INNOVATIONS FOR SUCCESSFUL SOCIETIES

A FOUNDATION FOR RECONSTRUCTION: BUILDING THE RWANDA REVENUE AUTHORITY, 2001–2017

SYNOPSIS

After the 1994 genocide that claimed hundreds of thousands of lives, Rwanda's tax collection collapsed to $132 million in 1996 from $225 million in 1990. Aside from its desperate need for money to pay for reconstruction, the new unity government, led by Paul Kagame's Rwandan Patriotic Front, was also determined to break its dependence on foreign donors by becoming entirely self-funding. To do that, Kagame's government had to convince a traumatized and distrustful public to pay its fair share of taxes. In 1998, the government replaced the existing tax and customs departments with the Rwanda Revenue Authority (RRA), a semiautonomous tax agency. The RRA overhauled tax collection procedures, increased staff capacity, improved information management, and launched a massive and sustained public education campaign in an effort to build a new social contract. As a result, in 2017 Rwanda collected in three weeks the same amount of tax it had collected annually a dozen years earlier. From 1998 to 2017, Rwanda's tax-to-GDP ratio improved from 10.8% to 16.7%, and total tax revenues collected grew more than 10-fold to $1.3 billion. Moreover, from 2007 to 2017 alone, the number of registered taxpayers grew 13-fold—from 26,526 to 355,128—though Rwanda was one of the world's poorest countries and most of its labor force of 6.3 million still had incomes below the threshold that made them tax eligible. By 2017, the government financed 62% of its annual budget from domestic tax revenues, up from just 39% in 2000. The country was on its way to ending donor dependence.

Leon Schreiber drafted this case study based on interviews conducted in Kigali, Rwanda in March 2018. Case published May 2018.

INTRODUCTION

Three years after the 1994 genocide that claimed between 800,000 and 1 million lives, the Rwandan Patriotic Front, led by Major General Paul Kagame, had returned a semblance of calm to Rwanda. However, the postwar unity government, of which Kagame was vice president and minister of defense, still had a long way to go to repair the country's infrastructure and social fabric. The tax system had collapsed, and the government urgently had to develop a revenue base to fuel reconstruction.

In the year of the genocide, the amount of tax revenue collected by the departments of customs and domestic taxes plummeted to only 3.6% of GDP from 9.1% in 1990[1]—far below the 15% minimum sustainable target usually recommended by the International Monetary Fund's fiscal affairs department.[2] The ratio recovered to 9.8% by 1996, but Rwanda's economy was still only half the size

ISS is a program of the Woodrow Wilson School of Public and International Affairs: successfulsocieties.princeton.edu. ISS invites readers to share feedback and information on how these cases are being used: iss@princeton.edu.

it had been in 1990. As a result, in 1996, the government still collected just $132 million in total taxes, which equaled only about 60% of the $225 million in total taxes collected in 1990.[3]

Although the new government had no choice but to rely on foreign donors in the immediate aftermath of the conflict, government leaders were determined to break reliance on international aid by collecting more taxes domestically. The experience of the genocide, when many foreign partners abandoned the country in its hour of greatest need, left decision makers deeply disillusioned. Donald Kaberuka, who served as finance minister from 1997 to 2005, recalled the disappointment of seeing international partners' C-130 cargo planes evacuating embassies at that time.

The aim of ending donor dependence was part of the public service ethos. Mary Baine, who went on to head the Rwandan tax office from 2006 to 2011, told audiences that Kagame, who became president in 2000, saw aid as "a temporary bridge that must be replaced by . . . domestic resource mobilization."[4] Delivering on that promise was a tall order. Rwanda had to rebuild a collapsed tax system and engineer a new social contract with a distrustful public scarred by the experience of genocide. As Baine recounted in a later speech: "To Rwanda, taxation was not merely a tool for raising funds for public expenditure but also an instrument for building an effective state . . . Taxation is viewed as a core manifestation of the social contract between citizens and the state."[5]

In 1997, the Rwandan parliament enacted a law that created a semiautonomous tax office called the Rwanda Revenue Authority (RRA). The law provided for an organization similar to a corporate structure, with an independent board of directors. Donald Kaberuka, who served as finance minister from 1997 to 2005, recalled, "We thought its functions were so critical that [the RRA] had to operate independently—almost on the private sector model."

Faced with a critical lack of skills in Rwanda, the country's cabinet made the bold decision to reach beyond the country's own borders to find the first commissioner general of the new RRA. "We accepted that Rwanda did not have enough capacity at the time. We decided to look for the best internationally, so we advertised internationally," Kaberuka said. The top applicant was Edward Larbi-Siaw, a respected Ghanaian economist and lawyer who had headed the neighboring Uganda Revenue Authority. He led the RRA from 1998 to 2001, when the cabinet promoted his deputy, James Musoni, a Rwandan with close ties to President Kagame.

Building on the new legal framework and the foundation laid during Larbi-Siaw's tenure, Musoni's team began the extraordinarily ambitious journey of financing Rwanda's reconstruction.

THE CHALLENGE

The Rwandan government regarded the RRA as more than just a tax office, because it embodied two of Kagame's most-fundamental political goals: first, to break the country's reliance on foreign donors, and, second, to remake its social contract by convincing Rwandans to pay their fair shares in taxes in exchange for government services. To achieve the goals, the RRA had to build a taxpaying culture on the ashes of a genocide. According to Baine, there was general resistance to the ideas of both contributing a share of income to support public functions and paying consumption tax.[6] Most people had never before seen government held accountable for building roads, staffing schools, or providing other things they needed, which made them hesitant to hand over their hard-earned money. Given the central role that the state played in orchestrating repeated episodes of mass murder following Rwanda's independence in 1962, the public was also loath to trust the Rwandan Patriotic Front–led government.

The trust deficit was further aggravated because, given the country's long history of refugees' moving across borders, many Rwandans compared themselves with neighboring countries like Congo and Burundi, where few people paid taxes and whose governments relied heavily on donor funding. "We knew we couldn't change that type of behavior in one, two, or five years. It's a long-term process . . . [But] we had no choice. We just had to build tax morality because we couldn't keep relying on donors," Ruganintwali said. Richard Tusabe, who was appointed as RRA commissioner general in 2014 after heading the customs department, agreed: "We knew this was a marathon we were going to run for many years."

Building a taxpaying culture was at the root of the RRA's job, but Rwanda's high illiteracy rate compounded the cultural challenge. In 2000, more than 35% of people aged 15 years or older could not read.[7] That made it difficult for many people to understand the linkage between taxation and the provision of public services.

To begin to build tax morality, the RRA thus had to run a sustained public education campaign on the central role of taxation in rebuilding Rwanda. Getting the message across to a populace with low literacy levels was a significant challenge. Ideas and principles were crucial elements, but the mode and manner of the communication had to hit the target as well.

In addition, the tax authority faced serious technical hurdles in its mission to engineer cultural change. Prior to the creation of the RRA, two separate agencies within the finance ministry had been responsible for revenue collection: a domestic tax department and a customs department. The two had operated entirely independently of each other. Amiable Kayigi, commissioner of domestic taxes since 2014, said that because the two departments did not share information, office space, or a central database, it was impossible to get a comprehensive picture of any specific taxpayer's affairs. "Someone might be compliant on domestic taxes but cheat on the customs side, and we couldn't know about it," Kayigi said.

Moreover, the domestic tax department was vertically divided according to tax type, with different offices for income tax, sales tax, and audits. There was virtually no coordination between the different divisions.

The organizational fragmentation led to frustrations and troubles for both sides of the transaction. Taxpayers had to visit separate offices to deal with the different types of taxes, a process that was frustrating and time-consuming. And because each office assigned its own registration numbers and did things its own way, the government had no way to assemble comprehensive profiles or track compliance for individual taxpayers, and no unified data on which to deliberate policy.

As a result, "We doubted the accuracy of our own information," said Agnes Kanyangeyo, a statistician with a master's degree in policy economics who joined the RRA's research and planning department in 2002 and headed it after 2012.

"It was not easy to know how many people were registered, and it was impossible to locate them," agreed Richard Dada, who joined the RRA at its founding in 1998 and became deputy commissioner for small and medium taxpayers in 2010.

The tax office's outdated technological infrastructure severely compounded the problem. The RRA had no digital tax information database, and—with the exception of customs declarations, which used a standardized system developed by an arm of the United Nations—every transaction was ink on paper. Taxpayers physically submitted their paper tax returns at the different tax offices, where personnel typed the information into spreadsheet programs like Microsoft Excel.

According to Kanyangeyo, "There were lots of errors because everything was captured manually . . . Back then, if you thought there was an error, you could physically double-check the information for only, at most, your top 10 taxpayers." With few computers, no internet connections, and no database software in place, the RRA had to build its IT infrastructure from scratch. Further, there were separate offices for payment of each type of tax as well as different forms. With no electronic system, "Cash payments were the order of the day; taxpayers had to carry briefcases full cash and walk long distance to pay what they owed the tax administration. It was chaotic," said Ruganintwali Pascal.

But even if it adopted a more effective organizational model and introduced digital technology, the tax office still had to find suitably skilled people to operate the new offices and systems. In the wake of a civil war that had killed or displaced millions of people, finding talent was a stern challenge. In 1998, more than half (51%) of the country's civil servants had not completed secondary education.[8] When the government decided to create the RRA, the finance ministry employed only about 400 people in its domestic tax and customs departments.

