



## INNOVATIONS FOR SUCCESSFUL SOCIETIES

### FROM THE GROUND UP: DEVELOPING JAMAICA'S NATIONAL LAND AGENCY, 2000–2016

#### SYNOPSIS

In 2001, registering or transferring land in Jamaica was an uphill battle. Four separate departments handled different aspects of land administration, leading to weak coordination and delay. Even straightforward transactions dragged on for weeks, simply getting information was a struggle, and fraud was commonplace. In April of that year, Jamaica established the National Land Agency, charged with merging the four departments, speeding up services, and improving their quality. As the new agency's CEO, Elizabeth Stair led a team of managers that had to oversee the consolidation, design systems to prevent fraud, improve performance, and implement new procedures and technologies to increase speed and transparency. During its first decade and a half of operation, the National Land Agency significantly reduced processing times and won acclaim for its customer service and innovative use of technology. Despite these successes, there was still room to improve land tenure security. Stiff documentation requirements, high costs, and limited awareness of the process meant that registration and related services remained out of reach for many Jamaicans.

*Maya Gainer drafted this case study based on interviews conducted in Kingston, Jamaica, in June 2016. The Omidyar Network funded the development of this case study. Case published January 2017.*

#### INTRODUCTION

“It had to change,” National Land Agency CEO Elizabeth Stair said of Jamaica's land administration system. Before the agency was established in 2001, the four government departments that managed aspects of land administration—the Office of Titles, the Survey Department, the Land Valuation Department, and the Office of Crown Lands—suffered from delays and fraud. Customers could easily access sensitive records, enabling them to forge transactions to take possession of other people's land. In addition, the system moved at a glacial pace, typically taking weeks to process a simple transfer—and longer for

more-complex transactions such as registration or checking a survey plan.

Many of the Caribbean nation's property owners were unable to access land administration services at all. In 2000, an estimated 55% of the parcels of land on the island were unregistered. The real figures were unknown because people often transferred, divided, or inherited land informally, without written records. The documentation, tax payments, and legal and survey fees necessary to obtain a registered title—the state-guaranteed and definitive form of ownership—presented far too high a bar for many, especially people in rural areas, where nearly half

of the population lived and where the poverty rate was twice that in cities.<sup>1</sup> (See textbox for more information on the title registration, or Torrens, system used in Jamaica.)

In 1996, Jamaica adopted a new National Land Policy to address the sector's many problems, from unplanned development to inefficient institutions and unsustainable use of resources. The document's key goals included "affordable and legally secure access to land" and "effective land management and administration institutions."<sup>2</sup> Achieving widespread registration was a key goal of the governing People's National Party, and the main opposition party agreed on the need to improve access to titling and other land services.

Although the policy called for the creation of a single institution responsible for land management, it provided few details with regard to precisely how that institution would function.

At the time, the Jamaican government was in the midst of a broader transition that became pivotal in determining the land agency's future. In response to years of high government expenditures and poor service quality in many

policy areas, the government and the World Bank initiated a wide-ranging set of reforms called the Public Sector Modernization Project. To improve selected services, the project proposed creating executive agencies based on a model developed in New Zealand and the United Kingdom. The new agencies would be unbound by the usual civil service rules on hiring and firing and would have autonomy over their budgets in exchange for meeting targets set out in the performance contract each chief executive officer signed with a supervising minister. In many cases, the agencies also were allowed to charge for services and generate their own revenues. The reform program planned to create the unified land agency envisioned in the 1996 National Land Policy as one of eight pilot agencies.

"The idea was to give the new agencies more control over their money, their people, and their destiny, but we'd also expect a lot more of them," said Murray Glow, a Canadian management consultant whose firm won the bid to prepare the initial plans for establishment of the new agency.

In collaboration with the Jamaican public

### Box 1. The Torrens System

Jamaica adopted the Torrens system (named after Sir Robert Torrens, an Australian politician in the mid-19th century) with the passage of the Registration of Titles Act in 1889. In a Torrens, or title registration, system, a certificate of title constitutes a strong, permanent record of property ownership. The person registered on the title has a definitive claim to the property, and the government guarantees the claim and provides the rightful owner with compensation if a title gets issued or transferred in error.

A Torrens system can simplify transactions because the title takes precedence over any other claims, and it guarantees the registered owner has the right to sell the property. In contrast, under a deeds system, transfers have to be thoroughly investigated to verify that the deeds in the registry show an unbroken chain of ownership that ensures that the owner in fact has the right to sell and there are no competing claims to the property. Because the Torrens title certificate serves as a definitive record of ownership, titles generally must be issued carefully to avoid dispossessing someone who has a legitimate claim to the property. Boundaries must be clearly demarcated, and it is important to resolve any disputes or overlapping claims at the time the title is issued.

In Jamaica, as in other Torrens systems, a title has two main parts. The first is a map showing the location of the parcel and its boundaries. The second is text that records details about the owner and the property and any rights or restrictions associated with ownership, such as restrictive covenants or mortgages. When the entire parcel gets transferred, the new owner's name is simply recorded on the same title. A division of the land or alteration of its boundaries requires amendment to the map and the issuance of new documents or certificates.

sector reform unit based in the prime minister’s office from 1997 to 2000, Glow’s team developed a plan of operation for the agency, from its relationship to the parent ministry to a planned budget and organizational structure. The team also worked with the reform unit to identify the right leader for the new National Land Agency (NLA).

Stair applied for the job of CEO in mid-2000. At the time, she headed the Land Valuation Department, was serving as acting commissioner of lands, and was a fellow of the Royal Institution of Chartered Surveyors in the United Kingdom, where she had studied. Like many of her staff and colleagues, Stair worried about the new approach, she said, “but it was going to happen, and there was nothing I could do about it.”

As Glow’s consulting team discussed the existing departments’ problems with their leaders and gave examples of countries where executive agencies had worked, Stair saw the new model’s potential. At the end of a grueling application process—consisting of a combination of a written assessment, several presentations, group work with the other applicants, and a formal interview—Stair found herself with six months to get the NLA ready to launch.

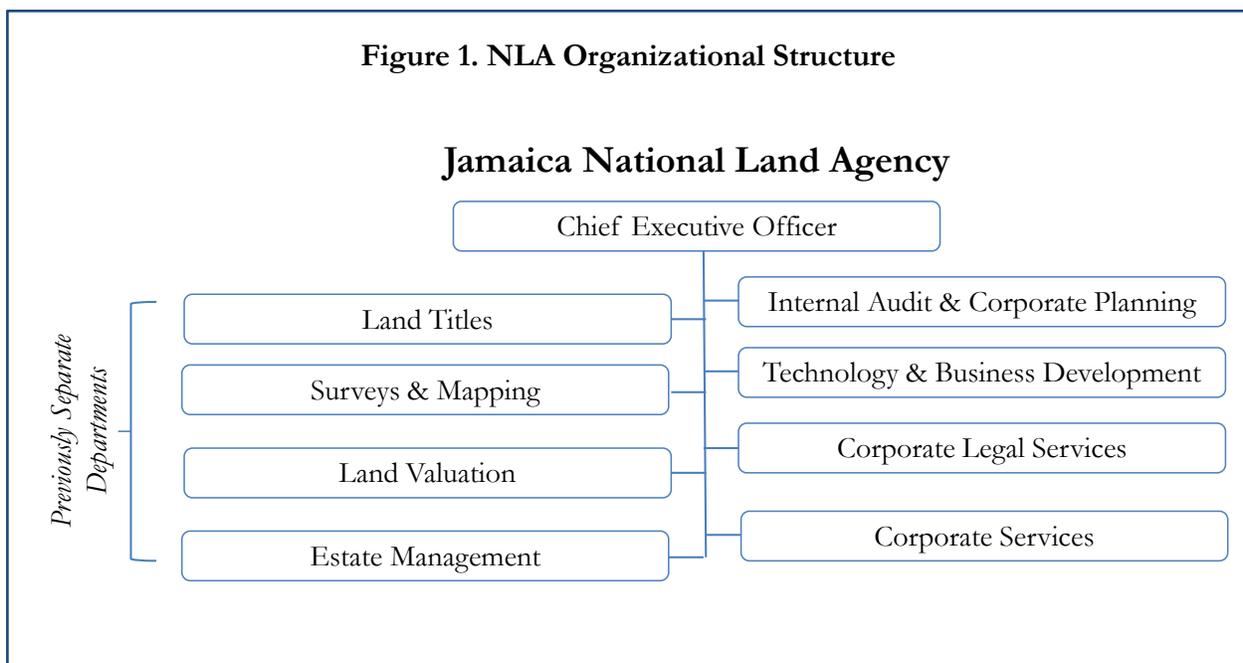
### THE CHALLENGE

From her first day on the job in September 2000, Stair faced a series of daunting tasks: she had to lead the merger of four separate departments, each with its own culture and procedures. After the merger, the new agency had to control corruption and dramatically improve services—all of it in the face of substantial anxiety and resistance from the civil service staff.

