes if it was to become a decentralized, client-focused institution.

Nkurunziza had no illusions about the magnitude of the task. "Where we previously had 20,000 parcels to keep updated, we now had to administer more than 10 million properties!" he said. "We also had to convince both citizens and people at the highest level [of government] that if we don't maintain the new land database, the investment [that went into the titling program] would be useless."

THE CHALLENGE

The stakes were high. Rwanda was still recovering from a civil war and the 1994 genocide against the Tutsi minority, when 800,000 to 1 million people—equal to 11 to 15% of the country's population at the time—were killed within a span of 100 days. In addition to the human and economic devastation wrought by the violence, the genocide had uprooted the country's landownership structures. Despite their insecure tenure rights, women or orphans headed thousands of households, and millions of refugees fled to neighboring countries as fields lay fallow.

But by the mid 2000s, many of the refugees had returned, and the country's population was expanding. In 2004, it grew by almost 200,000, and in that year, Rwanda—a mountainous, landlocked country smaller than Israel and about two-thirds the size of the Netherlands—was the home of 9 million citizens and had the highest population density in Africa. The parcels that people owned were small: more than 60% of landowners had less than one hectare in total, with different plots scattered across a community.[1] Moreover, land conflicts were escalating: In 2001, more than 80% of court cases involved disputes over property,[2] and in that same year, Rwanda's National Unity and Reconciliation Commission reported that land disputes represented "the greatest factor hindering sustainable peace."[3]

The risk of escalated land conflict was not lost on President Kagame. "The program of land reform was really driven by emerging conflicts," said Bernis Byamukama, private-sector adviser to the Rwandan office of the United Kingdom's Department for International Development (DFID). "Wherever the president traveled [in the country], he saw that the vast majority of people's complaints were about land conflict." The rising tensions over access to land were especially alarming because—as numerous researchers, including anthropologist Jared Diamond, argued—high population density and land conflict had contributed to the onset of the 1994 genocide.[4] With similar tensions reemerging, Kagame's government launched the titling program to defuse the powder keg (text box 1). But titling alone was not enough. To transform itself into a full-fledged land administration agency, the registry had to set forth clear goals, develop an effective organizational structure, and implement operating procedures that would spread its services more deeply into rural areas.

Financial sustainability was a paramount issue. In other parts of the world, land registries received funding from central government budgets, service fees they charged, or both. When people had only limited means and there were few taxable transactions, the first option was the usual route.

Textbox 1: Land Titling in Rwanda

Shortly after passage of a land law in 2005, the Rwandan government launched an ambitious program to title every parcel in the country. At the time, the national registry had records on only about 20,000 parcels. With a population of 9 million people—90% of whom were engaged in subsistence farming—it was clear that millions of plots had to be newly recorded. President Paul Kagame was undeterred, insisting that the registry, which was then known as the National Land Centre, complete the titling process within five years. To lead the program, he personally recruited Emmanuel Nkurunziza, a professional surveyor and urban planner who held a doctorate in public policy.

With funding support from international donors, in 2007 the National Land Centre launched a pilot project in four localities, called *cells*. The National Land Centre deliberately selected those four cells—which covered 14,908 parcels and 3,448 hectares—to reflect varying tenure types as well as Rwanda's differing geographic and demographic regions. And instead of expensive, traditional survey methods that would have required on-site surveyors to map the boundaries of each plot by using handheld GPS devices, Rwanda opted for aerial photography. Using airplanes and helicopters, the registry team took detailed photographs of the four cells and identified any visible boundaries. Then staffers visited every household to determine ownership of each parcel.

In March 2008, the cabinet adopted the Strategic Roadmap for Land Tenure Reform in Rwanda, based on the results of the pilot project. Armed with the plan, the National Land Centre recruited and trained 100 permanent employees, 800 contract workers, and more than 5,000 casual personnel; developed business processes; and designed the Land Tenure Regularization Support System to digitally record and store boundary and ownership information.

Using the pioneering aerial-mapping technique, the team took photos of the whole country and visited every corner of it to verify boundaries and ownership information. The process often resolved long-standing disputes, as locally recruited committees were brought in to settle disagreements. Once the boundary information was complete, officials transported the resulting maps, which contained hand-drawn borders, to the head office in Kigali, where staff members worked 24 hours a day, divided into three shifts, to digitize the paper maps.

The program was a resounding success. By June 2012—less than four years after the nationwide scale-up began—the registry team had built a digital database that contained boundary and ownership information for every one of Rwanda's 10.4 million land parcels.

To build financial viability and stake out their place in the government, registry officials had to win over skeptical colleagues. Nkurunziza realized it would be crucial to build engagement among his peers. The multiyear mapping and titling project had been a singular campaign that had dominated everyone's attention. "Many senior officials thought that after first registration [was complete], there was nothing more to do. In essence they felt some of us could as well go into retirement," Nkurunziza said. "This made it difficult for us to continue getting the required budget provisions as officials from the finance ministry kept telling us our work is done and that they don't see any reason to enhance our budgets."

The registry also was hobbled by a lack of the skills needed for land administration. During the registration drive, when the organization focused on repetitive tasks like drawing maps and printing documents, “we tried to be as dogmatic as possible and run it like a factory,” Nkurunziza said. “Every staff member was given only a very simple job that had to be done over and over again.” However, once the registration phase was complete, the registry needed staff members with more sophisticated computer skills and a deeper understanding of the registry’s legal responsibilities. Among other tasks, staff had to advise clients and process each of the 35 different transaction types recognized in Rwanda, including sales, inheritances, and subdivisions. A September 2012 review authored by DFID-led donors warned that the registry was unprepared for those roles.[5]

The registry also needed an improved computer system. During the registration phase, the team had used relatively simple database software built for recording parcel boundaries and the landowners’ personal information. The system, known as the Land Tenure Regularization Support System, had been designed to be simple and easy to use, and it included no functions for registering subsequent transactions. Although the team had begun designing more sophisticated software capable of processing each of the 35 different transaction types, by 2012 the registry had to urgently complete development and roll out the new software.