Attracting highly qualified workers posed another challenge. To turn the tax system around, the RRA had to hire some of the best financial experts in the country. But staff in the tax departments received the same low salaries as other government employees, which meant they were demoralized, and many of the most talented jumped at the first opportunity for jobs in the country's small but growing private sector.

Meager incomes weighed on staff morale and encouraged corruption, as tax workers sought to augment their meager incomes. Corruption also flourished because prior to creation of the RRA, Rwanda's tax departments had neither clear codes of conduct, anticorruption rules, nor whistle-blower policies. As regular government departments, they were also subject to strict civil service rules that made it nearly impossible to fire underperforming employees or those suspected of corruption.

Decentralization posed an additional challenge. In 2001, Kagame's government adopted a policy to devolve significant government powers to the local level by empowering the country's local governments. A year later, it reduced the total number of provinces from 12 to 5 and the number of districts from 106 to 30. Although the initial phase of decentralization aimed to establish local government structures and elect provincial, district, and municipal leaders, the policy stipulated that local governments would eventually have to collect their own taxes in order to make "local leaders directly accountable to the communities . . . [and to] establish a clear linkage between the taxes people pay and the services that are financed by these taxes."[9]

Most of the RRA's reforms had to focus on the national level, but the tax office also had to work out a model for helping local governments collect revenue such as parking fees, property rental dues, and land taxes.

FRAMING A RESPONSE

During Larbi-Siaw's tenure from 1998 to 2001, a new legal framework (see text box 1), a long-term national strategic plan, and new legislation clarified the ambitious goals that confronted the RRA. To meet the challenges, the authority put in place basic operating requirements by designing its own strategic plan and advising the finance ministry on improving the tax code.

"The most immediate challenge was staff capacity. That was the big one," recalled John Rwangombwa, who served as RRA deputy commissioner for customs from 1998 to 2002 and later became finance minister and governor of the national bank. Working with consultants from auditing firm PricewaterhouseCoopers (PwC) beginning in 1998, an internal reform and modernization committee composed of RRA senior managers wrote clear job descriptions and screened staff members who worked in the old tax departments. To ascertain who would keep their jobs in the transition to the new revenue authority, existing staff had to take competency tests and go through a rigorous interview process designed and administered in concert with PwC. "Many people lost their jobs—about 100 out of the 400" existing employees, Rwangombwa said.

In 2016, the RRA launched a similarly bold experiment to harness outside expertise by outsourcing part of its audit function, allowing private firms to carry out on its behalf audits of banks and telecommunications firms. In order for its staff to learn how to analyze these companies' complicated balance sheets and how to conduct interviews with senior managers in the private sector, the RRA paired its auditors with the private auditors. Despite initial resistance to the idea from IMF advisers because it had never before been tried elsewhere, the RRA regarded the project as an innovative shortcut to simultaneously upskill its auditors and increase audit coverage. The project affirmed the RRA's ongoing commitment to think outside the box and harness external expertise.

The next step was to hire additional staff to build the RRA's capacity and replace those who had lost their jobs. To attract the best and the brightest, the RRA used its new legal authority and

Text box 1: The legal basis for reform

The 1997 law that created the RRA laid the foundation for change. Working with advisers from the UK Department for International Development—which provided 24 million UK pounds (about US$32 million) in support of the RRA from 2000 to 2010—the Rwandan parliament drafted a novel legal framework for tax administration whereby the RRA was designated as a semiautonomous government institution responsible for administering both domestic taxes and customs.

By combining domestic taxes and customs under one umbrella, the government hoped to overcome fragmentation. But the decision to classify the RRA as semiautonomous was equally as important. Unlike the former departments of taxes and customs—both of which were parts of the finance ministry and subject to inflexible civil service rules that made it difficult to hire and fire employees or to increase salaries—the designation of semiautonomous gave the RRA the legal power to determine its own salary scales, job descriptions, and job requirements, as well as to adopt more-flexible rules for terminating employees or appointing new ones. In later years, the government strengthened the RRA's autonomy by allowing it to keep 3% of the revenues it collected to help fund its operations.

The RRA's legal status also made it more difficult for politicians to interfere in the tax office's day-to-day operations. The former tax departments reported directly and exclusively to the finance ministry, but the RRA was governed by an independent eight-member board of directors. The new rules stipulated that the prime minister would appoint the board chair on recommendation from the cabinet. And to ensure smooth coordination between the finance ministry and the RRA—but with much-reduced potential for direct political interference from the ministry—the nonpolitical permanent secretary, rather than the minister of finance, automatically became deputy chair of the RRA board.

Other board members were the head of the RRA (called the commissioner general), the governor of the national bank, and the permanent secretary of the ministry of commerce and industry. In a reflection of the independence built into the new governance framework, the final three board seats, appointed by the prime minister on recommendation of the cabinet, went to prominent members of the private sector working in accountancy, law, economics, or other "relevant fields," as stipulated in the 1997 law.[1] The RRA's internal auditor also reported directly to the board, not to the commissioner general, and the RRA was subject to regular external audits by the Office of the Auditor General, which the government created in 1998 to monitor public institutions' revenue flows and expenditures.

[1] *Rwanda Mining Laws and Regulations Handbook Volume 1: Strategic Information and Basic Law*, Washington, DC: International Business Publications.

funding from the UK Department for International Development (DFID) to significantly increase its salaries to levels comparable to the private sector, but it linked pay to performance. "The first thing we needed was to give them [personnel] targets for every line of revenue. And if they exceeded them, they would get bonuses," Kaberuka said. So that the RRA could fund its operations, the government later introduced a regulation that permitted the authority to keep 3% of all revenues collected, even though the funding for the better salaries and the bonuses had initially come from DFID.

The hiring efforts specifically targeted "young university graduates. But we also did massive training after hiring them," Ruganintwali said. With financial support from DFID and other partners, the RRA sent promising new hires—most of whom held undergraduate degrees in finance from institutions like the University of Rwanda—to Australia and the United Kingdom for graduate studies in tax administration. By the early 2000s, the RRA had increased its staff from 400 to 650, with 90% of employees younger than 45 years old, which enabled staff to grow with the organization.[10]

At the same time, Larbi-Siaw's team worked to define the new tax authority's strategic plan. The RRA did not craft its vision for the future in isolation, however. Shortly after enacting the RRA law in 1997, the Rwandan government embarked on a process called "national reflection." As finance minister at the time, Kaberuka wrote that having stabilized the country after the genocide, the government "felt the time had come for us, Rwandans, to start thinking about what kind of nation we want in the future."[11]

The RRA leadership team was closely involved in the countrywide consultation process that culminated in the government's adoption of Vision 2020, a development plan that aimed to turn Rwanda into a lower-middle-income country with a per-capita GDP of $900 by 2020 (up from $290 in 2000). "In developing [Vision 2020], they made sure it was as inclusive as possible. Our bosses at the time were all there and participated in the technical discussions," Kanyangeyo said.

The RRA's mission gained a prominent place in Vision 2020. The plan's first short-term major objective explicitly called on the tax authority "to reduce [aid] dependency [by developing] effective strategies to expand the tax base."[12]

With an overarching national vision in place, the RRA also established a planning and research unit. In the early 2000s, the planning team began measuring performance according to key performance indicators. Each of the tax authority's departments had to develop an annual performance plan based on specific targets. Each plan was to follow a set format that consisted of (1) defining the department's responsibilities, (2) incorporating a SWOT (strengths, weaknesses, opportunities, and threats) analysis, (3) setting departmental objectives and priorities, and (4) detailing targets.

For example, in its first strategic plan, the domestic tax department aimed to "redesign . . . the existing forms used for declarations," "improve office arrangements," and "classify taxpayers by type of [business] activity." Its specific performance targets included to "audit 240 large and 360 small and medium enterprises during [the year]." In turn, the customs team planned to produce reports within 30 days on all stock-checks carried out at its warehouses. Kanyangeyo emphasized that even as the RRA's internal planning process became operational, the finance ministry's national planning and research department "continuously made sure that the plans lined up with Vision 2020 and [Rwanda's five-year economic development and poverty reduction strategy]. It's not optional to align with the government's bigger plan. Nothing happened in isolation."

Working with the planning unit and the rest of the senior management team, the tax authority's reform and modernization committee also identified major remaining operational

Text box 2: Later Policy Changes

The government continued to enact policy changes during the 2000s. Following the creation of the VAT in 2001 to replace a sales tax that was riddled with exemptions and hard to administer, in 2003, the RRA was assigned the responsibility to collect a range of non-tax revenues, including proceeds from the sales of government vehicles, fines and fees, income generated through publicly owned property and asset and, later, all government administrative fees.[1]

In 2005, a modernized income tax law established a top marginal rate of 30% for corporate and income taxes. The law also simplified the personal income tax system, creating three brackets with marginal rates of 0%, 20%, and 30%. For newly-listed companies, the government reduced the corporate tax rate to 20%, 25% or 28% for a period of five years, depending on the amount of shares sold to the Rwandan public. To incentivize foreign investment, the government also adopted an investment and export promotion code that offered tax incentives to locals investing more than $100,000, or foreigners investing more than $250,000.[2] Further legal changes in 2005 and 2006 introduced excise taxes on products like alcoholic drinks, cigarettes fuel, and vehicles, and created clear protocols for audits, penalties, and appeals.