The NLA’s first set of challenges revolved around merging the four core departments—titles, land valuation, surveys and mapping, and estate management (the new name for the Office of Crown Lands, which managed land held by the government)—into a cohesive single agency (Figures 1). “The executive agency acts as an umbrella,” Stair said, by providing a management structure for all four departments.

The departments, renamed divisions, would continue to provide the same services but with closer coordination, a unified operational support system, and overall direction from the CEO.

All four existing departments had their own procedures, however, and they had not formally coordinated in the past. Previously, “we had very informal contact with each other,” Stair said, and getting information or assistance from another department depended on officials’ relationships. Maintaining and formalizing cooperation would be



difficult. The department heads had worked together during the planning process, Glow said, “but then the issue became, ‘If we merge you guys, who’s going to be in charge?’” Leaders were reluctant to cede their authority, and initially, “everybody was protecting their turf,” recalled Lori-Ann Thompson, who in 2016 was director of business services at the NLA.

Beyond questions of authority, each department had its own ways of functioning. In every office, “it was a different culture . . . the hardest part was trying to get everyone on the same page,” said Stacey Coore-Leslie, who joined the NLA as operations manager in 2001 and later became director of corporate services. Furthermore, the reorganization meant that some staff moved between departments, and other staff came in from the private sector. For some new hires like Thompson, who started out managing customer service for the titles division, “it was a culture shock when I came here. . . . I really was put in a [role] where nobody wanted you,” she said, and existing employees initially refused to work with her.

The merger also required Stair, her advisers, and the agency’s new management team to finalize the NLA’s organizational structure, staffing plans, and job descriptions. Early on, they decided that those at the four existing departments who wanted to remain in their positions had to apply for jobs at the NLA. That requirement made the consolidation of support functions particularly sensitive. “We put in place a new structure, because of course you had four human resources [units] and four finance [units],” Stair said. The overlap meant that the NLA would have to cut positions, and staff who worked in those areas at the existing departments would face tough competition to remain in their jobs. Technical staff such as land surveyors or lawyers in the core divisions “would not encounter much of a problem, since their skills were specific to that department,” Coore-Leslie said, but in support divisions, “you’re competing with people from other departments with similar skills or tenure.”

Once the merger was complete, the new agency would face a second major challenge:

achieving efficient and high-quality service delivery. To live up to the high expectations for the new executive agency, the NLA’s management team had to make sweeping improvements.

Limiting corruption was a top priority. “We knew it [corruption] was huge,” Stair said, particularly in the titles division. Corrupt practices ranged from bribes to speed up processes to the manipulation of documents. Because the Torrens system treated the land titles kept at the office as the definitive records of ownership, stealing or manipulating the documents enabled people to dispossess the rightful owners and fraudulently transfer land. “If they got access to our records, they would basically create their own endorsements—for example, transferring property to themselves,” Senior Deputy Registrar Shalise Porteous said. With few controls on access to records and no means of tracking who had handled them, such practices were almost impossible to trace, Stair said. It was essential that the NLA develop new ways to detect and prevent corruption, especially in the critical area of records security.

In addition, the NLA had a great deal of work to do to meet the standards expected of an executive agency. Before the agency’s establishment, there had been no formal performance management systems at either the institutional or individual level. “Nobody really checked if you did anything . . . and if you don’t check something, then it doesn’t get done,” Stair said. Coore-Leslie recalled that on her initial visits to some offices in 2001, “people were just milling about . . . you would go into a unit and ask for the supervisor and someone would say, ‘Oh, they’re not at work yet.’ Customers would just be sitting, waiting to be served.”

Weak supervision meant that unmotivated staff could get away with poor service and delays, and as a result, even simple transactions often took weeks. A straightforward transfer of ownership took an average of 25 working days, or five weeks. Registering a new title took 70 working days—more than three months. With a new focus on meeting official targets—for instance, for transaction times and numbers of documents

processed—the NLA had to develop ways to track and improve performance at every level.

Information management was one of the crucial areas for improvement because each division had a separate records system and its own way of identifying parcels, said Garfield Knight, who served as the NLA's director of information technology from 2001 to 2004. As ownership changed and parcels were sold or modified, valuation numbers might differ from survey department plan numbers, for example. Furthermore, in three of the four divisions, staff members relied on paper records that slowed even basic transactions because of the need to locate and retrieve physical files. In the titles division, Thompson said, "Even to find out where a document was . . . they'd have these big books, and you had to look through the books." (The exception was the land valuation division, which had a basic electronic database.)

The NLA's leaders wanted to digitize records and processes to speed up services, improve information sharing, and strengthen security. But such a change would require massive investments in software and infrastructure as well as an agencywide training effort to educate staffers who had never used a computer or knew only basic functions. The dearth of IT skills meant some of the computers the departments had were gathering dust. When Sherlock Glenister, who later became IT director, joined the NLA in 2001, he recalled, "We had maybe 20 computers . . . and I think there were about 50 computers in boxes," he said.

Staff capacity fell short of needs in other areas as well. Glow's team of consultants estimated that salaries were 15% to 35% lower than for comparable positions in the private sector, making it difficult for the departments to attract and retain professionals such as lawyers or IT specialists. Although the technical staff typically were experienced in their fields, such as surveying or valuation, clerks had no background in customer

service, and managers lacked training in effective staff supervision. Some of the jobs in the new

NLA also called for higher qualifications than before, so hiring skilled people and preparing them

for their roles were crucial aspects. "There were some people who did not have the qualifications to move forward into certain jobs, and we wanted to move the bar," Stair said.

Responding to all of those problems and setting up a cohesive, effective agency was difficult enough under the best of circumstances, but Stair and her team faced an additional challenge: widespread staff resistance.

When the concept of a merged agency was introduced several years earlier, employees had voiced concern. "There was some anxiety . . . about the need to reapply for a job in basically the same government service," said Calvin Thompson, a manager in the survey department both before and after the merger (and not related to Lori-Ann Thompson). Although those who were not rehired would be transferred to other parts of the government or allowed to retire early, "some of them were very resentful, and they felt they were being pushed out of their jobs," Stair said. And even for those who successfully secured positions at the NLA, the move to an executive agency meant there would be controversial changes in salaries and benefits. The agency could offer salaries that were higher than for comparable positions in a central government department, but it also had more flexibility to hire and fire employees and could offer lower benefits. A particularly unpopular change was the reduction in annual vacation time to 20 days from 35.

Beyond the anxiety created by the transition, the NLA was asking its employees to work harder and deliver better services, which represented a substantial shift in expectations—and for some staff members, an unwelcome one. Those who had been able to slack off or who had benefited from corruption were unlikely to readily accept the new model. As the agency began to make changes, Lori-Ann Thompson said, "There was so much resistance to what we were doing."

## FRAMING A RESPONSE

During the six months between her becoming the NLA's first staff member and the agency's official establishment in April 2001, Stair had to set

priorities for the agency, hire staff, and lay a foundation for longer-term effectiveness.

The team of consultants and the public sector reform unit had already developed the main building blocks for the NLA: the framework document, which spelled out the agency's relationship to its parent ministry; the medium-term financial plan, which forecast revenues and expenditures for the first five years; and the modernization plan, which detailed the agency's functions, staffing, and transition plans.