The software update presented thorny security challenges. During the initial registration period, the software tool had been accessible only from the national office in the capital city of Kigali. However, to maintain the database, any new system “needed to be accessible at the district level as well,” said Akumuntu Athanase, director of the land department’s management information and support system. This meant that “we had to take security very seriously because the more people who have access to the system, the more potential there is for fraud,” he added.

In addition to the difficulties of transitioning to a new organizational structure, the registry faced challenges that threatened to undermine the progress achieved during the registration phase. Principal among those difficulties was a lack of awareness among the general public. “We knew that raising awareness was important during the process of registering the land,” Nkurunziza said. “But after the registration work was complete, [we realized that] awareness became even more important.”

Registry data showed that by mid 2012, the Rwanda Natural Resources Authority had prepared and printed titles for 8 million of the 10.4 million registered parcels. Pothin Muvara, acting registrar for Kigali, said that for the remaining cases, the department was still trying to track down owners, who might be living in other countries as refugees or who lacked critical pieces of information required for formal titles. By March 2012, landholders had picked up only 924,086 of the 8 million printed titles.[6]

The figures heightened concerns about the program's sustainability. "If people don't have their title documents, they can't formally register subsequent transactions on their land," said Mireille Biraro, head of the land administration and management department at the Institute of Applied Sciences (commonly known as INES), a university in the northern city of Ruhengeri. If the situation persisted, the newly created database would quickly become obsolete.

To enable owners to update their information and remain "on register," the agency's services had to be both accessible and user-friendly. In 2012, land administration services were offered only at the head office in Kigali and 30 district land bureaus. Research conducted by INES Ruhengeri found that on average, people had to travel a total of 12 kilometers back and forth to reach their nearest district land bureau.[7] And because the processing of sales and transfers sometimes took as long as 30 days, customers usually had to travel to the district offices multiple times. In the Rwandan context, where in 2010 60% of the population earned less than the World Bank's poverty threshold of US$1.90 per day,[8] travel to the nearest land bureau was extremely costly and could take an entire day. Creating more accessible services and reducing delays were vitally important.

FRAMING A RESPONSE

During the titling project that had begun in 2009, the registry had been a special-purpose, stand-alone institution called the National Land Centre within the Ministry of Lands, Environment, Forestry, Water and Mines. Dedicated to a program favored by the president, the registry enjoyed high-level support and reliable funding from donors. In 2011, when the government integrated the registry into the RNRA alongside departments responsible for forestry, water, and mining, its mission became significantly more complicated.

The integration meant that the registry "became just like any other government agency," said Nkurunziza, whom the cabinet appointed RNRA director general. With his expanded responsibilities as head of the RNRA, Nkurunziza delegated much of the responsibility for land matters to Sagashya, a professional civil engineer and urban planner who had become Nkurunziza's deputy in 2011.

At least for the short term, the registry would remain part of the RNRA while senior officials decided whether to spin it off again or support it as a mainstream department. In addition to adapting to the new organizational structure, the registry also faced a funding challenge. The program's donor funding of 42.2 million British pounds sterling (about US$67.5 million at 2012 exchange rates) was set to end in August 2013. The team had to secure additional money, but the registry had never managed its own budget. Since 2007, the donor group that supported titling had employed an international consultancy—HTSPE Ltd.—to perform that funds management function on behalf of the registry. However, Nkurunziza's team wanted to take full responsibility for financial management. The RNRA agreed to hire some of HTSPE's local staff to bolster its internal capacity.

The registry team's success during the titling phase gave it greater credibility in its effort to secure transitional support from donors. "At the beginning of this whole process, no one believed we would be able to register all parcels so quickly," Sagashya pointed out. "But after they saw how serious we were, [donors] were eager to continue working with us and be part of the success." In September 2013, after a series of meetings and negotiations with the registry, DFID agreed to provide an additional □ 3.5 million (US$5.6 million) of support until 2015 (the funding was subsequently extended to June 2018). Most of the new money would be furnished to and managed directly by the registry.[9]

Nkurunziza and other senior managers also sought to secure continued financial support from their colleagues in the Rwandan government. The team's most persuasive tool was the World Bank's Doing Business index, which measures the ease of doing business in almost 200 countries worldwide. And improving Rwanda's score in the annual index was a key priority in Kagame's government. Compared with 2008, when the index rated Rwanda as one of the most difficult places in the world to do business,[10] the government's efforts had already produced significant progress: the country's overall ranking for ease of doing business improved to 45th in 2012 from 150th in 2008, making it one of the best performers in the world. The registry had played an important role in achieving the gains. On the World Bank's measurement of ease of registering property, Rwanda improved to 61st in 2012[11] from 137th four years earlier.[12]

In efforts to secure the government's long-term buy-in, "We were able to demonstrate that sustaining and further improving our Doing Business score depended on maintaining the land registry," Sagashya said. The team also explained to colleagues in other government departments that they planned to give banks and other institutions, such as the Rwanda Revenue Authority, access to the system because doing so would both improve the government's ability to collect land taxes and ease the process of applying for bank mortgages.

Persuaded by those arguments, the government promised its continued support and in the 2014–15 national budget, pledged an additional 2.4 billion Rwandan francs (about US$3.8 million at the time) to the land department's work.[13] That government commitment added significantly to the US$5.6 million pledged by donors.