A further round of policy changes followed Rwanda joining the EAC in July 2009. In line with the EAC's requirements, Rwanda introduced tax incentives for liquefied petroleum and energy saving devices, repealed a sugar surcharge, removed a VAT surcharge on foreign trucks, and removed a fuel price subsidy.

Kaberuka stressed that, in an effort to create a fair and consistent tax code, "we grant exemptions in only very exceptional circumstances . . . so as not to undermine the tax base." An October 2005 study by the World Bank's Foreign Investment Advisory Service on the impact of Rwanda's new tax framework on agriculture, mining, tourism, manufacturing, and the financial sector found that the country's tax code structure was "broadly appropriate and conducive to growth."[1]

[1] *Domestic Resource Mobilization and Poverty Reduction in East Africa: Rwanda Case Study*, African Development Bank Group, November 2010, accessed May 25, 2018; https://www.afdb.org/fileadmin/uploads/afdb/Documents/Project-and Operations/Rwanda%20case%20study%20paper%20final.pdf.

[2] *Domestic Resource Mobilization and Poverty Reduction in East Africa: Rwanda Case Study*, African Development Bank Group, November 2010, accessed May 25, 2018; https://www.afdb.org/fileadmin/uploads/afdb/Documents/Project-and-Operations/Rwanda%20case%20study%20paper%20final.pdf.

[3] Aide Memoire, *Rwanda: Study of the Effective Tax Impact in Five Priority Sectors*, UK Department for International Development and World Bank Facility for Investment Climate Advisory Services, October 2005, accessed May 14, 2018; http://www.devpartners.gov.rw/fileadmin/templates/docs/EDPRS/Key%20Analytical%20Studies/Sectoral%20Studies/Tax_Effectiveness_Study.pdf.

impediments to collecting more revenues from an economy that the government expected to rebound to prewar levels and then keep growing rapidly. The factors included the need to further reorganize and streamline the business process, create a digital software system and a central database, develop the capacity of the RRA's energetic but young and inexperienced workforce, root out corruption, implement the government's decentralization policy, and, most important, launch a sustained public education campaign to start building a taxpaying culture in the country.

Aside from those planned operational reforms, the RRA under Larbi-Siaw also had worked closely with the finance ministry's tax policy committee, which met on a monthly basis and was responsible for developing tax policy changes and monitoring their impact. The government's chief economist chaired the tax policy committee, which included, alongside RRA leaders, representatives from the finance, trade, and justice ministries as well as from the Rwanda Development Board and the Private Sector Federation, which represented the interests of the country's business community. The RRA's status as a semiautonomous institution gave its voice significant weight within the committee.

Based on recommendations by the tax policy committee, the legislature enacted a raft of new tax laws in the early and mid 2000s (see text box 2). In 2001, it replaced the sales tax with a value-added tax (VAT), and a 2002 law allowed district governments to collect their own taxes on trade licenses, property, and rental income. Kieran Holmes, a DFID-funded tax expert who advised the RRA's senior managers between 2002 and 2010, explained that the decision to replace the sales tax with a VAT was motivated by a number of reasons that included the VAT's greater efficiency, its "universal recommendation" by the IMF, and that "neighboring countries had a VAT, and [regional] tax harmonization would have been in the back of everyone's mind, even though [Rwanda] was not yet a member of the East African Community."

When Musoni, who held a degree in finance from Makerere University in Uganda, took over as head of the RRA in 2001, three years after its founding, the authority operated under the clear parameters spelled out in Vision 2020. It had drawn up its first set of internal strategic plans; it worked together with the finance ministry's policy committee to streamline the tax code; and it had a skilled enough workforce in place to get the organization off the ground. "By that time, we had a critical mass of Rwandans able to execute the functions. Now foreign experts remained within the supporting functions but not the managerial functions," Kaberuka said.

Shortly after Musoni succeeded Larbi-Siaw, the RRA's board of directors decided to overhaul the senior management team, replacing many of the holdovers from the old tax departments with some of the most-talented recent recruits. Writing in 2004, Anthony Land, a researcher for the European Centre for Development Policy Management, said that Musoni had seized on the window created by the change in management to "nurture a new ethos and culture within the organization . . . [that] injected a new vitality and confidence."[13] Holmes said that "Musoni was a senior Rwandan close to Kagame and a strong leader. Stimulating domestic revenues was a key part of the Rwandan vision and the close relationship between Musoni and Kagame meant revenue mobilization was always to the fore in their thinking."

With beefed-up staffing and an energetic new leadership team in place, the RRA was ready to shift its focus to its core mission of improving compliance and widening the tax base, adopting the motto "Taxes for growth and development."

GETTING DOWN TO WORK

Although a solid foundation was in place, Musoni's team still faced a daunting challenge to significantly increase revenue collection in an economy that still suffered the effects of a tragic civil war. In 1990, before the civil war, the government had collected $225 million in taxes. In 2000, the RRA collected just $175 million in taxes.[14] Not only did the RRA still have work to do to recover the ground lost during the 1990s—it would also have to keep up with Vision 2020, which aimed for annual GDP growth of at least 7% from 2001 onward.

Designing a new structure

One of the key operational reasons behind the creation of the RRA in the late 1990s was the need to integrate domestic tax collection and customs revenue collection into the same organization. Although the merger immediately helped improve coordination between the two departments, some of the old system's other flaws carried over. By 2001, it had become clear that the tax authority required an even more fundamental internal reorganization to improve both the coordination and the efficiency of its services.

At the top, the board decided to overhaul the senior management team, replacing many of the holdovers from the old tax departments with some of the most-talented recent recruits. Then, working closely with Holmes and other DFID advisers embedded in the RRA, Musoni's team divided the organization's responsibilities into three sections. It consolidated all of the support departments under a single deputy commissioner general of corporate services, who oversaw administration and logistics, human resources, taxpayer services, training, IT, revenue investigation, legal services, and research and planning (which the RRA upgraded to a fully-fledged department). The introduction of the deputy commissioner general of corporate services freed Musoni to oversee the RRA's two main operational sections: domestic taxes and customs services.

But revamping the RRA's overall structure was not enough, because an even more fundamental flaw was hampering the domestic tax unit's work. When the tax authority was created in 1998, Larbi-Siaw's team decided to retain the old domestic tax department's structure, which was arranged according to tax type. As a result, the RRA retained separate offices for income taxes, sales taxes (replaced by VAT taxes in 2001), and auditing. By 2002, it had become clear that the division into different tax offices was impeding the RRA's efforts to overcome fragmentation. Taxpayers had to spend a lot of time and money visiting different offices, and sometimes they got conflicting information from different employees in the different divisions. Lack of a central IT system made for a difficult and slow process in the sharing and cross-referencing of data between the different offices, and, most important, the different offices continued issuing their own distinct tax identification numbers.

In November 2003, the board of directors approved management's plan to restructure the RRA along functional lines. Under a new, one-stop-shop approach, the head office and its four branches in Kigali—as well as each of the 4 provincial, 30 district, and 140 small sector offices—would offer all services for all tax types. And, at the head office, separation of the domestic tax department into different directorates for income tax and value-added tax was replaced by a new framework that created both an office for large taxpayers and a separate division focused on small and medium taxpayers.

Whereas the RRA's work had been segmented previously by tax type, it was now segmented according to income. The move was in line with a growing global consensus—backed by organizations like the IMF—that reflected the realization that different people at different income levels had different needs. For example, "Large taxpayers don't ask questions like, 'How do I declare or file my taxes?' whereas that is indeed a problem for smaller taxpayers," said Dada, head of the small- and medium-taxpayer office.

But the creation of a team dedicated to smaller taxpayers was fundamentally also about "expanding the tax base, because most taxpayers start small before they become large," Dada said. The RRA's hope was that the small- and medium-taxpayer office would "catch" taxpayers while they were still small, keep them in the system while their incomes grew, and eventually shift those who became wealthy over to the large-taxpayer office.

With a new structure in place, the RRA halted the practice it had inherited from the old system of issuing different tax identification numbers (TINs) for income tax, value-added tax, and customs tax. The authority required all taxpayers in the country who were already registered to visit their nearest tax office to obtain new nine-digit numbers. Each taxpayer received a unique TIN that all of the RRA's departments recognized.

"It was essential to have one TIN to make sure there was no duplication . . . With large taxpayers, it was relatively easy [to get them to reregister], because they are like elephants and hard to miss. We just wrote to them," Holmes said. But he acknowledged that for medium and small taxpayers "it was a somewhat laborious exercise. We divided cities into blocks, and physically went door-to-door to verify their addresses and contact details. Fortunately, the RRA was known for its discipline and hard work," he said.

Creating a digital backbone

By the time the tax office completed its restructuring in early 2004, the RRA's lack of a modern digital software system had become a roadblock. With the exception of customs declarations, every action—from registering new taxpayers to processing returns—was still carried out manually. Taxpayers had to fill in numerous forms, and clerks had to then type the information from the forms into programs like Microsoft Excel. It was impossible in real time to keep track of the different database files created in the process, and lack of a standardized system meant that the clerks often made typing errors or incorrectly read the information written down by taxpayers. If the RRA wanted to reap the benefits of its revamped organizational structure to track compliance and identify unregistered potential taxpayers, it urgently needed to implement modern database software across all of its offices.

