

Information technology super-charging Rwanda's economy



Country aspires to become a regional high-tech hub

 **By Masimba Tafirenyika**

A luxury commuter bus pulls up by the kerb to pick up passengers. A young woman quickly jumps in, retrieves a smart card from her wallet and swipes it against a machine next to the driver. A buzzer approves the swipe and the woman takes a seat by the window. Nothing unusual, something even routine in advanced economies. But this is tiny landlocked Rwanda, one of the world's poorest countries, which was nearly brought to its knees by genocide in 1994.

The smart-card ticketing system is known as *twende*. Its introduction in the capital, Kigali, early this year by Kigali Bus Services is the latest in a string of technological advances that are unleashing rapid changes in the economy and transforming Rwanda into a regional hub for business communications and information technology. The innovations are altering the way Rwandans communicate, pay for goods and services, and go about their daily lives.

Rwanda emerged from the 1994 genocide that killed about 800,000 people with a severely impaired society, a traumatized populace and an economy in dire straits. Back then President Paul Kagame's new government confronted enormous challenges at every turn: millions of refugees and displaced people to be resettled, genocide victims

Rwandans undergoing training on an "ICT bus": The growth of Rwanda's information and communications technology sector is stimulating innovation across the society.

 Redux / Tadej Znidarcic

awaiting justice and an economy that needed restarting. Fast forward to 2011. There is much evidence that thoughtful policies are transforming an agrarian society into a sophisticated knowledge-based economy and instilling a sense of national identity and unity in Rwandans.

Business-friendly policies

The rise of Rwanda's economy is gradually getting investors' attention. According to the World Bank, it is now easier, faster and less expensive to operate a business in Rwanda than in most other African countries. In this year's "Ease of Doing Business" rankings, by which the World Bank

gauges the intricacies of running a company in different countries, Rwanda comes in at 58 out of 183 nations surveyed, up from 143 in 2009. In Africa only Mauritius, South Africa, Botswana and Tunisia fared better.

The World Bank says that a high ranking indicates that a country has adopted laws favourable to starting and operating a company, in areas such as accessing credit, registering property transfers, paying taxes and enforcing contracts. In 2005 an entrepreneur had to go through nine procedures to start a business in Rwanda, at a cost of 223 per cent of income per capita. Today, observes the Bank, it takes only two procedures in three days, at a cost of 8.9 per cent!

Encouraged, investors are returning the favour. World Bank figures show that flows of foreign direct investments to Rwanda jumped almost 15-fold between 2005 and 2009, from \$8 mn to \$118.7 mn.

Government policies to promote the technology and communications sectors are also stimulating entrepreneurial creativity and growth across the economy. Last year, the country's gross domestic product (GDP) grew by 7.4 per cent, on top of an annual average growth rate of 7.5 per cent between 2004 and 2009. This was almost in line with the government's Vision 2020 plan, which foresees annual growth rates of about 8 per cent between 2000 and 2020.

'Singapore of Africa'

It is perhaps the government's ambitious plans to transform Rwanda into a regional high-tech hub — or "Singapore of Africa" — that has most fascinated many people, including

sceptics. With that goal the government initiated the five-year "National Information and Communication Technology (ICT) Plans." The first plan, from 2000 to 2005, focused on creating policies favourable to ICT initiatives. The second, from 2006 to 2010, concentrated on building the ICT backbone, including laying fibre-optic cables. The third, scheduled to run from 2011 to 2015, will speed up the introduction of services to exploit the new technology and, authorities are convinced, will push Rwanda ahead of regional rivals.

Ignace Gatware, the minister in the office of the president responsible for ICT, told *Africa Renewal* that the third phase will strengthen skills-training centres and develop an "ICT culture" in schools as a means of creating "a critical mass of IT professionals."

Early this year the state-run Rwanda Information Technology Authority announced that it had completed a nationwide 2,300-kilometre fibre-optic cable. The network connects Rwanda to the outside world by means of the Seacom undersea cable along the east coast of Africa. It provides fast Internet access to a wider range of broadband services, replacing expensive and slower satellite connections.

More mobile phones

The three mobile phone operators, Rwandatel, MTN and Tigo, are already exploiting the fibre-optic network to extend their reach. Mobile phone penetration, while expanding, is still low, however. In 2010 about 2.4 million Rwandans — one in four — owned a mobile phone, according to the Rwanda Utilities Regulatory Agency (RURA). Analysts forecast the number to top 6 million by 2015.

RURA is negotiating with mobile operators to bring down the cost of a handset from the equivalent of \$14 per connection to around \$3.50. The regulator is offering to bear half the total cost, and asking operators to contribute 30 per cent and consumers to pay the remaining 20 per cent. Talks are also being held with the Rwanda Development Bank to provide micro-loans for handsets.