The minister responsible for land matters—in 2001, the minister of land and environment, although the ministry went through several name changes in subsequent years—would supervise the new agency. The ministry's Land Policy and Administration Directorate would have the main oversight responsibilities, receiving quarterly performance reports and flagging any serious problems for action by the minister. As the NLA's CEO, Stair signed a three-year performance contract with the minister, and the targets set out in the agency's three-year business plan and in the contract set the agency's agenda. The NLA could award staff raises and bonuses only if it met its targets—a key distinction between executive agencies and central-government departments.

The modernization plan laid out the structure of the new agency, which consisted of the four original departments (renamed *divisions*) and new divisions for corporate services (human resources, operations, and finance), legal affairs, information technology, and business development. The director of each division reported to the CEO, and each division split its responsibilities into specialized units, each of which had its own manager. In total, Stair, the consultants, and the public sector reform unit had to hire 27 directors and managers, drawing on both the existing departments and the private sector.

“Every single post in the new agency was looked at, and we prepared new job descriptions,”

Stair said. Once the responsibilities had been identified, she said, “We had a competitive selection process . . . There was no automatic transfer.” Although the decision to open all the positions to external candidates and require existing staff to reapply risked a major backlash, Stair and the consultants were determined to start afresh. “I was amazed that we saw it through and that it worked,” Glow said. “I thought there was a good chance it was going to blow up in our faces.”

Applicants, whether from inside or outside the existing departments, went through the same rigorous process used to select Stair as the CEO—a combination of written assessments, presentations, observed group work, and traditional interviews. “We were interviewing seven days a week,” Stair said. The process allowed the hiring team to see how people worked together as well as how they handled problems, recalled Jennifer McDonald, the agency's first director of corporate services and the next person hired after Stair. The idea was to hire key people in the corporate services division first, she said, “because you would need the support staff to then be able to recruit the more [technical] staff.”

With human resources staff assisting Stair, McDonald, and the consultants, the focus turned to selecting the senior management team that would supervise recruitment of technical staff in their divisions. At every level, the hiring process demanded that prospective employees demonstrate their skills and ability to work together rather than simply relying on résumés and interviews. However, “we had to be sensitive to the staff, and we also had to prepare the staff,” McDonald said. Before the transition, the departments offered training to help employees meet the new requirements—for instance, in basic computer skills.

While the hiring process was under way, the new senior management team created an action plan for making the new agency operational. Consultant Gerry Post said: “We wanted to make sure the management team owned the future of the agency . . . We ran through the whole exercise they had done years earlier, and we revisited

everything.” It was up to the new managers to review and adjust the existing blueprints and create a business plan for the agency’s first three years in operation, including detailed performance targets and work plans. After agreeing on targets with the Ministry of Land and Environment, Stair said, she and the directors determined how to allocate resources such as IT or training between the divisions in order to meet the goals.

The agency’s leaders decided to focus first on the titles division. “The titles division was important because that’s where the majority of the revenue comes from,” Stair said, and “security was an issue.” Because most clients interacted with the titles division, improving services and procedures there would benefit the majority of clients.

As the plans took shape, the managers studied experiences from around the world. Stair and the directors visited land agencies in the Canadian provinces of Ontario, Nova Scotia, and New Brunswick. Teranet, the company that had developed and administered the electronic registration system used in Ontario, became a model for the NLA’s computerization efforts. Other Commonwealth countries, particularly New Zealand and Australia, also provided ideas both on merging land administration functions and on computerizing registration systems. As the management team learned what global leaders in the sector had done, Stair said, “you saw the opportunities.”

## GETTING DOWN TO WORK

On April 1, 2001, the National Land Agency officially started work. By that point, senior management and most of the staff were in place, and the agency had a budget of J\$317.7 million (US\$6.5 million) for its first year. The new agency had clear goals: reduce turnaround times and improve customer service. But it had a long way to go. Its leaders had to get staff to accept the agency’s new direction, review and reengineer procedures, develop performance management systems, and introduce a range of technologies to ease access to information and speed up services.

### *Securing staff cooperation*

The first mentions of a merger several years earlier had bred unease among the staff of the four land administration departments. Although many preparatory meetings talked about what the transition would mean, “there was a level of distrust between staff and management leading into the process, because the staff felt they were not being given the full picture, that they were not being told the truth,” Calvin Thompson said.

“People believed that management was trying to get rid of staff to bring in outside people or people from the private sector, so they were upset that they had to reapply for jobs that they believed were secure as government employees,” Coore-Leslie added. Consolidating functions enabled the agency to trim the total number of positions to 591 from 633, although vacancies before the NLA’s establishment meant there had been only 458 employees across the four departments. Of those 458, 96 were transferred to other parts of the government and 20 opted to retire. The rest of the existing staff reapplied for jobs at the newly created NLA through a competitive process.<sup>3</sup> Additional employees were recruited externally and hired through the same process.

For those who transitioned from the old departments, some changes sparked resentment—particularly, revisions of their salaries and benefits. The NLA had well-compensated contract positions at the top to attract private-sector professionals, but for most employees, salaries were scheduled to remain the same in the first year and then rise gradually, augmented by performance bonuses; and some benefits were reduced.<sup>4</sup> Staff concerns “mostly had to do with the loss of leave, the loss of certain benefits you’d get in the civil service like noncontributory pensions,” Calvin Thompson said. “Staff would be saying, ‘I’m losing my leave, so I should be getting more pay,’ and that didn’t always happen.”

The NLA management team used a range of strategies to build support and cohesion. Agencywide and divisional meetings provided an opportunity for staff members to express their

frustrations and learn about the new expectations, Stair said. To respond to specific concerns about changes in contracts, salaries, and benefits, the human resources unit offered individual counseling sessions—for example, to review pension options.

Each manager had to reassure and engage with team members and be open with them, Coore-Leslie recalled. “The more information people had, the more they started to feel comfortable . . . Whenever there was any amount of disquiet, I would sit down with team members and say, ‘What is the problem? Let’s hear it,’” she said.

Training played an important role in easing employees’ fears and cementing the merger. “The agency had to show there was a commitment to invest in its employees,” consultant Post said.

It was important for people to feel ready for the work they were being asked to do, Stair stressed, and training sessions also provided an opportunity for members of different divisions to get to know one another. Team building was critical. “You bring in people from four areas who have never seen each other, and now they have to work with each other,” she said. Participatory training approaches got staff members from different divisions talking, and the agencywide customer service training that took place in the NLA’s first year, covering basics of customer interaction and the agency’s new customer-centric approach, provided common ground.

Social events such as the agency’s sports day were especially important in helping break down barriers between people and work areas, Lori-Ann Thompson said. “People were put on teams, and it wasn’t land valuation versus estate management; you were red house or blue house, and you had to work with somebody in a different division. . . . My customer service staff could now go upstairs to the titles division and say, ‘Hi, how are you doing?’ because we knew each other—I had been on your back in the piggyback race.”

### *Security and streamlining*

The NLA’s establishment—and the new resources and fresh thinking the transition brought in—created an opportunity to make major changes

to the ways the four core divisions operated, both to increase security and to reduce turnaround times.

Some of the most urgent changes were geared toward preventing fraud. A critical step involved reducing access to the physical titles, because manipulation of the documents had been common in the past. Records security was doubly important because poorly stored documents were also at risk of deteriorating, Glow said. “There were leaks; it was a firetrap . . . the country’s land titles could go up in smoke,” he said.

The titles division overhauled its storage and access procedures, placing titles in locked, fireproof rooms and setting up security cameras to monitor them. “Things became more sterile,” Senior Deputy Registrar Porteous said. “Whereas before, everyone had access to the records department, now only specific [people] would have access.” To gain entrance to the rooms, the designated staff members had to scan badges, indicating who had been there.

The titles division also introduced a front-office/back-office system to keep clients away from the records and the areas where agents processed transactions. Clients had been able to walk up to almost anyone and make requests, which caused delays and created distractions, and they could even pick up someone else’s property title from an unattended desk. The new customer service desk had twin functions: to help clients get information and answer questions and to keep records in a secure area.