Joel Ntihemuka, deputy commissioner of IT who had been in the department since 2002, explained that the modernization process "started with customs. It was the easiest place to begin because [customs] uses an internationally standard information system. It also already had some minimum software in place, so there was at least something [to work with]." The RRA's customs unit was using a version of a software package called the Automated System for Customs Data to process declarations, although all other procedures were still done manually. Known by the acronym ASYCUDA, the system was a standard customs-management software platform that the United Nations Conference on Trade and Development (UNCTAD) developed in the 1980s and that remained in use by more than 80 countries worldwide.[15]

With funding and technical support from UNCTAD, the RRA launched a project to upgrade its existing customs system to the latest version of the software, called ASYCUDA World. The RRA created a standing committee consisting of the commissioner general, the commissioner of customs services, officials from the infrastructure ministry, and representatives of the Rwanda Development Board to lead the project. William Musoni (no relation to Commissioner General James Musoni), acting commissioner of customs who had worked his way through the customs ranks since 2005, said, "People were trained in advance of the new system's launch. A group of people went to countries like Mauritius, where the system was already being used."

After returning from abroad, customs officers who knew how to use ASYCUDA World produced an operating manual and trained the rest of the customs department's 340 staff members. It was only after the standing committee felt that customs officers were familiar enough with the new system that the RRA's IT team, together with UNCTAD advisers, installed the software on computers at all customs warehouses and border posts. The new system "allowed for self-assessment, so customers could declare and pay even before we checked" a shipment, William Musoni said.

With ASYCUDA World, importers and exporters also could submit all forms electronically and pay customs duties and other fees without ever physically visiting the port or border post where a shipment arrived. Most important, the customs department now had an easily accessible central digital database that stored up-to-date information on all shipments into and out of the country.

After launching the customs project, Ntihemuka and the IT team turned their attention to the domestic tax department. "We had built a small, stand-alone system after VAT was introduced" in 2001, he recalled. "But in 2004, we said this was not the best way to go. We needed an integrated system" for the entire RRA. The RRA decided to buy an off-the-shelf software system, and after a public tender process, selected the Standard Integrated Government Tax Administration System (SIGTAS), built by a Canadian company.

But the project ran into difficulties when the RRA's IT team customized the software for the Rwandan context. For example, in Rwanda, the RRA collects and manages motor vehicle license plate fees, so it had to add that function to the software. For Ntihemuka, the problem was that "the project was seen as an IT project. It was a mistake. It should be owned by the people at the very top" of the organization.

Because most of the IT officials weren't tax policy experts, they were unable to fully customize the system so it would accommodate all of the procedures required, for example, to claim a VAT refund. ". . . We brought this [software] to the domestic tax people and said, 'You should use this now.' But they quickly found many gaps," Ntihemuka said. The mismatch delayed the project, and RRA headquarters as well as its four Kigali offices did not begin using the system until 2006.

The next challenge was to roll out the software to each of the 4 provincial, 30 district, and 140 sector offices. The IT team's initial attempts to build a countrywide network using leased-line technology failed because bandwidth in Rwanda was too low. "The real success came only when the government, in terms of Vision 2020, began to invest massively in technology infrastructure throughout the country," Ntihemuka said. "By the end of 2006, fiber-optic cable was in place in Kigali. We jumped into fiber-optic, and the RRA became one of the first to test the technology."

As the government rapidly expanded fiber-optic connectivity throughout the country (see text box 3), the RRA's IT team followed close behind to install the software and train staff in its regional offices. As part of the infrastructure upgrade, the RRA moved into a new, state-of-the-art, headquarters building in May 2007. By early 2009, every RRA office was connected by fiber-optic cable to a central server housed at the head office in Kigali. For the first time, the Rwandan tax authority had a central database containing information on all taxpayers and all transactions recorded in the country, which enabled the RRA to begin closely monitoring compliance in a way that had been previously impossible.

Building capacity

In addition to improving its business processes and IT infrastructure, the RRA recognized the need to set a high priority on continuing and effective staff development. Although the strict vetting and testing procedures the organization followed in recruiting staff during the late 1990s gave the authority a solid foundation, the organization at that time still had a long way to go to make sure its people had the skills required to fulfill the organization's vision of becoming "a world class, efficient and modern revenue agency, fully financing national needs."[16]

During the early 2000s, the RRA relied on a training unit housed within the human resources department to organize ad hoc training sessions. "We were mostly sending staff out of the country or importing consultants to deliver training," said Evarist Ntaganda, deputy commissioner of training. "But [training] was seen as a 'by the way.' There were no policies, no guidelines, no courses developed in-house. We realized we were spending a lot of money on renting hotels [for the training sessions], but no one followed up to see whether the training had an impact."

Toward the end of Musoni's tenure in 2005, the RRA's board approved a proposal to upgrade the training unit to a stand-alone operation, and in 2007 a training institute opened in the city of Huye, three hours' drive south of Kigali. Ntaganda said planners chose Huye as the site for the

Text box 3: Rwanda's Fiber Optic Network

Beginning in 2004, Rwanda's government launched a plan to sharply improve citizens' internet connectivity through Rwandatel, the government parastatal company founded in 1993 that provided telephone and online access. The high-speed fiber optic network would serve the entire country.[1] The World Bank contributed to financing for the project, which cost $95 million.[2]

At the time, the cost of connecting to the internet was prohibitively expensive for most Rwandans, and connections were slow because the country relied on satellite links to access the World Wide Web. Working with private contractors, the government's initial goal was to connect schools, hospitals, and government buildings in Kigali, the capital. By 2007, the country had about 350 kilometers of fiber optic cable, including a line from Kigali to Huye, 130 kilometers away.[3]

The network grew quickly. In 2010 it reached the Ugandan border at the town of Gatuna. By 2011, 2,300 kilometers of cable spanned the country, and the network linked to undersea cables running along the east African coast, freeing Rwanda from reliance on satellite networks. In addition to the government project, private companies laid their own cables. By 2017, the total length of cable was more than 4,500 kilometers.[4]

The faster, more reliable connections facilitated e-government projects, and the percentage of Rwandans using the internet grew from less than 1% in 2005 to 30% in 2016.[5]

[1] Edris Kisambira, "Korea Telecom to build Rwanda national backbone," *Network World*, October 3, 2008, accessed May 20, 2018; https://www.networkworld.com/article/2276892/network-security/korea-telecom-to-build-rwanda-national-backbone.html.
[2] "Rwanda completes $95 mln fibre optic network," *Reuters*, March 16, 2011, accessed May 20, 2018; https://www.reuters.com/article/ozabs-rwanda-telecoms-idAFJOE72F07D20110316.
[3] Eugene Kwibuka, "Rwanda builds a backbone for internet access," *Ottawa Citizen*, April 26, 2007, May 20, 2018; https://www.pressreader.com/canada/ottawa-citizen/20070426/282583078570896.
[4] Justina Crabtree, "Forget Chinese investment in Africa, here's a tech partnership in the region you haven't heard of," *CNBC*, September 26, 2017, accessed May 20, 2018; https://www.cnbc.com/2017/09/26/south-korea-rwanda-unlikely-tech-partnership.html.
[5] Jean-Pierre Afadhali, "Rwanda top in Internet access but cost, devices a hindrance," *East African*, April 23, 2016, accessed April 20, 2018; http://www.theeastafrican.co.ke/rwanda/Business/Rwanda-top-in-Internet-access-but-cost-and-devices-a-hindrance-/1433224-3171806-3l04v4/index.html.

institute, to enable headquarters staff to get away from their regular working environments and avoid Kigali's distractions, but also because trainers could draw on the expertise of academics at the National University of Rwanda, which was based in the city. The RRA built a small campus in Huye with lecture rooms and enough space to house 33 students at a time.

The training department focused on developing in-house expertise from current RRA staff. A core team of 12 full-time trainers would develop curricula and put together training material. Although external consultants from firms like KPMG sometimes delivered courses "so that we also understand what's happening out there," Ntaganda said, in order to leverage the best expertise within the organization the training department decided that the bulk of the lessons would be delivered on a part-time basis by RRA subject experts.

Ntaganda said RRA planners also chose to make use of staff who worked in various positions, in addition to the full-time trainers, because "they are updated with what's happening and they can easily provide practical examples. We decided to select the best staff [in the RRA] and use the full-time training staff to help them with how to teach."

The training department designed incentives to encourage busy senior personnel to give up some of their time to teach at the Huye institute. Expert staff who agreed to become part-time trainers received hourly pay in addition to their regular salaries, and the RRA gave them preference when it awarded financial support to further their studies overseas. Finally, to obtain course accreditation from the education ministry, the RRA partnered with the National University of Rwanda, which enabled professors from the university to deliver some courses jointly with the RRA's trainers.

With training, accreditation, and curricula in place, the tax authority made it mandatory for all new hires to undergo three months of induction at the institute in Huye. "The first two weeks give a general overview of everything happening in all departments, and then everyone goes for technical courses on the work in their own departments. After the three months, you are ready to be deployed," Ntaganda said.