One of the fastest-growing businesses among youths is selling mobile top-up cards, often at street corners. Internet cafés are also gaining popularity as the use of social media tools such as Facebook and Twitter goes mainstream.

From health updates to crop prices

As with the new bus ticketing system, technological innovations are today

*Cyber café at a Kigali shopping mall:
More and more Rwandans are getting
access to high-speed Internet service.*

 Panos / Sven Torfinn



affecting, directly and indirectly, virtually every aspect of life in Rwanda, from health and education to banking.

According to the UN Population Fund, Rwanda is currently distributing free mobile phones to thousands of community health workers throughout the country. The phones are used to keep track of pregnant women, send emergency alerts, call ambulances and provide updates on health issues to local clinics via text messages. TRACNET, an information system run by the Treatment and Research AIDS Centre, collects and manages patient information and the distribution of HIV/AIDS drugs.

Along with Ghana, Kenya and Nigeria, Rwanda recently conducted trials for a new drug monitoring system called mPedigree. This is necessary, since the World Health Organization warns that counterfeit and substandard medicines pose “a global public health problem,” especially in Africa where 8–10 per cent of drugs are counterfeits. The

mPedigree system allows consumers to send a text code by mobile phone to a central hotline, and then receive an SMS reply, typically within seconds, indicating whether the drug is counterfeit or genuine.

Rwandans are now enjoying the convenience of banking through mobile phones, a feature already available in several other African countries. Early this year MTN teamed up with the Commercial Bank of Rwanda to launch a mobile money service. It allows thousands of subscribers to transfer money between accounts, withdraw cash and pay electricity and pay-TV bills using SMS messages.

Farmers too can now receive updates on the market prices for their crops, with an SMS software programme called e-Soko (“e-market”), eliminating middlemen and allowing them to pocket the extra cash. Applicants for drivers’ licenses can access the traffic department’s SMS-based application to make appointments or receive results of driving tests. A similar application is linked to the national ID database, making it easier for potential voters to register.

Telecentres

In response to the demand for more and faster Internet access, a network of telecentres connected to the fibre-optic cable is springing up in all the country’s 30 districts. The *Christian Science Monitor*, a US-based newspaper, reports that these telecentres — public places where people can access the Internet and other digital technologies at affordable prices — will offer every Rwandan town high-speed domestic broadband access. This would allow middle-class Rwandans to explore business opportunities, skilled people to find jobs and farmers to find better prices for their crops.

Despite Rwanda’s economic and social progress, the government has seen a rising wave of criticism of its human rights record in the region. Rights advocates — including the UN, Amnesty

International and Human Rights Watch — have expressed concern over the treatment of government critics, in particular during the run-up to the 2010 presidential election. A number of opposition members and journalists recently received long prison sentences, some in absentia, for crimes ranging from hate speech to denying or inciting genocide.

The government, however, has denied accusations of human rights abuses. Its sympathizers, mainly Western donors who provide half of government spending, have placed the focus instead on President Kagame’s commitment to lift his people out of poverty and to maintain stability in the aftermath of the 1994 genocide.

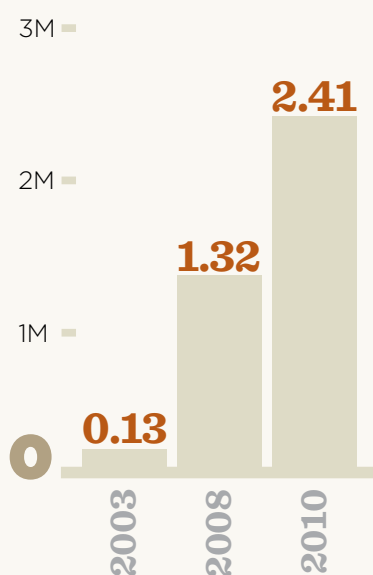
Overall, Rwanda’s economic and social policies have received positive reviews from analysts. Most surveys on governance — including aspects such as transparency, corruption or progress for women — have given Rwanda reasonably high marks. A sympathetic longtime writer on Rwanda, Philip Gourevitch, has credited President Kagame with creating “one of the safest and the most orderly countries in Africa.”

Writing in the January–February 2011 issue of the *Columbia Journalism Review*, a US magazine for professional journalists, reporter Tristan McConnell cites Gourevitch’s list of President Kagame’s achievements: per capita GDP has multiplied, national health insurance and free primary education are available to all, tourism is growing, the capital is clean, Internet and cell phones span the country, drivers wear seatbelts, civil servants arrive at work on time, and there is construction, rule of law and justice.

And Rwandans are just beginning to feel the impact of the spin-offs of its new technologies, with the Kigali Bus Services’ ticketing system among the latest along the arduous journey to economic prosperity. 🇷🇼

Mobile phone subscribers in Rwanda

millions



Source: UN Africa Renewal from International Telecommunication Union and Rwanda Utilities Regulatory Agency data.