Not surprisingly, the new system upset some of the regular users of the offices, such as the lawyers who handled much of the land trade. “Nobody was accustomed to dealing with a front office,” Lori-Ann Thompson said. Clients eventually got used to the new system, but the transition was difficult, she said. “There was a security guard by the elevator so you couldn’t go upstairs [where transactions were processed], and the security guard had to handle a lot of resistance.”

To improve turnaround times, the NLA’s leaders took a hard look at procedures and found ways to make them more efficient. Stair described

the reviews that directors went through with their staffs: “Yes, you used to do it this way, but why did you do it this way? What if you cut out a step?” The goal of introducing electronic systems lent urgency to the reviews, she added, because “you can’t just computerize a poor manual process.”

Some changes could take place immediately because they required no new technologies. For instance, it was possible to streamline the survey-checking process, which had long caused major bottlenecks. Surveys demarcating the boundaries of a parcel were important parts of applications for titles and for conducting other transactions, and the survey department had to check and approve each one before such transactions could proceed.

Calvin Thompson said the review process sent each survey on a meandering path. The survey went to one office for review and then came back to its starting point. “Then it went to a second location and came back to the starting point, and then to a third, and so on,” he said. “And the time it took for that back-and-forth process could have been eliminated by simply sending it from point one to point two to point three before it comes back to the start.”

Over time, the titles division also developed standardized forms for common transactions. Jamaica’s 1889 title registration law specified the information that had to be submitted, but there had previously been no standard format. As a result, Porteous said, lawyers sometimes added information that was “long and unnecessary and had nothing to do with the transaction,” and staff at the titles division had to pick out the relevant information, which slowed the process. “What we decided to do was to make these user-friendly forms available on our website and make sure the forms captured the basic information as prescribed in our legislation, but in a format in which an ordinary citizen can complete the form and submit it for registration,” she said.

Both staff members and external users had to learn how to use the forms—and some lawyers objected because they believed it would undermine their business—but over time, both groups found that using the forms was easier and decreased the

chances that an application would be rejected for having incorrect or incomplete information.

### *Supervision and coordination*

Performance management was fundamental to the NLA, both internally and in its relationship with the ministry responsible for land. (In its early years the agency was supervised by the Ministry of Land and Environment, and though the ministry later changed its name, it kept the same oversight function.) The NLA reported directly to the minister, who had formal authority over the agency, but the permanent secretary and the Land Policy and Administration Directorate handled routine monitoring.

A central part of becoming an executive agency, Stair said, “was the focus on performance measurement. . . . [The law requires us] to have a corporate and business plan prepared on a three-year basis, and we are measured against the targets we set in that plan.” Targets for the core divisions typically included the number of transactions processed during each fiscal year and the turnaround time for each type of transaction based on policy goals set by the ministry. For example, in 2002–03, targets for the titles division included issuing 12,000 new certificates of title and reducing the turnaround time for creating a new title with an attached survey plan to 30 days from 50 the previous year.<sup>5</sup>

The ministry’s Land Policy and Administration Directorate monitored the NLA’s performance through quarterly reports. “We review and give feedback,” said Constance Trowers, head of the directorate, and any serious problems were reported to the permanent secretary or the minister. In the case of the NLA, “I haven’t really had that problem,” she said. The agency at times did not meet all the targets, Trowers said, but it usually could provide a reasonable explanation and moved to get back on track. For instance, she said, there might be an unanticipated surge in demand for registration or plan-checking services, but “they know they have to put something in place . . . so they must decide if they are going to do overtime or hire temporary people.”

Unsatisfactory performance could lead to sanctions for the NLA and its personnel. “We have to meet at least 80% of the targets,” Stair said, or “we can’t pay an incentive [bonus] to our staff.” The CEO could be removed if the agency did not perform as expected.

NLA managers broke down the agency’s targets to the individual level. “The targets are set based on the government’s overall policies, and that filters down to the performance targets in the various divisions,” Calvin Thompson said. Within a division, each unit created a work plan based on the division’s targets, he explained, and then employees each had individual targets.

The agency also reported on progress to stakeholders such as lawyers and surveyors, either through an advisory board which operated from 2004 to 2011 or in meetings with professional associations and other groups. These interactions provided an opportunity for the agency to collect feedback and receive guidance based on users’ experiences.

Like other aspects of the transition, formal performance management was new to many of the NLA’s staff, and it took some getting used to.

Supervisors had to learn how to set fair and measurable targets and give constructive feedback—a key element of management training both internally and at the government’s Management Institute for National Development.

Financial incentives helped get employees on board with the new system. In the past, employees had received annual raises that “technically should have been performance based but were more or less automatic,” Calvin Thompson said. After the NLA became an executive agency, raises became strictly performance based, he said, but the agency also introduced a separate performance incentive. If the agency had the funds, “at every level there’s a determination as to whether or not the targets were met—first the agency, then the divisions, then the operational units, then the individuals.” If a division or unit did not meet its targets, then even its highest-performing employees were not eligible for incentives.

Because much of each division’s work depended on inputs from the others—whether, for

example, technological fixes from the IT division, reviews of plans from the survey division, or property values from land valuation—coordination was essential. After coming under the NLA, “everyone could sit around a table and say what they needed in order to meet a common goal,” said Donovan Hayden, director of estate management. The division directors met at least once a month to ensure each division was receiving the support it needed and to review any performance issues.

The senior management team also selected multidivisional teams for special projects such as developing the agency’s electronic registration system. Although such crosscutting projects required input from multiple divisions for practical reasons, the broad representation also had a strategic purpose, Stair said. “We made sure we had representatives from all the divisions, so that everybody knew, everybody felt involved, everybody had a say in the agency. . . . It’s like a rule: every single division must be represented.”

#### *Easing access to information*

Accessing information was a constant source of frustration both inside and outside the NLA. Within the agency, staffers often had to draw on information from other divisions to complete their own work. Lawyers, surveyors, and other professionals had to review records regarding a client’s parcel and parcels around it before submitting a transaction. Prospective buyers had to confirm property ownership. And other parts of the government needed ownership data and parcel boundaries to make policy decisions about land use or other matters. Because most of the existing records were on paper (except in the land valuation division) and often disorganized, the decision to do something about the problem was “a no-brainer,” Hayden said.

Even before the NLA’s establishment in 2001, the departments had started to digitize paper records. Although creating a platform for clients to access records online was not part of the agency’s original plans, the NLA’s management team and the consultants who advised them quickly realized the idea’s potential. McDonald recalled that the public had high expectations for the new agency,

and putting information online was an improvement that could be delivered quickly. “We all recognized that the general overhaul would take a little longer, so there was an effort to have some quick wins . . . and that’s really how eLand [the online platform] was developed,” she said.

For a digital database to work, data was the most important issue to consider. The IT division had to link and cross-reference several separate data sets—itsself a major challenge, said Knight, the former IT director. The titles, survey, and land valuation divisions used differing numbers to identify the same parcels, and information on boundaries and ownership sometimes conflicted as well. The land valuation division, however, had the most comprehensive set of records, and as result, Knight said, “We decided to use the land valuation database and map as the reference.”

As the IT division scanned the documents, its software pulled identification numbers from each division’s records and linked them by using the valuation number. With each type of record associated with a parcel’s valuation number, a user—whether a client or staff member—who had one piece of information could obtain the rest.

Once the data system was in place, the NLA hired a Canadian firm, Orion Technology, to develop an interface, called eLandJamaica. Launched in January 2003, the platform enabled users to obtain the scanned title images, along with valuation numbers and survey plans, by searching with whichever piece of information they had. The eLand system began as a subscription service used primarily by frequent customers like lawyers and surveyors, and after customers became accustomed to using it, Glenister said, “it was a big hit.” In 2008, the agency updated the platform to allow users to pay for a single document, making the information more widely available.

### *Computerizing procedures*

From the earliest stages, a shift toward computerized transactions—not just digitized versions of manually created records—had become integral to plans for the NLA. Effectively planned and implemented, IT systems could prevent manipulation of documents and reduce

processing times, but the NLA’s management team had to design the systems carefully to suit the agency’s needs and pair them with training to ensure staff would use them effectively.