The training team used annual performance reviews to identify gaps in staff knowledge and design new courses. Regular feedback sessions with department heads and trainees helped the team gauge the impact of the training.

In 2011, the RRA took another step forward when it launched its own e-learning platform and digital library that let officials—customs officers stationed at border posts, for instance—take certain intermediate and advanced courses without having to visit Huye for extended periods. To ensure that staff used the platform, the human resources department required staff to complete certain courses before consideration for promotion.

In addition to enhancing staff capacity, the quality of the training delivered at the institute boosted the RRA's regional and international reputation. Revenue authorities in other parts of East Africa regularly requested the RRA to provide training for their staffs, and although "we don't currently make money from it and do it more as a kind of [goodwill] gesture, we are thinking" about ways to generate income through offering training in other countries, Ntaganda said. Some RRA trainers were accredited by the World Customs Organization, "which means they can be seconded anywhere in the world to deliver training and get paid for it," he added.

Battling corruption and poor performance

Alongside its emphasis on enhancing skills and capacity, the RRA focused on building a new public service ethos as one of the ways to prevent corruption. Rwangombwa, the former RRA deputy commissioner of operations and finance minister, stressed that beginning in the late 1990s, "staff training was not just in technicalities but also in how to change the mentality [of tax officials]. We emphasized that taxpayers are the kings, the customers, so handle them with respect. When you see a taxpayer, don't automatically see a defaulter but [rather] someone who adds value to the country."

In the early 2000s, the RRA underscored its emphasis on changing the organization's culture by establishing new human resource policies. The tax office's status as a semiautonomous agency allowed it far greater leeway than regular government offices to deal with employee corruption and underperformance. For RRA head Richard Tusabe, it was vital that the RRA have "a very strong zero-tolerance policy on corruption matters."

Emery Batayika, who became head of human resources in 2017, said, "There is absolutely zero tolerance" regarding cases of suspected corruption. "If a disciplinary hearing decides dismissal is warranted, we propose it in a senior management meeting and fire the person immediately."

The RRA required every employee to sign a performance contract yearly. Batayika explained that the human resources team conducted performance evaluations twice each year. In cases of poor performance and at the first sign that an employee was failing at his or her job, human resources designed a development plan. If the employee continued to underperform, a verbal warning was given first, followed by a written warning to meet expected targets within a specified period. But if it subsequently became clear that the employee was still not performing to expectations, the senior management team could reassign or terminate the employee.

At the same time, the RRA made sure all employees were aware of the rules by introducing a code of conduct and a whistle-blower policy. The code of conduct was sweeping in scope, covering everything from a prohibition on drinking alcohol during working hours to performing incitement related to politics, to a requirement to report potential conflicts of interests, to a ban on former RRA employees' working as consultants for the tax office or their opening private tax firms for one year. The code also classified the severity of transgressions into three categories: minor offenses resulted in warnings; serious offenses led to sanctions, including delayed promotions, suspension for up to three months, or dismissal; and gross misconduct resulted in dismissal and possible criminal prosecution.

To aid in uncovering graft, the whistle-blower policy empowered RRA employees, taxpayers, and members of the public to report suspected corruption. If corruption was uncovered based on information provided by a member of the public (not by an RRA employee), the person was entitled to a reward equal to 10% of the interest and penalties levied on the outstanding tax amount. Whistle blowers could report suspected corruption in person, through phone calls or phone messaging, in writing, by e-mail, or even via social media. The policy required any RRA official receiving information from a whistle blower to record and report the information to the commissioner general, the deputy commissioner general, or the commissioner of quality assurance, who was responsible for following up on complaints.

Holmes, who helped develop the RRA's code of conduct as a member of the Senior Management Team, attested to the effectiveness of the code's anticorruption and disciplinary measures. "There were no favorites. If you didn't do your work, you were out. People involved in corruption were prosecuted, and anyone who showed up late for senior management meetings was thrown out. Everyone knew that Kagame worked 14 to 16 hours a day, and the discipline went all the way down the line. If there was a meeting on Sunday at 7 a.m., you were there at 6:45 a.m. A common joke was that the RRA was the third-most-disciplined force in Rwanda—after only the army and the police."

Reaching out to taxpayers

Although organizational and policy changes were crucial reforms, the RRA's leadership team understood that the tax authority's ultimate goal was to build a taxpaying culture in Rwanda. As its ability to efficiently deliver services improved, the RRA began to ramp up a multipronged public outreach to convince Rwandans that paying taxes was a responsibility as well as an obligation.

As far back as 2002, the tax authority organized its first annual taxpayer appreciation day, and by the mid 2000s the event had grown into the organization's flagship public awareness initiative. Usually held every August, the event kicked off when each of the 30 district tax offices arranged its own taxpayer appreciation day, when the commissioner general as well as national government ministers and local political leaders awarded prizes to the region's most-diligent taxpayers in the small, medium, and large categories. Aside from the publicity and social prestige that accompanied the award, local winners received one year of free tax advisory services.

Winners from the 30 districts then competed at the provincial level, after which the RRA selected a group of national winners. The month-long series of regional competitions culminated with a glitzy gala dinner at venues like the Radisson Blu Hotel & Convention Centre in Kigali, where President Kagame personally handed awards to the companies that had most diligently tracked their

VAT bills; the country's best large, medium, and small taxpayers; and the most-diligent local companies under the category Made in Rwanda.

Personally backed by the president and his entire cabinet, annual taxpayer appreciation days gave the RRA a major platform by which to raise public awareness. As the RRA staff moved throughout the country's 30 districts, "we also bring along our mobile services and computers so that people can even come and file their returns on the spot. We use the [taxpayer appreciation days] to give information and solve problems," said Angelique Dusabe, head of taxpayer education.

The media, including newspapers as well as radio and television, eagerly covered the events. During award ceremonies, RRA officials as well as Kagame and Prime Minister Édouard Ngirente repeatedly hammered home the message that "no country can develop without the contribution of its citizens through taxes. We attribute the development we see in all sectors to increased taxpaying compliance, but we still want to achieve more."[17] Holmes recalled that, "when I first saw [taxpayer appreciation day], my eyes widened. It's a great idea, a celebration of tax compliance. President Kagame always came to those events and always made speeches saying Rwanda is receiving international aid, which is a gift from taxpayers in other countries, but what we want is to rely on our own taxpayers—to be self-sufficient."

Building on its positive relationship with the media, the RRA launched weekly 30-minute radio and television shows featuring discussions with tax experts, and advised businesses and individuals on how to become tax compliant. Dusabe said, "We also do weekly radio dramas that feature normal stories but always contain a message about tax." During filing season, the media regularly aired advertisements, radio jingles, and nightly tax explainers before prime-time radio and TV news. A monthly RRA magazine that targeted mostly larger companies also helped spread the word.

Although special events and media coverage were effective, RRA leaders knew that the best outreach was face to face. Based on Rwandan culture, regional-level meetings are usually well attended, and the RRA set up a national tax advisory council and separate councils in each of the 30 districts. The councils brought together representatives from local businesses through the private sector federation, officials of civil society organizations, journalists, local tax officials, and the district mayor.

Members of the RRA's senior management team chaired quarterly meetings in their assigned districts. Laurence Gakwaya, head of the large-taxpayer office, said officials took the district meetings seriously "because each RRA senior manager wants the issues in the district that he or she follows to get solved." Lending further weight to the process, the finance minister chaired semiannual meetings of the national-level advisory council, which included the minister of trade and industry and the RRA commissioner general.

Aside from enabling the RRA to explain regulations and tax procedures directly to taxpayers, the meetings were important because "they enabled us to collect and address their problems. At the same time, they represented another way of pushing taxpayers to comply," Ruganintwali said.

The RRA took other measures as well. In 2011, the authority opened a dedicated toll-free call center where a team of experts in domestic taxes and customs were on hand from 7 a.m. to 5 p.m. daily to handle queries. And in an attempt to reach out to younger people, the taxpayer education department opened what it called "tax friends clubs" in some secondary schools. "We give them T-shirts and caps and hold drama competitions to give them small prizes," Dusabe said. "At the meetings, we show them documentaries explaining that they now have laptops in their schools because of taxes. We say, 'When you become a businessperson, please think about taxes.'"

Supporting decentralization

In addition to collecting national levies such as VAT, personal and corporate income tax, and customs duties, the RRA had a role in helping districts collect local taxes, in line with Rwanda's decision in 2001 to decentralize government services. In 2006, after an early preparation period, the government empowered districts to begin collecting their own revenues from sources like property and building taxes, rental income, and business licenses. To encourage the newly reconfigured local governments to take full responsibility for their own financial affairs, the national government initially insisted that districts collect all local taxes by themselves.

But problems soon emerged. "We saw that the people who paid money to get business licenses from local governments were the same people who paid income taxes [to the RRA]. There were duplications of effort, and the RRA had more expertise than the districts had," said Erneste Karasira, deputy commissioner of regions and decentralized taxes. In addition, the shift to local tax collection caused new data fragmentation for the central database IT system, and "burdened local governments when they should be concentrating on development," Karasira added.