As adequate funding developed, the leaders of the land department prioritized their most pressing problems. The registry developed a detailed transition plan that included a list of all activities the registry planned to do, and it contained cost estimates and clear deliverables. The team concluded that a low level of public engagement with the registry was one of its two key problems. So, to learn the reasons so few of the country's landholders had bothered to pick up their titles, the registry and its HTSPE consultants surveyed six localities—known as *cells* in Rwanda.

The survey pinpointed the many barriers people faced in obtaining their title documents, even when the registration process went smoothly. Although the law exempted from taxes people's first two hectares of agricultural land, some landholders were afraid that if they collected their documents, the national government would start levying taxes on their properties. Others indicated they simply thought their title documents would be safer if the government held onto them. Some wrongly believed that the receipt they received when their boundaries got recorded was in fact a title document. Still others said they saw titles as unnecessary or complained they had to travel too far to pick them up.

The team urgently had to improve public understanding.

Managers identified poor access to services as the registry's other key obstacle. Just 31 locations offered services cross the country's more than 26,000 square kilometers. The centralized model that had been effective during the registration phase, when control was vital to assembling an integrated database, had become a barrier to access when maintenance became the key priority. Nkurunziza's team decided to decentralize land services to the sector level. (Below the national level, Rwanda was organized into 5 provinces, 31 districts, 416 sectors, 2,148 cells, and 14,837 villages).

The team also produced a detailed procedure manual and forms to facilitate the registering of transactions. The manual, a tool for staff training, translated the land law's provisions into detailed but clear instructions by listing every kind of land transaction and specifying who was responsible for which actions during each step. At the same time, the land department's senior officials designed 35 forms to help people conduct transactions of the 35 various types, including parcel subdivisions, voluntary sales, and changing a landowner's name in the registry.[14]

GETTING DOWN TO WORK

To improve usage of its services, the registry had to revamp its approach to the dissemination of information. At the same time, senior managers had to improve the organization's ability to meet the anticipated growing public demand. Redesigning the computer system was crucial to support of the planned decentralization of services to the sector level while also building capacity among frontline staff members working in local offices. Although the registry already had land bureaus in each district, it planned to introduce hundreds of sector land managers across the country.

Raising awareness

Concerned by the low levels of document collection, the team first eliminated collection fees for the very poor. Until 2013, to pick up their documents from their nearest land bureau, landholders had to pay FR1,000 (US$1.20).

The next move was to redesign the awareness campaign that had been used originally during the registration phase. The new campaign stressed that "if you don't have a title, the land is not yours, because registration of land is legally mandatory," said Jean-Pierre Musafiri, head of the land bureau in the southern Huye district. Although the messages were also broadcast on television and published in newspapers, radio advertising was particularly important. The 2012 census found that 64% of households in the country owned radios, making radio the most popular communication medium in the country.[15] Cell phones came in second, at 54%. In March 2011, the RNRA launched its own Twitter account, @Lands_Rwanda, to spread the word online.[16]

The land department also worked with district governments to get the word out. The team pressed the country's 4 governors and 31 mayors to spread information about how people had to submit their original receipts in order to pick up their official titles and about the need to register all subsequent transactions. Muvara, the acting registrar in Kigali, said staff from the registry team repeatedly visited specific areas where document collection was especially low.

By mid 2013, renewed focus on messaging was paying off, as the number of landholders who had collected their titles had increased dramatically to more than 4.6 million. Among the poorest, who had been exempted from paying the standard fee, the collection rate shot up to 99%.[17]

Taking the registry to the people

Merely encouraging title collection was not enough to ensure that the registry would remain up-to-date. In early 2014, the registry's figures revealed that only 10,535 transactions—sales, gifts, or inheritances—had been recorded with the registry during the previous year. The number was well below the target of 115,000 annual transactions at the time.

Nkurunziza's team stepped up its awareness campaign by creating a dedicated annual event to register transactions. In May 2014, the registry kicked off the first of what would become an annual event: Land Week. "The purpose behind Land Week was to bring together everyone involved in land administration and then to spend one week in every district," Muvara said. Although it could take as long as 30 days to register a transaction at a local office, during Land Week clients were assured that all transactions would be processed in a single day. To meet that pledge, the registry assembled a team of notaries, district land officers, lawyers, officials from the Rwanda Revenue Authority, and the five provincial registrars.

The agency also established a link with Irembo, Rwanda's e-government platform, so that clients could pay taxes and service fees by using any of the country's popular mobile money applications. To meet the needs of citizens in remote areas, the team rented a bus from the Rwanda Development Board, converting the vehicle into a mobile data center equipped with workstations and Internet connectivity to the online registry. From 2014 through 2017, the agency used the months of May, June, and July to spend one week in every district of the country. During those three months, the mobile teams used the bus to set up shop in sports stadiums, town halls, and other public spaces.

Muvara described how Land Week worked: "Every person who arrives is welcomed, and then we find out what kind of transaction the client wants to process. Based on that, the person is told which form to print and fill in." Once notaries verified the application forms and sales or other contracts, customers went to the Irembo stand to pay any fees or outstanding taxes. (Even though the national government set the minimum and maximum allowable thresholds, it was up to each district to determine its own rates for property taxes. However, most of the land in Rwanda was zoned for agricultural use, and the first two hectares of agricultural land were exempted from any land taxes.) "After they pay, their files are taken to the bus, where the registry gets updated. Then their new titles are printed and handed out," Muvara said.