To control fraud and speed up the most frequently used services, the titles division was scheduled for computerization first. The survey division was also part of the initial project because survey plans were integral to many of the titles division’s transactions. The agency aimed to computerize the two remaining divisions over time, but financial considerations delayed that portion of the overhaul.

The IT division began by researching the agency’s options and reviewing the types of software available. “After extensive investigation, we decided it was not practical to develop a proprietary system but instead to customize off-the-shelf software and have vendors integrate the different components,” Knight recalled.

In early 2003, after developing the data model and integration requirements, the NLA selected a consortium of three companies for the project. A Jamaican company, Fujitsu ICL, led the consortium, with the registration component handled by United States–based International Land Systems (ILS), founded by Peter Rabley\* and later acquired by Manatron and then Thomson Reuters, and the parcel management component by a Canadian firm, NovaLIS Technologies.

The agency formed a project team and a senior management steering committee with representatives of each division who would work with the vendors to design the registration system. “We wanted people who were very knowledgeable about the processes but also had enough IT background to understand what it could do,” Knight said. The project team worked closely with the vendors, reviewing the steps required to complete each type of transaction and options to both streamline and computerize the process.

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\* At the time of his interview, Rabley was a partner at the Omidyar Network, which funded this case study, and served as director of investments for Omidyar’s property rights initiative.

“We had our analysts come in and document the work flows first, and they put together a team that engaged with us on the current processes and what they should be,” Rabley said. Based on the procedures the task force and vendors had agreed on, the ILS team customized the company’s existing software to fit Jamaica’s processes. “We weren’t writing customized source code,” which would have been expensive and difficult to maintain, Rabley said. “Instead, we used business rules and logic to configure the existing software, so if it’s document type X, it needs approval by person Y at stage Z.”

The software, called the Land Registration System (LRS), became fully operational in 2004. It created automated work flows for each type of transaction, indicating the information required at each stage and who had to review the document next. The process started at the assessor’s desk, with the application and supporting documents provided by the client. The assessor entered the name, address, and other basic information; selected the type of transaction—registration, transfer, mortgage, etc.; and calculated the fees, which often were based on the overall value of the transaction. The client then paid at a separate cashier’s window, and the documents were sent upstairs to the secure area for processing.

Depending on the type of transaction, agents used system templates to draft language describing the transaction, checked the digital records to make sure there were no restrictions on the owner’s rights that would prevent the transaction, and cued an agency lawyer to review the transaction and attach a digital signature before printing a new or updated record. The system sped up processing by moving the information from one person to the next with just a click, and prompts at each step made it easier for agents who processed transactions to enter the correct information. In addition, each agent had specific editing permissions based on his or her position.

The LRS was critical in “weeding out fraudulent transactions,” Registrar Cheriase Walcott said. “From the minute a transaction is lodged in the office, it gives you a history log of every person who touches that transaction . . . and if there’s an issue, I can pull the history log, which

cannot be altered without an IT administrator’s intervening—which would show as well—and it tells me who touched it. So, if there’s any issue, those people can be called upon.”

The system also helped the titles division’s supervisors monitor performance. “You could see how many documents they [agents] were working on in a day, so you could set proper standards,” Lori-Ann Thompson said, by examining the data rather than trying to estimate individuals’ performance and make an educated guess about what was a reasonable workload.

For the survey division, the project created a digital Parcel Data Management System. The aim was to provide a unique spatial identifier for each parcel—distinct from the identifiers used by other divisions in order to prevent duplicate registration of the same land—and to help the survey division digitally create and edit maps and spatial data. Canadian company NovaLIS Technologies developed the system and worked with ILS to build an application that bridged the two programs and enabled them to share information.

The Parcel Data Management System never became as central to operations as the LRS, however. Initially, the agency did not have the money to purchase the specialized geographic information system software that would have been required given the different ways the agency represented parcels, Knight said, because advanced functions and flexibility generally required significant customization.

Fabian Webb, who joined the IT division in 2001 and became director in 2010, added that because the agency did not keep a maintenance agreement with NovaLIS, whenever a new version of the base geographic information system software was adopted, the agency had to carry out the code migration itself rather than having the provider do it. That time-consuming process contributed to the lags in this part of the reform.

### *Wrestling with new technology*

Getting agency employees to use the new software was a major challenge in itself. Porteous recalled that among some staff members in the titles division “there was resistance, saying, ‘No, we

don't want to use computers; we're used to doing things manually.”

The NLA conducted training programs at all levels in an effort to get staff on board. “It felt like it was a do-or-die situation,” Lori-Ann Thompson said. “It was not just rolling out the software. They had to know how to use it, [and] they had to buy into it.” The program Mavis Beacon Teaches Typing, which featured a friendly digital instructor and games such as a race wherein the player progressed by typing the correct letters, was a valuable first step, she said, “because everybody thought it was fun, and that was just to introduce them to the computers.”

The new system encountered what the agency called “teething problems” even as staff members grew accustomed to new ways of working. For instance, the NLA initially lacked capacity in its main server, which provided functionality for the system’s programs and connected devices. “We had one of the better servers, which we believed could have handled the pressure, and something in the application kept knocking it out,” Glenister recalled. “So we had to restart the whole application, three or four times a day, and it would take a minimum of 15 minutes to come back up, and that was very uncomfortable for customers.”

Some of the procedural decisions failed to work in practice. At first, the task force wanted to scan every incoming document immediately to forestall any possible manipulation and to enable staff members to re-create the transaction if any supporting documents went missing. However, the idea “failed to give greater efficiency,” Knight said, because scanning the bulky documents caused a bottleneck that slowed processing. In addition, workers in the titles office had difficulty using the scanned images because their monitors did not allow them to view both the property document and the transaction screen at the same time. The practice was quickly discontinued, and as of 2016, paper applications and supporting documents still served as primary references. Agents entered the information into the system early in the process, but the employee working on each step still cross-checked the digital information with what was on the original printed pages.

Staff frustration with the computer problems raised the premium on management perseverance, Walcott said. “Whenever there was a problem with the computers or when the system went down, they would throw their hands up and say, ‘You see why we should go back to manual,’ . . . but we made it very clear [that] going back was not an option.”

#### *Building on technical advances*

The eLandJamaica system and the LRS set templates for the NLA’s use of technology both to serve clients and to strengthen the agency’s internal operations. After the two systems were rolled out in 2003 and 2004, the agency built on them to some extent, but the use of technology across the four core divisions remained uneven.

Glenister said that providing land information through an interactive map had been part of the agency’s early plans, but the idea had been shelved because of the cost. However, in 2010, a local insurance company approached the NLA to purchase a data set to develop a map showing which parcels were in areas prone to disasters like floods or landslides. The agency’s managers saw an opportunity. “They wanted to buy the data for risk management . . . and I thought this was exactly what I wanted; it was very similar to our scope of work,” Glenister said. The agency decided to give the necessary data to the company and update it regularly—if the company hosted a publicly available version of the map it was developing.

The resulting product, called iMapJamaica, enabled users to look at satellite imagery and property boundaries and find the physical location of a parcel and its address, valuation number, and size by using any piece of information they had. To get more-detailed information about a parcel, such as a copy of the title, the user had to go to eLand and do a separate search. “We wanted to drive traffic to eLand,” Glenister said, because the pay-for-access system was a major source of the NLA’s revenue.

Also in 2010, the estate management division received funding from a European Union project to begin developing an electronic system similar to the LRS. Working with the same vendor, ILS

(which was acquired by other companies during the process), the division created a system that computerized transactions such as the sale of government land. As the titles division had, the estate management division focused on streamlining processes through the development of the system, although the resulting software, the Estate Management System, was still complex, encompassing 60 different types of transactions. The system launched in 2014, although the digitization of the division's records was still in progress in 2016.

The land valuation division, which had the most-advanced technology at the time the agency was established, had been leapfrogged by the other divisions and was still using the same system in 2016. Because any changes to the valuation system, which provided the data necessary to levy property taxes, had to be seamlessly integrated with the systems used by the property tax and tax collection entities, "it was decided it would be best to leave it as a legacy system and wait until we were moving toward an [agencywide] solution," Webb said. "We recognize it would be good to have an agencywide system," Stair said, but as of 2016 it had not happened because of the high costs.