When the national government adopted an updated decentralization policy in 2011, it empowered the RRA to assist districts that requested help with revenue collection. All 30 districts soon signed agreements with the tax authority "that gave a mandate to the RRA to collect on districts' behalf, spelling out the obligations of the RRA and the districts," Karasira said.

In most cases, the tax authority kept 5% of the revenue collected in each district, to cover operational costs, and the RRA's district offices assumed full responsibility for collecting local taxes. The RRA deposited the money directly into each district's bank account, which enabled local governments to begin financing their development initiatives through the use of local taxes.

The RRA's project to help collect local taxes benefited from work done by another government institution, the Rwanda Land Management and Use Authority, that completed a project in June 2012 to map and issue titles to the owners of each of the country's 10.4 million land parcels. (See ISS case study *Securing Land Rights: Making Land Titling Work in Rwanda, 2012–2017*.) "The information we have in our local government tax system all comes from that institution. They gave us the information, and with that we track landowners and payment of taxes according to the size and use of the land," Karasira said.

OVERCOMING OBSTACLES

By 2009, the RRA had boosted Rwanda's tax-to-GDP ratio to 12.8% from 10.8% in 1998, and total tax revenues more than tripled from $208 million to $686 million.[18] The relatively modest apparent increase in the tax-to-GDP ratio reflected the country's significant overall economic growth from 1998 to 2009, which averaged about 9% annually and powered greater tax receipts. Even though its reforms were clearly producing results, the rapidly growing economy meant that the tax authority still had a long way to go to reach the 15% minimum threshold, as recommended by the IMF.

In July 2009, the RRA had to contend with a new challenge when Rwanda joined four neighboring countries—Burundi, Kenya, Tanzania, and Uganda—in the region-wide customs union of the East African Community (EAC). Originally established in 1993, the EAC aimed to establish a free-trade zone across East Africa with an aim to make it cheaper and easier for goods and people to move throughout the region. The five countries had 120 million consumers, compared with

Rwanda's population of only 10 million at the time.

Although the Rwandan government was optimistic that its economy would benefit from exporting goods and services to a regional common market, RRA leaders worried about the potential impact of lost customs revenues—at least in the short term.

As part of the agreement, member countries eliminated tariffs within the EAC, whereas previously, importers had had to pay taxes every time their goods crossed a border. Instead, the EAC would charge one common external tariff at the first port of entry (usually Mombasa in Kenya or Dar es Salaam in Tanzania), with the customs revenues shared between member states. To join the customs union, Rwanda also had to slash the maximum import tariff it charged on some goods from 100% to only 25%. For intraregional trade, the EAC further aimed to completely eliminate import duties by 2011. The RRA would feel the impact immediately, as the country's 2009–2010 budget projected customs revenue losses of 12.4 billion Rwandan francs (about US$21 million) in the first year alone, which equaled 3% of total tax revenues the RRA collected in 2009.[19]

The RRA met the challenge head-on. To compensate for the lost customs revenues, the tax authority designed a two-pronged strategy. On one hand, Baine's leadership team overhauled customs procedures to speed imports and exports, which could boost other revenues like VAT and corporate income tax and enable the RRA to more effectively collect import duties. Celestin Bumbakare, commissioner of domestic taxes at the time, said that because "we are going to get a bigger market for our goods," more-effective customs procedures would lead domestically collected "taxes to increase because traders will be selling more."[20] (See text box 4.)

But, on the other hand, the RRA recognized that it had to significantly widen the country's tax base to compensate for the lost revenues. The second part of its response strategy aimed to register thousands of new, mostly small and medium taxpayers still not paying their fair shares. Even though almost all of the country's largest companies and wealthiest individuals were already registered, many smaller enterprises and individuals remained outside the tax net. At the end of 2009, the total number of registered taxpayers was still only 34,193.[21] A large part of the RRA's ability to maintain and even increase the country's tax-to-GDP ratio in the face of tariff cuts depended on substantially increasing the number of domestically registered taxpayers.

Alongside customs reforms, the RRA redoubled its efforts to encourage more Rwandans to register and pay domestic taxes. For Tusabe, the key to broadening the tax base lay in "understanding the society you are serving. Many people are illiterate, so you need to design tax policies that speak their language and to reduce the cost of complying and becoming formal."

The RRA took a fresh look at its policies and reached two conclusions. First, it was still losing too much revenue from businesses that avoided paying the VAT, and second, the costs of filing and paying taxes were still too high for the many Rwandans who ran their own small enterprises.

In the early 2010s, the RRA launched new reforms to boost VAT revenues and engage more micro-taxpayers, defined as self-employed Rwandans with annual turnovers of less than 12 million francs (US$14,000). Success required overhauling its IT system. As Ntihemuka explained, by the time the internal SIGTAS IT system was installed in all RRA offices in 2009, "we needed to move from only an internal system to external use of IT." Although SIGTAS gave the RRA a centralized database for employee use, those outside the system—taxpayers—"still had to queue to receive their declaration forms, fill them out, sign them, stamp them, and then queue again to submit them. Filing a tax return could still take four days," he said.

The national government's Vision 2020 commitment to crisscross Rwanda with fiber-optic

Text box 4: Facilitating trade

The RRA's first step in improving trade efficiency was to physically station its own agents at the EAC's external borders. The RRA opened offices at the major ports of Mombasa and Dar es Salaam, as well as on the EAC's southern and northern land borders with Tanzania, Kenya, and Uganda. At the land borders, it set up single border posts, where customs agents from the two bordering countries shared an office to speed up the processing of people and shipments moving into and out of Rwanda.

To battle false declarations and smuggling, once the RRA cleared a shipment, it attached a cargo-tracking device to the truck transporting the goods from the port to the final destination. When the truck reached Rwanda, RRA officials removed the tracker at the owner's premises and checked if the goods declared at the port were the same as the goods that actually arrived in the country. For goods only passing through, the customs department installed cameras that used number-plate-recognition software at all of Rwanda's land borders. "Now we can check whether a truck has actually exited the country. Before, they used to say a truck's destination was, for instance Congo, but then they connive with staff to smuggle goods into Rwanda without paying," said William Musoni, acting commissioner of customs.

There were, however, indications that illicit miners in neighboring Democratic Republic of the Congo (DRC) could bypass the system to smuggle gold, tin, tungsten, and tantalum into Rwanda, from which it was sold onto the world market. A 2012 UN report found that "The credibility of the mineral tagging system in place in Rwanda is jeopardized by the laundering of Congolese minerals, as tags get routinely sold . . . [In turn], several traders have contributed to finance M23 rebels [in the DRC] out of profits resulting from smuggling Congolese minerals into Rwanda." The UN further noted that exports of tantalum and tungsten had risen in 2012 in tandem with increased smuggling out of the DRC, whereas another study concluded that in 2010 and 2011, Rwanda's mineral exports increased by 62% and domestic mining production grew by only 22%.[1]

Using the ASYCUDA World IT platform, Rwanda's customs department additionally implemented a risk management strategy that distinguished between different traders and significantly sped up the clearance process. By storing all information electronically, the system built records for individual importers. By automatically flagging low-risk, medium-risk, and high-risk shipments, the system enabled the customs team to prioritize high risks while speeding up the processing of other shipments. "If you've never made a mistake [before], then we're wasting our time by checking you every time. But if you make a mistake every time, we will concentrate on you," said Musoni. As Rwanda began reaping the rewards of the free-trade area and as trading increased, the risk management system also enabled the customs department to keep up with the growing volume of goods flowing across the country's borders—without hiring hundreds of new staff members.

As the final component of the strategy for speeding up customs processing, the RRA also used ASYCUDA World to build a national electronic Single Window system that enabled other government departments and revenue authorities to seamlessly interface with the customs database. Musoni used the example of pharmaceutical imports to illustrate how the electronic Single Window sped up customs clearance: "Previously, you had to physically visit the health ministry and wait in line for hours to get an import license. Now, you can use this one-stop clearance system to submit all documents electronically on the portal, where the ministry can remotely verify your license without physically seeing you."

[1] Michelle Nichols and Louis Charbonneau, "Exclusive: Mineral traders in Rwanda helping fund Congo rebels – U.N. Panel," Reuters, October 16, 2012, accessed May 14, 2018; https://www.reuters.com/article/us-congo-democratic-rwanda-minerals/exclusive-mineral-traders-in-rwanda-helping-fund-congo-rebels-u-n-panel-idUSBRE89F1M320121016.

cable and to boost other technology infrastructure provided a springboard for the RRA's plan for online taxpaying. As part of its strategy to turn the country into an IT hub, the central government in the early 2000s also had removed all import taxes on electronic equipment such as mobile phones and laptops. Almost a decade later, 70% of Rwandans had mobile phones[22] and more than 30% had access to the internet.[23]

Having learned from the experience of implementing SIGTAS, Baine assigned responsibility for the new project to the entire domestic tax department. Although the IT team did most of the work, the commissioner general expected other departments to cooperate in designing the new digital system, which the RRA dubbed eTax. The IT team partnered with an Indian firm to build the new system in-house and from scratch. "We had learned that you need a system wherein you can access the source code yourself. You cannot rely on vendors to give you a license, because they prefer you to be reliant on them," Ntihemuka said. After successfully piloting the system among large taxpayers, the RRA introduced eFiling and ePayment to all taxpayers in 2012.