In addition to being much faster, Land Week also provided a highly visible annual focal point for raising awareness. "Wherever we went during Land Week, we consistently kept on repeating the message that 'if it's not registered, it's not yours,'" Nkurunziza said.

Improving access to services

At the same time that the registry worked to improve public understanding, it also focused on extending services more deeply into rural communities. Ngoga said that as a result of improved awareness, "demand [for land services] was starting to come from landowners themselves." For Rwandans to retain confidence in the registry, the team had to make sure it could meet the increased demand by decentralizing its services. Sagashya said the shift was in line with the government's national decentralization policy, phased in after 2000. In 2012, the cabinet announced it would accelerate implementation of the policy. The registry team took advantage of the new push. "In 2013, [the government] changed the [land] law to also have notaries at the sector level, [so that we could] be closer to the people," Sagashya said.

Below the district land bureaus, the registry introduced a team of sector land managers, who reported to the district government. The managers' roles were to share advice and information on how to register transactions. The sector land managers also provided clients with all relevant application forms, and, most important, they were trained as notaries so they could legally endorse contracts. Although the sector land managers significantly expanded the registry's reach into rural areas, they had no access to the digital database and could not make any changes to the registry.

Bertin Mukiza, district land officer in the Huye district, explained that "the sector manager collects the application forms and contracts and then travels to the district office once a week" to deliver the documents. The district officer checks the documents for accuracy, uploads the files, and updates the parcel's ownership details. By 2017, the RNRA was providing 120 motorcycles to facilitate sector managers' travel.

As a security measure, database access and the printing of new title documents remained centralized functions. After a district officer processed an application online, a provincial registrar had to approve it. Only the central office and the five provincial registry offices had the authority to print title documents. As a result, "Every Thursday, someone from the district travels to Nyanza [the provincial capital of Huye district] to pick up the new titles," Mukiza said. After the titles arrived at the district office, the sector land manager picked them up so that customers could collect the documents at their nearest sector office.

Under the country's local government system, district and sector land officers had two reporting lines. "Administratively, they report to the district mayor, but on technical matters, they report to the RNRA," Sagashya said. And even though he acknowledged that that arrangement was not always ideal, he added that it was important to create a sense of local government ownership. The same system was also used for other local government officials, such as health workers and agronomists. To make the system work, senior land officials from the national offices often met with mayors to build good relations between the two institutions.

With the new structure in place, the Rwandan ministry of local government also decided to reconfigure district-level services. In consultation with colleagues in the lands ministry, "the [local government] ministry realized it didn't make sense to have the land, infrastructure, and urbanization and human settlement departments in different offices" in the districts, said Musafiri. As a result, in 2015 the government created a so-called one-stop center in each district, which brought together staff from the different departments. Musafiri, who was appointed director of the one-stop center in Huye district, pointed out that the integration "made it much easier to issue things like land titles, electricity, water or building permits, because staff are working together as a team in the same department. The sharing of information became easier."

Instead of traveling an average of 12 kilometers back and forth to their closest district land bureau, under the new system customers had to travel only to their nearest sector office. There the sector land manager advised them regarding the documents required to register any given transaction. Customers filled in the relevant application forms and submitted supporting documents like sales contracts or wills to the sector manager, who notarized the documents. The sector manager then transported the documents to the nearest district one-stop center, where land officers uploaded the information onto the digital system. Once the provincial registrar approved a transaction, the sector land manager collected the new title documents from the one-stop center, and the client then collected the documents from the sector office.

According to Biraro, the new arrangements significantly reduced the time and money spent by clients on traveling back and forth to register transactions. The one-stop centers also used the registry's information to offer speedier services at the district level.

Rolling out new software

Because the quality of its records relied on the caliber of its information system, the land registry had to create the right infrastructure backbone. That task included a redesign of its existing Land Tenure Regularization Support System (LTRSS) software so as to allow district land officers and provincial registrars to update the database as land got transacted. Although the existing software allowed updates of ownership details in cases in which the initial registration information was incomplete or in error, it had no functions for registering subsequent transactions involving properties or for uploading supporting documents.

The LTRSS arose from a decision at the beginning of the initial pilot registration project in 2007, when the registry team needed a basic input and organizational system that could be readied for use quickly. Sagashya explained that because Rwanda had never had a digital registry and because a 2005 land law had created a host of new transaction types that had not previously existed, the registry team anticipated that it would take a long time to develop new software to register property transfers. Instead of spending potentially years on the design of sophisticated software, which would delay the entire titling program, the team opted to build a simple system right away and a more sophisticated one later that could handle transactions and a variety of administrative tasks.

In 2009, while the registration program was under way using the LTRSS, the registry started work on second-generation software, called the Land Administration Information System (LAIS). The team used open-source software that was comparatively cheap and easy to modify. Using funding from the Investment Climate Facility for Africa, an organization focused on improving the ease of doing business on the continent, the registry hired the international arm of the Dutch registry, Kadaster International, to codesign LAIS. (Kadaster had built the original land registration software).

By 2012, the new software was ready. Nkurunziza said a team of data processors from the IT department worked around the clock to transfer the massive amount of land registration data from the original system to the new one.

As with any software system, security was of paramount importance. The registry stored all of the land data on a computer server located in Kigali, using a virtual private network, a tool that encrypted and secured the flow of data between the districts and the head office. And the registry installed high-speed-fiber Internet connections in all district offices to connect them to the head office in Kigali.

Athanase, director of the land agency's IT team, said security precautions also involved limiting staff access to the system. "Each district office could access the registry information only from its own district," he said; and access to the full registry was restricted to a small group in Kigali. (In early 2017, the team further bolstered security by replacing its physical storage space with a cloud-based server that stored data over the Internet. Athanase said that storing the data in the cloud was more secure than having it all on servers in one physical location.)