## OVERCOMING OBSTACLES

The NLA's initiatives improved the system for registering and managing land, but entering that system remained prohibitively challenging and expensive for many of the island's landholders—particularly the poorest. The registration fees required to apply, as well as stamp duties, transfer taxes, and back property taxes—some of which were outside of the NLA's purview—were key barriers.<sup>†</sup> Moreover, many people did not really understand how registration worked or why it was

<sup>†</sup> The NLA's registration fees typically totaled approximately 0.5% of the property value. The stamp duty, shared equally by the buyer and seller, was 4% of the value. The seller also had to pay a transfer tax of 5% of the value, but if the land was unregistered at the time of sale and the seller did not pay the tax, the new owner could be required to pay the transfer tax as well before registering. In addition, property taxes on the parcel had to be up to date.

helpful, nor were they willing to pay for lawyers and surveyors to prepare their applications. And they often lacked the basic documents to provide proof of ownership.

Recognizing these barriers, in 2000, before the NLA's establishment, the government launched an Inter-American Development Bank funded pilot Land Administration and Management Program, or LAMP, to map and register 30,000 parcels in part of a parish (the Jamaican unit of subnational government). The idea was that "LAMP acted as the lawyer," Trowers said, and prepared applications to register land for landholders in the project area. The applications were then submitted to the titles office at the NLA, which would process them and issue titles as usual.

In its first phase, LAMP also acted as surveyor, hiring a company to systematically map the property boundaries. That function ceased when initial funding ended in 2006, but applicants could still hire private surveyors, some of which partnered with the program to offer lower rates. LAMP also reduced application costs. A 2005 Special Provisions Act, which modified the registration laws in areas where the LAMP operated, allowed the program to waive stamp duties and reduce fees. However, applicants were still required to pay up to seven years of back property taxes upon registration—a significant disincentive to formal titling.<sup>6</sup>

To build public knowledge, LAMP and the NLA organized information sessions and workshops in rural areas around the country and helped landholders start the process on the spot. Lori-Ann Thompson stressed it was important to have a range of government institutions on hand to create a type of one-stop shop. "For example, we invite the administrator general's department because [if someone inherited land] and there's no will, you have to deal with the administrator general," she said. "You may need to prove someone's death, so we invite the registrar general, who can help with the death certificate. And LAMP comes with us, so they can start the initial process . . . we invite as many entities as we can."

At first, public uncertainty made generating interest a challenge, LAMP legal officer Nickoy

Young said. “Initially, a lot of people were skeptical; they thought it was just a sham,” he said, but gradually, demand picked up—especially as people saw their neighbors receiving titles and as they gained confidence in the system.

Greater interest in registering did not necessarily mean more successful applications, however. Proving root of title—that the applicant had a legal claim to the land, based on either 30 years of continuous and peaceful occupation or an unbroken chain of valid transfers—was next to impossible for many Jamaicans. Especially in rural areas and among members of the same family, land transactions often went undocumented. Formal wills were rare, Young said, and land typically passed from generation to generation “without anything in writing.” Even if a person who inherited land under those circumstances then sold the land with some form of documentation, the purchaser would be unable to prove root of title because the person the purchaser bought it from had had no proof of ownership.

Jamaica’s custom of “family land” further complicated ownership claims. Uncertainties arose in cases involving people who had owned large plots decades earlier and had bequeathed the property in equal shares to their children. As the number of people with claims to the property multiplied during subsequent generations, the family might informally divide up the land. But because the family rarely applied for local government approval to subdivide the property, official title to the land remained in the name of a relative who had held it long before—if it had been registered at all. According to the custom, children who did not live on the land—or even in Jamaica—still had a claim to an equal share of the property, which sometimes led to disputes that could achieve no legal resolution because there were no formal rules or laws governing family land.

With tenure patterns often complex and rarely documented, collecting the documents necessary to support an application for a title was extremely difficult. “The laws that govern land registration do not mirror what is practiced . . . and people are not in a position to comply,” Young said.

Initially, the government had few answers. It was one thing to promote registration and reduce costs, but another to help applicants comply with the complex documentation requirements—and the government was also cautious about relaxing the requirements too much, given the risk of legitimizing false claims.

The 2005 Special Provisions Act included a mechanism to resolve questions of ownership and provide applicants with sufficient evidence for the state to support their applications—even without meeting the standard threshold for proving root of title. The Act authorized the creation of adjudication committees to evaluate claims of ownership, hear evidence, and make decisions, which, if favorable, significantly strengthened landholders’ title claims and made registration easier. The committees relied on evidence from community members with specific knowledge of landownership in the area. They could “speak to what happened—who owned this property—and maybe connect the current person with the previous owners,” Trowers said. “It’s based primarily on how you came to own property, tracing the chain of ownership to see if you have a legal right, you got it in a legal way, and you have all rights to own it.”

Although the NLA’s referees of title, who evaluated applications and decided whether a title could be issued, still had the final say, the committees’ decisions provided a strong piece of evidence. The adjudication committees became operational in 2015, which was 10 years after passage of the law that authorized their creation. Officials at LAMP and the NLA believed the committees held promise, but in 2016 it remained unclear whether the committees would enable unregistered landholders to escape Jamaica’s maze of legal requirements.

## ASSESSING RESULTS

After 15 years in operation, the NLA had substantially improved services and set a model for other developing nations—even if there was still room for improvement. However, the NLA was

only one part of the land sector, and despite multiagency efforts, barriers to access remained.

The NLA quickly improved performance on its primary metric: transaction times. The agency reported that before its establishment in 2001, it took 70 days to process an application for first registration with a survey plan, 25 days for a change such as a transfer, and 26 weeks to check a survey. By 2006, the agency reported that the processing times had fallen to 30 days, 10 days, and 40 days, respectively. Although the greatest improvements had come in the NLA's first few years, the agency continued to decrease some of the transaction times during the ensuing decade. In 2016, the average processing time for new registrations remained at 30 days, but transfers took 5 days, and checking of surveys took 35 days.

Both agency staff and clients said preventive measures had made fraud more difficult—although measuring it was extremely challenging. “It has to be really pointed out or we wouldn't know,” Stair said. “It's a bit harder for them to do it now, but we still have some allegations of fraud reported to the agency.”

Despite digitization and records security efforts, the system still had vulnerabilities. For example, Walcott said, “the main avenue [for fraud] we haven't been able to close down completely is identity theft” because the staff at the titles division had no way of knowing whether a person was in fact the landowner, and they had to rely on witnesses and attorneys. Denise Kitson, an attorney who had litigated land disputes and had a conveyancing practice, said that although people who applied to bring unregistered land into the formal system or to replace a lost title certificate were required to advertise the application in the newspaper so that anyone with an objection could come forward, proprietors did not routinely scour the classifieds to check for fraudulent transactions involving their properties.

Several customers applauded changes in the NLA's services. “They went through a remarkable transformation around 15 years ago, and they've continued to perform well since then,” said Natalie Farrell-Ross, an attorney and head of the Jamaican Bar Association's conveyancing committee. “They

put the forms for various land transactions online, they've focused on reducing turnaround times, and their operations are now much more customer service oriented than years ago.”

“We are able to get transactions back in a much quicker time,” Kitson said. “In the bad old days, you could safely bet on 30 days for the processing of a simple sale—and sometimes longer.” Surveyors, too, said they received approved plans much more quickly than before the NLA was created, although the process remained comparatively lengthy.

The eLand system also found a receptive audience, although some issues remained. Commissioned land surveyor Glen Watson said eLand “saves me a lot of time” by allowing him to avoid trips to the NLA's offices. As eLand's use increased, the revenue it brought in shot up from 2.68 million Jamaican dollars (about US\$ 46,200 at the time) in its first year, 2002–03, to J\$ 23.6 million (about US\$ 201,100, adjusted for inflation) in 2014–15.<sup>7</sup>

Some users said that linking data across divisions remained a weak point, however. “Sometimes the information doesn't line up,” Kitson said, and because of those data quality issues, she added, some lawyers were reluctant to rely on eLand. Watson echoed the complaint, saying that sometimes poor scans made the documents he needed illegible, although in those situations, he said, it was easy to get a better copy from an NLA customer service representative. Many members of one key user group—other government institutions—objected to the costs of accessing the agency's data for national decision making.