The shift to electronic services also included the important introduction of electronic billing machines to counter VAT underreporting. The tax authority required all VAT-registered businesses—those with annual taxable turnover of more than 20 million francs (about US$24,000)—to buy billing machines and always issue tax receipts to their customers. Whenever a company issued a receipt using the machine, the transaction automatically recorded on the RRA's central server, minimizing the risk of companies' keeping their sales off the books to avoid paying VAT. As an incentive for customers to always ask for receipts, the tax authority launched a lottery that awarded televisions, cell phones, and other prizes to customers who texted their receipt numbers to the RRA.

Most of the country's large taxpayers and many medium taxpayers quickly began using the convenient new electronic services. However, the RRA soon noticed that many small taxpayers continued to visit its offices and use the old paper-based system. Although officials had traveled to internet cafés and other sites throughout the country to help small taxpayers understand the new system, many lacked the access, the skills, and/or the confidence to use an online system, and many still found the tax code too complicated.

Ntihemuka explained the fresh problem that confronted the RRA: "In 2010, we said no one must spend a lot of time to pay tax. But the same idea should also apply to micro-taxpayers. Why should someone driving a motorcycle taxi lose a day paying tax just because they don't have internet?" In response, the RRA worked with the finance ministry to amend the tax code and introduce a simple flat tax for enterprises with annual turnovers of less than 12 million (US$14,000). The new category was a "presumptive" tax, which meant that small businesspeople did not have to keep detailed accounting books or precisely calculate their profits. Instead, they only had to declare their annual turnover, and then pay a flat-fee tax. In 2018, about half of all registered taxpayers in Rwanda fell into that category.

Instead of having to calculate the percentage of tax payable, under the new corporate tax bracket for microenterprises, self-employed motorcycle taxi drivers, for example, were required to pay a flat FR60,000 (US$70) for annual earnings of FR2 million to FR4 million (US$2,300 to US$4,600) or proportionately higher fees if their incomes were higher. The RRA taxed businesses with annual earnings of more than FR12 million (US$14,000) under the regular corporate tax system.

With a simplified tax framework in place for micro-taxpayers, the RRA built a new electronic application for taxpayers with annual earnings of less than US$14,000. The system allowed users to declare and pay their taxes easily and quickly on basic cell phones that lacked internet browsers or mobile apps. After dialing the access number, taxpayers followed a series of prompts to declare their estimated earnings in the previous year, and they paid using mobile money. Although many Rwandans used mobile money platforms, which enabled people without bank accounts to pay their bills by using cell phone credit, those who did not use cell phones could still pay at a bank. The mobile system "eliminated the need for small businesses and small taxpayers to spend money on accountants. By reducing the compliance cost, it made it much cheaper and easier" to move into the formal economy and start paying taxes, Tusabe said.

ASSESSING RESULTS

From the RRA's first year of operation—1998—to 2017, Rwanda's bottom-line annual tax-to-GDP ratio improved from 10.8 to 16.7%, and total tax revenues grew almost 10-fold from $132 million to $1.3 billion. On its way to surpassing the IMF-suggested minimum threshold of 15%, during the first half of the 2010s the RRA consistently recorded annual increases of more than 10% in revenues collected—outpacing the economy's average overall growth rate of 8.9% per year. Moreover, in the decade from 2007 to 2017 alone, the number of registered taxpayers paying national taxes such as VAT and income tax grew more than 13-fold from 26,526 to 355,128. And by the end of 2017, the RRA was collecting local taxes on land and business licenses on behalf of district governments from 304,591 taxpayers.[24]

As a result of the tax authority's success in improving revenue mobilization, by 2017 the Rwandan government had become able to finance 62% of its annual budget from domestically generated tax monies, compared with only 39% in 2000.[25] According to a paper published by Holmes, in 2017 Rwanda collected in three weeks the same amount of taxes it had collected annually only a dozen years earlier.[26]

In 2017, VAT contributed 32% of total revenue collected; personal income tax amounted to 24%; profit tax and corporate income tax contributed 18%; excise duties contributed 12%; customs duties contributed 7%; and other, smaller levies made up the balance.[27] Even though revenues from customs and excise duties remained on a downward trajectory because of EAC requirements, revenue collected through most domestic taxes compensated for the losses and continued to increase.

However, one alarming exception resulted from mining taxes, which decreased by 27.5% in 2016 alone.[28] Although declining mineral prices played a role, Tusabe acknowledged that transfer pricing—whereby mining companies set up subsidiary companies and shifted their profits to low-tax jurisdictions to avoid paying in the country where they actually extracted the minerals—posed a serious new challenge: "There are no restrictions on cash repatriation, so we face the problem of transfer pricing and profit shifting. We have set up a unit for dealing with that and are getting assistance from EU partners," Tusabe said.

As a result of the reforms to the customs system, the years from 2009 to 2018 saw Rwanda's position in the World Bank's Doing Business ranking for ease of trading across borders improve from 168th to 87th out of 190 countries. The total amount of time it took to import goods into the country fell to less than 4 days (86 hours) from an average of 42 days during the period.[29] Such improvements to the customs system meant that "the revenue we lost in the short run has been mitigated by the externalities of growing trade and easing burdens. We simply shifted the tax point: instead of being taxed at entry [into the country], you are taxed on consumption. If anything, we've *gained* money" through the customs reforms, Tusabe said.

The RRA's embrace of technology yielded additional dividends. The shift to online and mobile technology likely accounted for a sizable chunk of the nearly 271,528 new taxpayers who registered from 2012 to 2017—boosting the total to 355,128—as evidenced by preliminary figures from the 2018 tax year, which showed that up to half of all tax returns filed during that year came from micro-taxpayers using cell phones.

The RRA was also making progress in the use of technology to clamp down on VAT evasion. By the end of the 2017 financial year, nearly 17,000 electronic billing machines were helping record VAT-eligible transactions, and the number of invoices the machines issued grew by 12.1% compared with the previous year.[30]

REFLECTIONS

President Paul Kagame and his entire cabinet's steadfast commitment to breaking Rwanda's reliance on foreign money was at the heart of the success of the Rwanda Revenue Authority during the early years of the 21st century. The imperative for change had come from the very top of government as part of the Vision 2020 development plan, and Kagame's personal involvement in high-profile events like the country's annual taxpayer appreciation day both set and sustained the tone for subsequent reforms. "The head of state gets constant reports on how we perform on the Doing Business report's tax indicators," said Richard Tusabe, commissioner general of the tax authority since 2014. "The level of accountability is extremely high. This is not just the commissioner general's business; it's national business."

But Rwanda also succeeded in translating that presidential imperative into a broad strategic vision, which the RRA's senior leadership supported enthusiastically. "The question is really, which league do you want to play in as a country? We decided to play in the first league. That's why we embraced benchmarks and [tools like] the Doing Business index" published by the World Bank, Tusabe said. As a result of the government's ability to generate genuine buy-in into Vision 2020 from across society, "you find that there's a coherence to what we do. Even though some reforms are generated internally and others are generated externally, they don't stand in isolation from the bigger picture," Tusabe said. An example came from the RRA's pivot to using online and mobile technology to widen the country's narrow tax base. "I would strongly encourage peers in other countries to look at [IT] as an enabler rather than a [taxable] cash cow," Tusabe said.

The tax authority's online successes went hand-in-hand with the government's decision to build fiber-optic coverage and to eliminate import taxes on computers, cell phones, and telecommunications equipment. Internet penetration in Rwanda surged during the late 2000s, enabling the RRA to roll out its new eTax system. The creation of the cell phone platform reflected similar coherence and cooperation, as the finance ministry's policy committee moved quickly to create a simple, new presumptive tax for micro-taxpayers in order to aid in the RRA's plans for mobile services.

Even as they continually focused on raising public awareness about the need to pay taxes, RRA leaders also understood that the success of their messaging ultimately hinged on the government's ability to deliver services to citizens. As living standards improved and the economy grew at more than 9% annually during the mid to late 2000s, the RRA's messaging campaigns found greater purchase. According to Gad Munyantwari, head of the risk management and modernization department, "Our surveys found that the main driver of compliance is government spending. If taxpayers feel they are receiving goods and services as benefits of paying taxes, they are more likely to be compliant."

As the appointment of Ghanaian Edward Larbi-Siaw as the first RRA head illustrated, another important factor in the effort to live up to Vision 2020 "was this openness to learning, an openness to bringing in capacity from outside our borders, and a willingness to try completely new things," said John Rwangombwa, who was RRA deputy commissioner of operations from 1998 to 2002 and later became finance minister and governor of the national bank.

Nonetheless, challenges remained in 2018. For one, the RRA became a victim of its own success in building a highly skilled work force. As more private companies moved into the country, the tax authority found it difficult to keep up with the higher salaries companies offered to poach RRA staff. "We're always in a training phase because the most competent staff are moving out," Tusabe said.

Evarist Ntaganda, deputy commissioner of training, added, "Even if employees sign contracts to work for the government for two years after we send them for training, many companies can go ahead and break the contract and pay the penalty on behalf of the employee." In early 2018, Ntaganda said the RRA was designing a new staff retention strategy.