By December 2013, the teams had transferred all data to the new system, and all 30 district offices were connected.

The IT team leveraged the sophisticated LAIS software by providing links to the registry for all of the country's major banks as well as ministries and the Rwanda Development Board. That step significantly reduced the time it took for banks to assess mortgage applications, because credit institutions could easily access reliable information on landowners, the size of their property, and whether there were any legal encumbrances. Banks and other external users could view the database but could not modify it in any way.

The team designed a similar tool for mobile phones that allowed any member of the public who used the MTN cell phone network to check the status of any plot in the country. "You just text *651# and enter the UPI [Unique Parcel Identifier] number of the plot. Then you can see who the owner is, what the land use and size are, and whether it has been mortgaged," Athanase said. The tool was launched in 2015, and each text message cost RF65 (US$0.07). In mid 2017, Athanase said, about 40,000 people used the mobile system monthly. Using the LAIS data, the mobile system saved time and money because clients no longer had to travel to a physical office to check basic ownership details.

Building capacity

With a new software system and improved business processes in place, the registry had to make sure its staff was equipped to process land transactions efficiently. The procedure manual the team had created earlier became an important tool during training sessions because it specified the exact steps required to register each of the 35 different transactions (text box 2).

Beginning in 2013, senior land administration officials started traveling throughout the country to help district staff learn to use the new information system, and lawyers from the Rwanda Natural Resources Authority's legal department trained newly recruited sector managers to become notaries. To accelerate the process, they relied on a cascade effect. "Together with a colleague, I trained the first 4 people in GIS [geoinformation science], and they then went to the districts to train 20 more," Sagashya said. "Then those people also became trainers in the sectors."

Despite efforts to limit demands on their time, senior managers quickly found that the training program was a burden that diminished their ability to focus on other critical tasks. As a result, the team realized "that we still needed more people with higher skills" who could help provide training of others, Nkurunziza said. In response, the Rwandan government secured a grant from the Swedish government to set up a scholarship fund that sent between 10 and 12 staff members annually to study geoinformation science at the University of Twente in the Netherlands.

The scholarship program was designed to bolster skills in district offices. "The plan was to eventually have around 45 people with master's degrees in land administration," Sagashya said. "Every year, we made sure to also send people from the districts to get their master's. And when they came back, we deployed people in the districts." Although there were sometimes tensions over who got chosen during the competitive internal selection process, the program had a largely positive effect on morale, he added. "People were motivated because they knew their time would come."

The country's capacity to manage land administration received a further boost when the University of Rwanda and the Institute of Applied Sciences, commonly known as INES Ruhengri, introduced courses on land surveying, land administration, and geoinformation science in 2010. "A lot of the courses were initially based on the training plans we'd developed. Our senior staff often went to do guest lectures, and some nights after work we even helped write the curricula," Sagashya recalled. With direct input from registry

Textbox 2: Transaction Types

The Rwandan land administration system recognized 35 different types of land transactions covering a broad range of categories. The first category involved boundary changes resulting from subdivisions, mergers of adjoining parcels, or the correction of incorrect demarcations. A second group of transactions covered sales, including voluntary sales as well as court-ordered sales or auctions. Another category dealt with voluntary transfers that did not involve money, such as inheritances, donations, and exchanges of land.

Landholders also could apply to the registry to rectify mistakes such as misspelled names, and they could add annotations or conditions to their titles. The law also specified the circumstances under which the government could expropriate, confiscate, requisition, or seize land. Furthermore, landowners could apply to convert lease rights to freehold, register subleases, change the tenure type and land use of their parcels, and add an owner's name or remove one from a title.

staff, the team hoped Rwanda would quickly develop the capacity to train more land administration officials without the need to send them overseas.

With more skilled personnel able to provide training across the country, the team also slowly reached its capacity targets. A report by the UK Department for International Development concluded that only about 65% of national and district staff and 30% of sector land managers received "appropriate" training during 2014 but that by 2016, all national and district staff as well as 89% of sector-level staff had been trained in the registry's procedures.[18]

OVERCOMING OBSTACLES

In January 2017, Rwanda's land registry endured another reorganization. Vincent Biruta, minister of natural resources, decided to split the Rwanda Natural Resources Authority into separate agencies, effectively reversing the departmental merger that had created the RNRA in 2011.[19] The reason behind the split was that the government wanted to more greatly emphasize exploitation of Rwanda's natural resources by having one authority each for lands, water, forestry, and mining. Just as the National Land Center had originally been a stand-alone authority prior to creation of the RNRA, the registry, renamed the Rwanda Land Use and Management Authority, became a wholly autonomous body.

The following month, the government announced that Nkurunziza, who had headed the National Land Center and then the RNRA as director general since 2009, would leave his post to become head of the Regional Centre for Mapping of Resources for Development in Nairobi, Kenya. (His deputy, Sagashya, had left the RNRA in June 2015.) "My last task in Kigali was to assist in splitting up the organization," Nkurunziza said. Espérance Mukamana, who had been registrar of land titles in Kigali and in the country's southern province, succeeded Nkurunziza as director general.

The registry's new leaders now had to return to a question that had remained unanswered since 2012. With improved business processes and a new organizational structure in place, the key question the new leadership team confronted was how to get the registry into a position where it could finance most of its operations without donor support. To answer the question, the government had to address two related issues: (1) How much should the registry charge in transaction fees? and (2) To what extent could it rely on fees versus support from the general budget to fund its operations when the bulk of donor funding came to an end in June 2018?