The NLA received national and international recognition for its turnaround. The agency won several awards in Jamaica's Public Sector Customer Service Competition, including the overall competition in 2008–09. The agency hosted delegations from other countries—Azerbaijan, the Cayman Islands, Egypt, Ghana, Grenada, Lesotho, and Tanzania—that were looking for innovative ways to overhaul their land agencies.

The agency was also largely financially self-sufficient. As a type B executive agency, the NLA

was required to cover 75% of its operating budget by using its own revenue—for instance, from processing and registration fees—with the rest contributed by the central government. The proportion of expenditures covered by revenue rose from 51% in the 2001–02 fiscal year to 76% in 2005–06, even as spending rose from J\$317.7 million to J\$613 million in nominal terms. During the following decade, the agency remained above the required 75% level. In 2014–15, the agency covered 79% of its budget of J\$1.4 billion. (Jamaica’s high inflation rate, which averaged about 10% from 2001–15, meant the NLA budget in US dollars rose, from US\$6.5 million in 2001–02 to US\$11.9 million in 2014–15.)<sup>8</sup>

Standardized metrics of land administration indicated that Jamaica performed well for its income group but was not in the top tier worldwide. The World Bank Group’s Doing Business quality of land administration index, which awards points based on the reliability of institutions and infrastructure, the level of transparency of land information, geographic coverage, and land dispute resolution processes, gave Jamaica a score of 14 out of 30 in 2016—above average for non–OECD countries but still low on an overall basis. The country scored high on reliability and transparency—due largely to the availability of digital information from the NLA—and earned a middling score for land dispute resolution. However, Jamaica received zero points for geographic coverage—the component of the index based on the extent to which parcels were mapped and registered.<sup>9</sup>

In Doing Business reports, Jamaica’s distance to frontier score—the gap between country performance and the best practice in the data set—improved from 42.9 out of 100 in 2005 (the first year data was available) to 53.7 in 2016. Despite the improvements, Jamaica received a relatively low ranking in the 2016 report: 122nd out of 189 countries. However, the Doing Business methodology includes processes outside the land agency, such as the payment of stamp duties, which, in the 2016 report, accounted for a majority of the time and costs associated with registering property in Jamaica.<sup>10</sup>

On the fundamental issue of expanding formal tenure, little had changed. Those who were able to navigate the system—and were motivated to do so—had a better experience, but many parcels in Jamaica remained unregistered. The NLA reported in 2015 that 58% of parcels in the country were registered, but because informal subdivisions likely increased the total number of parcels, the actual proportion could be much lower.<sup>11</sup> The NLA issued more than 139,000 new titles from 2001 to 2016, but since 2004, when the agency began tracking first registration separately, only about 13,500 of those titles were for first registration. The combined cost of stamp duties, transfer taxes, and back property taxes remained a deterrent. Despite efforts to lower the costs of registration through LAMP, which focused primarily on poor, rural landholders, “it’s still hard for a lot of people to afford,” Young acknowledged. Furthermore, documenting ownership was still a critical barrier for many landholders, and although adjudication committees offered a potential solution, as of 2016 they were not yet proven.

## REFLECTIONS

The National Land Agency (NLA) took full advantage of the flexibility enjoyed by executive agencies, and its leaders’ focus on sweeping change was critical to the agency’s effectiveness. However, some aspects of the land administration system, such as costs and documentation requirements, continued to hinder formal registration.

Leadership and determination were essential elements of the reform. When new initiatives were unpopular—from requiring staff to reapply for their positions to restricting customers’ access to titles or requiring people to use computers—Chief Executive Officer Elizabeth Stair and her team stayed focused on results and moved forward with their plans despite the skepticism and opposition. “We had to have one another’s backs,” Director of Business Services Lori-Ann Thompson said. “Having that strong support from the CEO was what made a difference.”

“You need a leader who is a visionary—to stick to the task and understand what is required—

and I think the NLA has benefited tremendously from that,” said Sherlock Glenister, former information technology director at the agency.

The NLA took on a highly ambitious agenda in its early years. “It was kind of a big bang,” consultant Murray Glow said. The approach meant that managers had to confront many organizational challenges and sources of resistance at once, but it also provided an opportunity to set expectations for far-reaching change and find staff who bought into a radically different culture.

The political environment and the resources available in the NLA’s early years made a big-bang approach possible—but not all of Jamaica’s executive agencies benefited from such favorable circumstances. Jennifer McDonald left the NLA in 2007 to become CEO of the newly established Passport, Immigration, and Citizenship Agency and headed the agency until August 2016. She wanted to implement several strategies she had seen work at the NLA—from required reapplication to agencywide customer service training and sports days—but found that the moves were not always feasible.

“Unfortunately we didn’t have the resources at our disposal that NLA had” from the Public Sector Modernization program, she said, putting such large-scale training out of reach. In addition, immigration officers were seen as vital to national security and could not be required to reapply for their positions, which created tensions with staff who were required to do so. However, McDonald said, “having gone through the experience at the NLA prepared me for handling the resistance I would get.”

The NLA’s experience demonstrated that major reforms require aggressive steps to address their human consequences—an area the agency found challenging despite efforts to smooth the transition. In retrospect, “the human part of the change—in terms of involving staff at all levels in the education process, in building awareness, and in managing expectations—could have been handled better,” said Calvin Thompson, a manager in the survey division. Lori-Ann Thompson agreed: “Even though we did a lot of communication, I think we could have done more.”

After years of hard work by the NLA, the ministry, and other institutions to improve the quality of land information, questions persisted about how best to share and use it. In 2016, the agency was working to link and improve eLand and iMap “so you can click on a parcel and get any information you want, from sales data to titles data, to land valuation data . . . and not even just with NLA data,” Lori-Ann Thompson said. She and many others involved with land across Jamaica’s government hoped to develop a virtual map with far more information—a one-stop shop for such data as zoning, land use, and population figures. However, it was unclear who would develop—and, more contentiously, pay for—such a map.

Data sharing had proved controversial in the past. In order to meet its revenue obligations, the NLA charged government users for its data, as did the Statistical Institute of Jamaica.

Some users, including Donald Moore, senior general manager of government housing agency the National Housing Trust, said charging for the data hindered effective decision making by other government institutions. “To make government more efficient, you have to be able to share data,” Moore said. The NLA had to support itself, he said, “but that ought not to be addressed [by creating] inefficiency, so it becomes a difficult task for me to get information.”

Instead, Moore argued, the central government should appropriate a lump sum for data creation and maintenance, which would enable the NLA to share its data across the government for free. However, in 2016 it was unclear whether the central government would be willing to provide such funding, and for executive agencies in a country with significant budget constraints, relying on an appropriation from the central government instead of from consumers was a risky proposition.

The NLA also aimed to further speed up services at the titles division by building on its technology investments. The LRS had largely computerized the division’s processes, but staff there still depended on paper applications and supporting documents and had to print all

transactions on the paper titles—something Walcott hoped to eventually change. An electronic titling system would remove the need to store records and would further reduce opportunities to manipulate documents, she said. “Electronic is the way of the future . . . but I say it’s controversial because in Jamaica we like paper; we like to hold on to something.” The proposal faced opposition from some key stakeholders, however, and because there were references to physical titles in not only the Registration of Titles Act but also numerous other laws regulating land, inheritance, and borrowing, changing the law would be an especially long and contentious process.

Despite the changes the NLA made to improve land administration services, many Jamaicans still were unable to benefit from them. In 2016, many of the country’s landholders remained outside the formal registration system—which indicated to some that Jamaica’s laws and policies had to begin to give greater emphasis to the issue of access.

Costs were one persistent problem. The registration fee and stamp duty averaged approximately 5% of the value of the property being registered, property tax payments had to be up to date, and legal and survey fees added to the sum. It was unclear what informal landholders would be willing to pay to register, but the existing costs were one deterrent.