Finally, despite significant progress, the government was not satisfied with merely surpassing the IMF's 15% minimum tax-to-GDP threshold. The country's tax base remained too narrow to meet the ultimate target of sustainably financing Rwanda's development needs by using only domestically generated revenue. Although the number of registered taxpayers had grown significantly, the 355,128 registered taxpayers as of 2017 represented a small slice of a total labor force of more than 6 million. Nearly three-quarters (73%) of the labor force worked in the informal sector[31] and conducted mostly cash transactions that were difficult to trace.

Tusabe said the RRA had a plan to change all that: "In trying to fit into the national data revolution strategy, we are currently drawing up a five-year plan [to build our] big-data analytics capacity." Although the risk management division was already using some of the new data gathered through eTax to more closely track taxpayer compliance, Joel Ntihemuka, deputy commissioner of IT services, said he hoped eTax would fully replace the old Standard Integrated Government Tax Administration System by the end of 2018. "Then we will have a completely full picture of every taxpayer," Ntihemuka said.

The rest of the government had the RRA's back. In order to support the revenue authority's new data-driven push to break into the informal sector, the cabinet in 2017 adopted a new strategy to turn Rwanda into a fully cashless economy by 2024.[32] Achievement of that target would solve many of the RRA's problems, because all transactions would be handled electronically and subject to oversight.

Along with the move to a cashless economy, Tusabe said he was confident the RRA would again beat the odds—this time by building a world-class data analytics system in a country that, just 24 years before, had been trapped in a spiral of anarchy and violence.

"The reason I think we will succeed is by learning from past experience," he said. Data analytics "fits into the national strategy. Rwanda is getting data-rich, and as the taxman, we don't want to lag behind. [A cashless economy combined with] big data will be the next big era for the RRA, pushing performance to the next level."

References

[1] Yoriko Nakamura and April Williamson, *Government Health Spending and Tax Reform in Rwanda, 2000-2013 – A Case Study*, USAID, December 2015, accessed April 9, 2018; https://www.r4d.org/wp-content/uploads/HFG-Tax-Reform-Case-Study_Rwanda.pdf.
[2] "Revenue Mobilization and International Taxation: Key Ingredients of 21st-Century Economies by IMF Managing Director Christine Lagarde," International Monetary Fund, February 22, 2016, accessed April 9, 2018; http://www.imf.org/en/News/Articles/2015/09/28/04/53/sp022216#P54_7862, and Vitor Gaspar, Laura Jaramillo, and Philippe Wingender, *Tax Capacity and Growth: Is There a Tipping Point?* IMF Working Paper 16/234, November 2016, accessed April, 2018; https://www.imf.org/external/pubs/ft/wp/2016/wp16234.pdf.
[3] Author's calculations based on data from World Bank Data, GDP (current US$), accessed April 9, 2018; https://data.worldbank.org/indicator/NY.GDP.MKTP.CD?locations=RW, and OECD.Stat, Revenue statistics – African countries, accessed April 9, 2018; https://stats.oecd.org/Index.aspx?DataSetCode=REVRWA and United Nations University, Government Revenue Dataset, accessed May 11, 2018; https://www.wider.unu.edu/project/government-revenue-dataset.
[4] Mary Baine, *Topic: Role of Taxation in State Building and Good Governance – The Rwandan Experience*, Norwegian Agency for Development Cooperation Annual Conference on Poverty and Development, Oslo, 2012, accessed April 9, 2018; http://www.publishwhatyoupay.no/sites/all/files/Baine%20-%20Role%20of%20Taxation%20in%20State%20building%20and%20Good%20governance%20-%20The%20Rwandan%20experience_0.pdf.
[5] Mary Baine, *Topic: Role of Taxation in State Building and Good Governance – The Rwandan Experience*.
[6] Mary Baine, *Topic: Role of Taxation in State Building and Good Governance – The Rwandan Experience*.
[7] World Bank Data, Literacy rate, adult total (% of people ages 15 and above), accessed April 10, 2018; https://data.worldbank.org/indicator/SE.ADT.LITR.ZS?locations=RW.
[8] Anthony Land, *Developing Capacity for Tax Administration: The Rwanda Revenue Authority*, European Centre for Development Policy Management Discussion Paper Number 57D, November 2004, accessed April 13, 2018; http://ecdpm.org/wp-content/uploads/2013/11/DP-57D-Developing-Capacity-Tax-Administration-Rwanda-Revenue-Authority.pdf.
[9] Ministry of Local Government and Social Affairs, *National Decentralization Policy*, May 2001, accessed April 11, 2018; http://minaloc.gov.rw/fileadmin/documents/Minaloc_Documents/Decentralisation_Policy__2001.pdf.
[10] Eugene Torero, Max Everest-Phillips, and Richard Stern, "The Rwandan Revenue Authority Project," International Workshop on Public-Private Dialogue, Paris, February 1–2, 2006, accessed April 12, 2018; http://www.publicprivatedialogue.org/case_studies/Case%20Study%2009%20-%20Rwanda.pdf.
[11] Donald Kaberuka, "Foreword," *Rwanda Vision 2020*, July 2000, accessed April 12, 2018; https://repositories.lib.utexas.edu/bitstream/handle/2152/5071/4164.pdf?sequence=1.
[12] *Rwanda Vision 2020*, July 2000, accessed April 12, 2018; https://repositories.lib.utexas.edu/bitstream/handle/2152/5071/4164.pdf?sequence=1.
[13] Anthony Land, *Developing Capacity for Tax Administration: The Rwanda Revenue Authority*.
[14] Author's calculations based on data from World Bank Data, GDP (current US$), and OECD.Stat, Revenue statistics – African countries," accessed April 9, 2018; https://stats.oecd.org/Index.aspx?DataSetCode=REVRWA and OECD.Stat, Revenue statistics – African countries.
[15] "ASYCUDA," United Nations Conference on Trade and Development, accessed April 17, 2018; https://asycuda.org/awintro.asp.
[16] Mission statement, Rwanda Revenue Authority, accessed April 17, 2018; http://www.rra.gov.rw/index.php?id=73.
[17] "RRA recognizes best taxpayers as it seeks to further increase compliance," *Hope Magazine*, October 31, 2017, accessed April 24, 2018; http://hope-mag.com/index.php?com=news&option=read&ca=6&a=3314.
[18] OECD Stat, Revenue statistics – African countries.
[19] Peterson Tumwebaze, "Domestic tax revenue likely to increase as Rwanda joins EAC Customs Union," *New Times*, June 4, 2009, accessed April 20, 2018; http://www.newtimes.co.rw/section/read/8782.
[20] Peterson Tumwebaze, "Domestic tax revenue likely to increase as Rwanda joins EAC Customs Union."
[21] Peterson Tumwebaze, "Gov't revenues rise by 22.6%," *New Times*, July 31, 2010, accessed April 20, 2018; http://www.newtimes.co.rw/section/read/22492.
[22] Peterson Tumwebaze, "Rwanda's mobile phone penetration rate rises marginally in June," *New Times*, September 5, 2017, accessed April 20, 2018; http://www.newtimes.co.rw/section/read/219255.

---

[23] Jean-Pierre Afadhali, "Rwanda top in Internet access but cost, devices a hindrance," *East African*, April 23, 2016, accessed April 20, 2018; http://www.theeastafrican.co.ke/rwanda/Business/Rwanda-top-in-Internet-access-but-cost-and-devices-a-hindrance-/1433224-3171806-3l04v4/index.html.
[24] Rwanda Revenue Authority, *Annual Activity Report 2016/17*, October 2017, accessed April 24, 2018; http://www.rra.gov.rw/fileadmin/user_upload/rra_annual_activity_report_2016-17.pdf.
[25] "Rwanda: Domestic Revenue to Finance 62 Percent of Budget," *AllAfrica*, June 9, 2016, accessed April 24, 2018; http://allafrica.com/stories/201606090057.html.
[26] Kieran Holmes, "Tax Reform and MacFax: An Example from Africa," *The Red Cell*, May 2018, accessed May 20, 2018; http://www.theredcell.co.uk/uploads/9/6/4/0/96409902/tax_reform___maxfac.pdf.
[27] Rwanda Revenue Authority, *Annual Activity Report 2016/17*.
[28] Rwanda Revenue Authority, *Annual Activity Report 2015/16*, accessed April 24, 2018; http://www.rra.gov.rw/fileadmin/user_upload/rra_annualreport_2015-16_final.pdf.
[29] World Bank, *Doing Business 2009*, accessed April 20, 2018; http://www.doingbusiness.org/~/media/WBG/DoingBusiness/Documents/Annual-Reports/English/DB09-FullReport.pdf, and World Bank, *Doing Business 2018*, accessed April 20, 2018; http://www.doingbusiness.org/~/media/WBG/DoingBusiness/Documents/Annual-Reports/English/DB2018-Full-Report.pdf .
[30] Rwanda Revenue Authority, *Annual Activity Report 2016/17*.
[31] *Informal sector devt: Challenge for inclusive growth strategy in Rwanda*, TradeMark East Africa, July 11, 2017, accessed May 14, 2018; https://www.trademarkea.com/news/informal-sector-devt-challenge-for-inclusive-growth-strategy-in-rwanda/.
[32] Peterson Tumwebaze, "Rwanda to go cashless by 2024: Are you on board?" *New Times*, December 5, 2017, accessed May 14, 2018; http://www.newtimes.co.rw/section/read/224911.