To address the issues, the registry's first move after the restructuring was to hire Sivan Design, an Israeli consulting firm that had worked on land administration issues in various African countries since 1999. Sivan's job was to develop a comprehensive business plan for 2018 and beyond.

The first challenge that had persistently dogged the registry was the need to identify the right fee structure. The management team was well aware of complaints about fees. Ever since the 2009 launch of the titling program, the registry had consistently charged a flat fee for every transaction it processed. In mid 2017, the notarization of a sales agreement or other contract, the printing of new title documents, and the registration of a transaction cost a total of FR30,000 (about US$35). And although the fee was affordable in urban Kigali, where land values were high, it was usually prohibitively expensive in rural areas. A 2015 study conducted by researcher Biraro at the Ruhengeri Institute of Applied Sciences showed that nearly 7 of 10 Rwandans earned less than RF50,000 (about US$60) a month.[20] The flat-fee system meant that impoverished people in rural areas paid the same amount as urban millionaires.

Moreover, the flat fee did not differentiate between different types of transfers. During a sale, it was somewhat easier for people to afford the cost because they could use a portion of the price to cover the fee. But in cases involving inheritances and donations, for example, the parties could not finance the fee that way. Biraro pointed to the cultural practice of Umunani, wherein parents donate property as wedding gifts to their children. In contrast to a sale, when land is inherited or donated through Umunani, no money changes hands. "When my father gives me a piece of land, there is no money in the transaction. If I can't pay the transaction fees, I will just keep using the land without reporting the change in the registry," Biraro said.

Biraro argued that the fee structure for subdivisions was also illogical. "For example, when someone wants to buy half of an existing plot, the current owner first has to pay for a subdivision. The owner has to hire a surveyor, get a cadastral plan approved, and submit an application for subdivision." Once the subdivision has been approved, "both titles will be in the name of the current owner. Only then can you transfer one of the titles to the buyer," he said. Classifying subdivision and transfer as two distinct procedures imposed additional costs on the seller and slowed the transaction.

In mid 2017, Kagame's cabinet began a study of the payment structure in response to persistent complaints about fees. Muvara said the country's senior decision makers had two options. The first was to create a proportional system, wherein the transaction fee would be calculated as a percentage of the sales price. "But the problem with such a proportional fee is that it would lead to a delay in the processing of transactions because we have to go through the valuation process," Muvara said. "There are concerns that people would cheat and declare less than what they actually paid." For a proportional fee structure to work, Rwanda would have to make major investments in improving its capacity to accurately value properties, Muvara cautioned.

The second option was to charge different flat fees for various transactions. For instance, the fee of US$35 could remain in place for urban areas like Kigali, but "if it's [a sale on] an agricultural plot smaller than two hectares that is located in a rural area, the fee could be much lower—maybe

RF5,000 [US$6]," said Jean Baptiste Mukarage, acting director of the land administration department.

Biraro argued that the fees required more-nuanced differentiation: "The price [of registering transactions] should take into account different factors, including the value of the land, the use of the land, the size of the plot, and the kind of transfer involved."

Whether the registry could be self-financing was an equally challenging problem. Sagashya said, "The main goal is for land transfer fees to cover all [land administration] expenses." In addition to concerns about whether the registry would generate enough money to cover its future operating costs, "the issue is [also about] how money gets shared. Currently, because almost all of the fees are collected at the district level, they use them for other development activities because they know the [registry] has donor funding," Sagashya said. Any future arrangement had to clearly define the ways revenues would be shared between the districts and the registry.

Besides transaction fees paid by the public, there were two other potential revenue sources. The first involved charging other arms of the government for the use of registry data. The other revenue source—based on the registry's rich database—would involve the sale of additional value-added products to the private sector, including real estate agents, land developers, insurance companies, investors, communication companies, and banks. Although most commercial banks were already connected to the registry's database and used it for calculating mortgages, the registry did not charge the banks for the service. However, revenue from such dealings could vary substantially with changes in the Rwandan economy and the health of the property markets.

Another option was for the government to mobilize more tax revenue, making it easier to finance critical economic services like the land registry. Based on the data in the registry, the government estimated it could annually collect RF10.3 billion (US$12.2 million) from land taxes. Instead of the current system—wherein outstanding tax amounts usually got identified only once a landowner attempted to register a transaction—the tax authority could increase its revenue collection by setting clear annual targets for land taxes and proactively tracking down defaulters.

In mid 2017, the details of any fee proposal remained unclear. Sagashya noted that final decisions on fees rested with parliament, and he was optimistic that a new cost structure would be in place by the end of the year. With most of the registry's donor funding coming to an end in June 2018, senior managers and consultants were throwing themselves into the development of a business plan.

ASSESSING RESULTS

By mid 2017, Rwanda's land registry had made significant strides in winning cooperation from landholders. In contrast to March 2012, when people collected only 924,086 of 8 million completed title documents, by June 2017, 7.16 million landowners had collected their titles.

The number of formally registered transactions also had increased. During the 2013–14 financial year, only 10,535 transactions got recorded in the land registry. With 8 million plots in the country, it meant that only 0.13% of the total got formally transacted during that year. Although the land department did not have official figures on the number of informal transactions taking place, 0.13% was an impossibly low number.[21] It was obvious to researchers that many sales, inheritances, and donations were taking place off-register.