In addition, several people said Jamaica should reconsider its focus on extreme precision in certain aspects of land management, saying that the

emphasis on fixed boundaries and documentation to determine root of title kept many landholders outside the system. Garfield Knight, former information technology director at the NLA, said the government’s demand applicants for titles go from “zero to the gold standard” under the existing model of registration contributed to high costs, long processing times, and frequent rejections. Constance Trowers, principal director for land policy and administration, said her directorate was working on “making [the law] a bit more culturally relevant.”

Recognizing local practices in buying and selling land, which often occurred without formal documentation even though the landholders had been in possession as owners for years, would make the law “fit for purpose,” she said. In each case, the benefits of broader participation in the land administration system were seen to outweigh the potential costs. However, there were reasons to take a more cautious approach—particularly because of the risk of fraud, which was a persistent problem in Jamaica’s land sector.

In 2016, Jamaica was struggling to find the right balance. LAMP senior legal officer Nickoy Young pointed out the stakes behind efforts to expand access and improve service quality: “Each file is someone’s life.”

*TECHNICAL SUPPLEMENT***CREATING THE NLA'S ELECTRONIC SYSTEMS**

When Jamaica established its National Land Agency in 2001, technology was a centerpiece of the agency's strategy. Creating a digital database of records aimed to ease access to property information, and computerization of procedures would reduce opportunities for corruption and speed up processing.

Capacity—with regard to both equipment and people—was a significant hurdle. The agency lacked the hardware and server capacity required to support sophisticated systems, and few agency staff members had ever used a computer before. Internal resistance emerged as technological changes overturned long-established ways of doing things and raised concerns about job losses. Additional opposition came from those who had exploited the manual system's vulnerabilities for personal gain.

The planned investment in computer hardware and software, as well as training, carried a high price tag, and the NLA's leadership team secured funding from the World Bank's nationwide Public Sector Modernization Project to support the efforts.

As part of the transition from four government departments to a single executive agency, the NLA pushed to hire skilled information-technology staff. But it was difficult to find people locally with experience in specific software the agency required, said Garfield Knight, the agency's first IT director. Instead, he said, the agency hired general IT professionals and trained them as it introduced new software. "The best way was to have a vendor train them as they implemented a project: not just on the system itself but on broader IT skills as well, using a hands-on approach to facilitate significant knowledge transfer in a short time," Knight said. Over time, the agency built expertise in its IT division, although retaining top IT specialists was difficult because such skills were in high demand in the private sector.

With technical staff in place, the first stage of the computerization effort involved getting all land records into a digital database to make it easier for NLA staff, lawyers, other professionals, and the general public to get information.

"We recognized that a land management system was essentially a highly specialized document management system with a location component," Knight said, so organizing the data was paramount. The agency's IT staff had to link all of the documents that described a given parcel of private land, across the land valuation, land titles, and survey divisions. (The estate management division oversaw government-held land.) Land valuation records were chosen to serve as the backbone of the system because they covered the largest number of parcels and were the most up-to-date, as owners often made sure their property tax bills reflected accurate descriptions of their properties after a subdivision or transfer.

However, the land valuation division's records sometimes differed from the records in the titles or survey divisions. Some landholders failed to complete the registration process at the titles division after updating the valuation roll. The valuation division's parcel boundaries were not as accurate as those in the plans submitted to the survey division as part of land transactions, but because many parcels were outside the registration system, not all had been surveyed to that level. "It was the most complete, even if it wasn't the most precise," Knight said.

Software called the Document Scanning System, or DSS, created an image of each document and indexed it by using the valuation number. The process enabled anyone who had a survey plan number, or the volume and folio of a title, or a valuation number to locate other documents associated with that parcel.

The process highlighted gaps in the data. Once the documents had been scanned and the data sets linked as closely as possible, "you could see all the



errors,” Knight said. During the scanning process, quality control staff spot-checked to make sure the references were correct, and it was their responsibility to fill gaps by going back to the paper records. “They do miss some things,” conceded Sherlock Glenister, who managed the project and later became IT director. But, he added, clients usually pointed out problems in the system, and the division could go back and re-create the digital records.

Initially, the DSS software enabled clients to search the database by using computer terminals in the NLA’s offices, but the agency’s management team quickly realized there was an opportunity to further ease access. When the scanning project started, internet access was slow and expensive, but as service improved, the NLA seized the opportunity. Inspired by technology used in such countries as Canada and Australia, the agency hired Canadian firm Orion Technology to build an online platform, called eLandJamaica, to search and request documents. The platform enabled users to access the data provided through the DSS terminals from their homes or offices.

Once enough existing records had been digitized to create a core database, the NLA began to shift its attention to developing a system that would process new transactions. As part of a three-company consortium, U.S.-based software company International Land Systems (ILS) won the contract for the new Land Registration System (LRS), which computerized the titles division’s procedures for land transactions such as registrations, transfers, and mortgages.

A crucial first step involved teams from the NLA and ILS working together to review business processes and develop work flows that would make the best use of the new technology. “We spent more time on analyzing the business process, trying to optimize it, than we did on coding the system,” said Peter Rabley, the founder of ILS.<sup>‡</sup> Many existing procedures relied on knowledge individual workers had acquired over time, and the

<sup>‡</sup> At the time of his interview, Rabley was a partner at the Omidyar Network, which funded this case study, and served as director of investments for Omidyar’s property rights initiative.

agency’s task force and ILS analysts had to document the process and create standard steps.

One key example involved the automation of fee assessments. Under the previous system, some workers could overcharge clients because fee information was not publicly available and calculations often were complex. The LRS increased both security and transparency by automatically calculating fees, transferring data on the amount collected directly to the NLA’s accounting system, and posting online the formulas for evaluating the costs associated with each transaction.

For each type of transaction, the NLA-ILS team conducted similar evaluations of processes, looking for steps that could be eliminated or simplified. With the procedures determined, developing the software became fairly straightforward. ILS customized its existing land registration software to facilitate the revised process—from assessing fees to drafting the transaction information to be printed on the title, to approval by an agency lawyer. The software helped speed up processing by prefilling existing data, and moving a document to the next person required just a click.

Some business process changes remained out of reach, however, such as integrating the NLA’s payment and processing system with that of the stamp office, which collected duties on each transaction. “You still have to go to two separate offices and submit your documents for every transaction, which adds to the processing time,” Knight said, “and that’s of the biggest remaining bottlenecks.”

With the new system’s roll-out, ILS and the IT division had to deal with hardware and resource constraints. “They had to build their own server farm, the network was slow, [they had] outdated switches that couldn’t optimize the traffic—we were gobbling up hard drive space, and there was no scratch space available,” Rabley said.

The hardware challenges forced the NLA and ILS to make changes because staff and customers had to contend not only with new processes but also frequent system outages during the initial stages. One change involved limiting the load on

the server by using more of the processing power and storage capacity of the computers attached to it, and moving the data to the server only when the network could handle it. Each iteration of the software took up less space and became more reliable, Glenister said, and the agency upgraded its server capacity.

After its launch in 2004, the LRS went through several rounds of improvements. In addition to the problem of outages, Registrar of Titles Cherise Walcott said, the system initially had trouble processing unusual types of transactions the team had not considered when designing the first version, such as the appointment of a receiver. For each upgrade, Walcott said, “you’d get a cross section of staff from the titles division, the land valuation division, and the survey division to come test the new features. . . . That allowed us to see the bugs ahead of time rather than when you have a customer.”

Stringent testing of newly developed processes took time. As the agency increased the testing time to three weeks from three days and performed

increasingly thorough reviews, prioritizing became an important aspect. Over time, the agency became more strategic about the changes it implemented, Glenister said, and sometimes “we’d see when we could wait for the next one.”

More than a decade after launching the LRS, the NLA continued to use the system, and something that had once alarmed employees had become second nature. Technology was a major factor in shrinking turnaround times from before the NLA’s establishment in 2001 to 2016. The time required to register a new title fell to 30 days from 70 days for a new title certificate and to just 5 days from 25 days for a transfer.

“The titles division and the land registration system created a whole new way of doing business,” NLA CEO Elizabeth Stair asserted in 2016. However, technology was just one element of the changes the agency introduced. Effective recruitment and training, performance management, and financial flexibility were essential building blocks that helped the NLA’s ambitious technology initiatives succeed.

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