The 2015–16 financial year produced significant improvement. The number of registered transactions increased more than 10-fold to 148,069, or about 1.8% of the 8 million parcels. Still, the number of annual transactions was about 100,000 short of the target of 250,000—equal to 3.1% of all parcels—that DFID and others regarded as a more sustainable level.[22]

Rwanda continued to improve its ranking in the World Bank's annual Doing Business index. On the measurement of the ease of registering property, from 2012 to 2017 the country jumped from 61st to 4th in the world. During the same period, the average amount of time it took to process a transaction improved from 25 days to 12 days. By 2017, the World Bank was giving the overall quality of the country's registry a score of 28 out of 30.[23]

Another important result was that the increasing number of transactions had no significant impact on the large number of women who either singly or jointly owned land in Rwanda. Whereas landownership was male dominated in most parts of the world, Rwanda ran counter to the trend. In 2016, 63.7% of titles were either owned outright by women or co-owned by men and women. The high level of female landownership had remained relatively stable since the original registration process ended in 2012, suggesting that men were not using various kinds of transactions to "grab" land from female landowners. It was an especially important accomplishment in the Rwandan context, wherein genocide had resulted in many female-headed households. Plus, 82% of women and 74% of men reported they were satisfied with land administration services.[24]

On decentralization, DFID, the primary donor partner in the land program, reported in its 2016 annual review that extending land administration services from the district to the sector level "has been very well received and appreciated by users. The recruitment and training of . . . sector land managers (who can act as notaries) appear to be a big success, and have provided land administration services closer to the communities needing them."[25]

But DFID's key outstanding concern echoed those of many senior officials working on the registry: "Financial sustainability seems unlikely in the short term . . . [though it may] eventually be possible . . . there are now encouraging signs that the new registration system is becoming established." Compared with its assessments from previous years, DFID's 2016 report concluded that "the risk of the new system failing to gain traction is seen as diminished."[26]

REFLECTIONS

Consistent support by President Paul Kagame enabled Rwanda's land registry team to remain focused on its core functions despite years of challenges. Didier Sagashya, former deputy director general of the Rwanda Natural Resources Authority (RNRA), said: "A key success factor was the high level of political will from the highest office in the country—the president himself supported the program. . . . The political support from all corners of government allowed us to be innovative. We simply couldn't have achieved what we did without that."

However, as was the case after completion of the 2012 registration phase, there was no time to celebrate. Even though the number of annually registered transactions was trending upward in 2017, "we still aim to further decentralize the system," said Jean Baptiste Mukarage, acting director of the land administration department. Even though the existing mobile system allowed anyone with an MTN SIM card to check the status of any land parcel in the country, "we want to go further to make the registry completely paperless by allowing anyone with Internet access to register transactions online. We're also working on creating a one map"—an online map of the entire country.

With the government's commitment to expand Internet access from 37% of the population in 2017 to 60% by 2019,[27] Mukarage was optimistic that a completely integrated online portal would eventually overcome many of the remaining access barriers to land administration services. Akumuntu Athanase, director of management information and support, agreed but also cautioned that greater focus on cybersecurity would become increasingly important as more and more people gained access to the online system.

Jacqueline Muhongayire, a land officer at the Huye one-stop center, added that despite decentralization to the sector level, people sometimes still had to travel to a sector office multiple times if there were problems with their applications. She pointed out that district offices had previously used an SMS system that automatically sent text messages to clients to update them on the status of their applications. But the system ran into technical difficulties in 2016. "Getting the SMS system back would be helpful," she added.

A colleague of Muhongayire's at the Huye district office, Bertin Mukiza, said still more could be done to minimize officials' waiting and travel times. Even though the state reimbursed their travel expenses, sector land managers usually had to wait until they received multiple applications before traveling to the district, which could delay the process. "The next step would be to develop a system wherein [sector land managers] could scan and send us the applications digitally," Mukiza suggested, also noting that if the agency could guarantee security, it could accelerate the process further by permitting district officials to print titles themselves.

Jeannette Bayisenge, a senior lecturer at the University of Rwanda's Centre for Gender Studies, praised the program's deliberate emphasis on gender equality since its inception in the mid 2000s. "After the genocide, Rwanda put in place good laws" on gender equality, she said. "But they were really strengthened in practice through land registration. Women gained full access to land rights. Widows now own land, and women can inherit."

Bayisenge added the caveat that even though "co-ownership" between a husband and wife was the formal law of the land for couples in legally registered marriages, informal practices could still limit married women's land tenure security. She estimated that "between 20% and 50% of marriages across the country might not be registered," partly because some men don't want to co-own land with their wives. Moreover, whereas the law required both parties to consent to a sale if land is co-owned, in practice, some men simply "force their wives to consent. . . . These are cultural issues that need to still be addressed."

Regarding the open question of financial sustainability, Emmanuel Nkurunziza, who served as director general of the National Land Centre and the RNRA for eight years, said online services held the answer. Although the appointment of 372 sector land managers had aided in decentralization, "the cost of that administration may be unsustainable. The question is how you get services to people without always expanding the bureaucracy," Nkurunziza said. "Increasingly, we see that institutions like banks have stopped building physical branches. They simply create service points in places like village shops. My feeling is that [the Land Use and Management Authority] could develop something similar that could transmit registry data. The IT infrastructure in Rwanda is good enough," Nkurunziza said.

Nkurunziza said he was confident that the authority's renewed status as an autonomous organization gave it the flexibility to implement innovative solutions. With less than one year of major donor funding remaining, he said, the decision to return the land registry to a stand-alone structure had come at a propitious moment. "Where they are now—as an autonomous authority—is just right," he said. "I think they should use [their autonomy] to push for even more efficiency in the land sector."

References

[1] "Land Reform Development in Rwanda," Food and Agriculture Organization Workshop, Entebbe, Uganda, November 23-30, 2015, accessed July 12, 2017; ftp://ftp.fao.org/agl/agll/kageradocs/09stratgies_policies/rw_land_reform.pdf.

[2] "Brooking Initiative in Rwanda: Land and Human Settlements," Ministry of Lands, Human Settlements and Environmental Protection, 2001, cited in Kathrin Wyss, "A Thousand Hills for 9 Million People: Land Reform in Rwanda," Swiss Peace Foundation Working Paper, 2006, accessed July 12, 2017; https://repositories.lib.utexas.edu/bitstream/handle/2152/4923/4029.pdf?sequence=1.
[3] Herman Musahara and Chris Huggins, "Land reform, land scarcity and post-conflict reconstruction: A case study of Rwanda," *From the ground up: Land rights, conflict and peace in sub-Saharan Africa*. Pretoria, South Africa: Institute for Security Studies, 2005, accessed July 26, 2017; https://www.academia.edu/835629/Land_reform_land_scarcity_and_post-conflict_reconstruction_A_case_study_of_Rwanda.
[4] Jared Diamond, *Collapse: How Societies Choose to Fail or Succeed*, New York: Viking Press, 2005; see also Karol Boudreaux, "Land Conflict and Genocide in Rwanda," *Electronic Journal of Sustainable Development*, 2009, 1(3), accessed July 12, 2017; https://dlc.dlib.indiana.edu/dlc/bitstream/handle/10535/5334/LAND_CONFLICT_AND_GENOCIDE_IN_RWANDA.pdf?sequence=1&isAllowed=y.
[5] United Kingdom Department for International Development, *Annual Review: Support for Land Tenure Regularisation in Rwanda*, September 2012.
[6] United Kingdom Department for International Development, *Annual Review: Support for Land Tenure Regularisation in Rwanda*, September 2012.
[7] Mireille Biraro, Selina Khan, George Konguka, Valence Ngabo, Violet Kanyiginya, Wilson Tumusherure and Potel Jossam, *Study on access to the land tenure administration system in Rwanda and the outcomes of the system on ordinary citizens*, INES Ruhengeri in collaboration with USAID LAND Project, September 2015, accessed September 5, 2017; http://pdf.usaid.gov/pdf_docs/PA00M5XK.pdf.
[8] "Poverty headcount ratio at $1.90 per day (2011 PPP) (% of population)," World Bank Data, accessed July 12, 2017; http://data.worldbank.org/topic/poverty?locations=RW.
[9] United Kingdom Department for International Development, *Annual Review: Support for Land Tenure Regularisation in Rwanda*, August 3, 2014.
[10] World Bank, *Doing Business, 2008*, p. 8, accessed July 24, 2017
[11] World Bank, *Doing Business 2012*, accessed July 14, 2017; http://www.doingbusiness.org/~/media/WBG/DoingBusiness/Documents/Annual-Reports/English/DB12-FullReport.pdf.
[12] World Bank, *Doing Business 2008*, accessed July 14, 2017; http://www.doingbusiness.org/~/media/WBG/DoingBusiness/Documents/Annual-Reports/English/DB08-FullReport.pdf.
[13] Ministry of Finance and Economic Planning, "Budget Speech: Financial Year 2014/15," Republic of Rwanda, June 12, 2014, accessed July 14, 2017; http://www.minecofin.gov.rw/fileadmin/templates/documents/BUdget_Management_and_Reporting_Unit/Budget_Speeches/2014-2015_Budget_Speech.pdf.
[14] For a full list of the application forms, see Rwanda Natural Resources Authority, last accessed July 21, 2017; http://rnra.rw/index.php?id=20.
[15] National Institute of Statistics of Rwanda, *Characteristics of Households and Housing*, Fourth Population and Housing Census, Rwanda, 2012, accessed July 19, 2017; http://www.lmis.gov.rw/scripts/publication/reports/Fourth%20Rwanda%20Population%20and%20Housing%20Census_Housing.pdf.
[16] National Institute of Statistics of Rwanda, "Characteristics of Households and Housing."
[17] Polly Gillingham and Felicity Buckle, "Rwanda land tenure regularisation case study," *Evidence on Demand*, March 2014, accessed July 19, 2017; http://dx.doi.org/10.12774/eod_hd.march2014.gillingham.
[18] DFID Rwanda Logframe, Support for Land Tenure Regularisation, August 2016.
[19] Eugene Kwibuka, "Rwanda: Natural Resources Authority to Be Split into Three Bodies," *AllAfrica*, January 30, 2017, accessed July 14, 2017; http://allafrica.com/stories/201701300067.html.

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[20] Michel Nkurunziza, "Land transaction fees too high, says new survey," *New Times*, June 27, 2015, accessed July 14, 2017; http://www.newtimes.co.rw/section/read/190103/.
[21] DFID Rwanda Logframe, Support for Land Tenure Regularisation, August 2016.
[22] DFID Rwanda Logframe, Support for Land Tenure Regularisation, August 2016.
[23] World Bank, *Doing Business 2017*, accessed July 20, 2017; http://www.doingbusiness.org/~/media/WBG/DoingBusiness/Documents/Annual-Reports/English/DB17-Full-Report.pdf.
[24] DFID Rwanda Logframe, Support for Land Tenure Regularisation, August 2016.
[25] United Kingdom Department for International Development, *Annual Review: Support for Land Tenure Regularisation in Rwanda*, August 2016.
[26] United Kingdom Department for International Development, *Annual Review: Support for Land Tenure Regularisation in Rwanda*, August 2016.
[27] Jean-Pierre Afadhali, "Kigali to connect three million more people to Internet," *East African*, April 15, 2017, accessed July 19, 2017; http://www.theeastafrican.co.ke/rwanda/Business/Kigali-to-connect-three-million-more-people-to-Internet-/1433224-3890662-6sp7jx/index.html.