# **Opening Up Education in Rwanda**

by Charlotte Doody

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# **Executive Summary by Paul Bacsich**

This short report describes the context for opening up education in Rwanda. Its focus is on higher education, although there is some coverage of schooling and also NGO activity. In Rwanda there are many developments in high-speed networking and a substantial amount of distance education being delivered in and into the country. These provide a fruitful context for future development of OER, MOOCs and open education generally.

Among the highlights are:

- Rwandan primary school children benefit from the One Laptop per Child Project funded by the One Laptop per Child Association.
- Open Learning Exchange Rwanda (OLE) promotes information on Public Health and Environment using ICT.
- Nokia and the Government of Rwanda have agreed a pilot project (SocialEDU) for free educational content. This will be available via edX linked to Facebook.
- Rwanda has a TESSA community and the University of Rwanda College of Education is a TESSA partner.
- The UK OU began a project in 2010 named *Open University Rwanda* whereby it was advising the Rwandan Government on setting up distance learning nationally.
- Kepler is providing university qualifications through blended learning making use of MOOCS and linking students with employers. Courses are provided in the following areas: Business Management & Finance, Computer Science, and Engineering



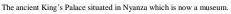
This report is being released within POERUP under Creative Commons 4.0, as above. We hope that those more familiar with Rwanda in recent years will add their input to improve future versions documenting the achievements of Rwanda in ICT for education, and open education in particular.

#### 0. Overview

The Republic of Rwanda is a landlocked sovereign state with few natural resources (population 12,012,589 (estimate) in July 2013<sup>1</sup>). It is situated in central and east Africa and borders with Uganda, Tanzania, Burundi and the Democratic Republic of the Congo.<sup>2</sup> Rwandan nationals are predominantly Roman Catholic (56.5%<sup>3</sup>) and speak Kinyarwanda; French and English are also official languages, although French is in steady decline. English is used in public schools from primary school grade 4.

Rwanda's presidential system is headed by President Paul Kagame (2000–present) who resides in the capital city of Kigali.







Map of Rwanda with provinces highlighted.

Within Rwanda there are five provinces known as intara: these are then divided into 30 districts or 'uturere' and those are further divided into 418 sectors or 'imirenge'. The imirenge are then divided into 9,165 cells or 'utugari'. Since 1946 Rwanda has undergone numerous changes to its territorial structure but the aforementioned provincial make up has been permanent since 2006. The five provinces in 2006 were a direct result of Rwandan Government measures to make positive changes to promote multi-ethnic living, directly relating to the Rwanda Genocide of 1994.

| Province | Capital     | Area (km²) | Population (2012 census) |
|----------|-------------|------------|--------------------------|
| Kigali   | Kigali City | 730        | 1,135,428                |
| Southern | Nyanza      | 5,963      | 2,594,110                |
| Western  | Kibuye      | 5,883      | 2,476,943                |
| Northern | Byumba      | 3,276      | 1,729,927                |
| Eastern  | Rwamagana   | 9,458      | 2,600,814                |

<sup>&</sup>lt;sup>1</sup> See <a href="http://www.indexmundi.com/rwanda/population.html">http://www.indexmundi.com/rwanda/population.html</a>

<sup>&</sup>lt;sup>2</sup> See http://en.wikipedia.org/wiki/Rwanda

<sup>&</sup>lt;sup>3</sup> See http://en.wikipedia.org/wiki/Demographics of Rwanda

<sup>&</sup>lt;sup>4</sup> See Picture by <u>User:Guswen</u> – http://en.wikipedia.org/wiki/File:King%27s\_palace\_in\_Nyanza.jpg

<sup>&</sup>lt;sup>5</sup> See Picture from <a href="http://en.wikipedia.org/wiki/File:RwandaGeoProvinces.png">http://en.wikipedia.org/wiki/File:RwandaGeoProvinces.png</a>

<sup>&</sup>lt;sup>6</sup> See http://www.statoids.com/urw.html

# 1. Population

Rwanda in its entirety was estimated in 2013 to have a population of 12,012,589,<sup>7</sup> thus larger in size than many EU countries, including Slovakia (5,483,088) and more similar to those such as Portugal (10, 487,289). 35% of people in the year 2000 were aged between 5-14 years old.<sup>8</sup>

As of 2009, the population of Kigali was estimated at 1,000,000. The main districts and their populations are as follows:  $^{10}$ 

| District   | Province          | Population Change 2002-2012 (%) | Population Density<br>2012<br>(per km²) |
|------------|-------------------|---------------------------------|---|
| Bugesera   | Eastern Province  | 36.2                            | 282                                     |
| Gatsibo    | Eastern Province  | 53.1                            | 275                                     |
| Kayonza    | Eastern Province  | 65.3                            | 179                                     |
| Kirehe     | Eastern Province  | 48.6                            | 288                                     |
| Ngoma      | Eastern Province  | 44                              | 390                                     |
| Nyagatare  | Eastern Province  | 83                              | 243                                     |
| Rwamagana  | Eastern Province  | 40.7                            | 455                                     |
| Gasabo     | Kigali City       | 65.6                            | 1237                                    |
| Kicukiro   | Kigali City       | 53.8                            | 1918                                    |
| Nyarugenge | Kigali City       | 20.2                            | 2127                                    |
| Burera     | Northern Province | 4.9                             | 522                                     |
| Gakenke    | Northern Province | 5.1                             | 481                                     |
| Gicumbi    | Northern Province | 10.6                            | 480                                     |
| Musanze    | Northern Province | 20                              | 695                                     |
| Rulindo    | Northern Province | 14.8                            | 509                                     |
| Gisagara   | Southern Province | 23.1                            | 475                                     |
| Huye       | Southern Province | 23.8                            | 565                                     |
| Kamonyi    | Southern Province | 31.2                            | 523                                     |
| Muhanga    | Southern Province | 11.1                            | 492                                     |
| Nyamagabe  | Southern Province | 22.2                            | 314                                     |
| Nyanza     | Southern Province | 43.6                            | 481                                     |
| Nyaruguru  | Southern Province | 26.8                            | 290                                     |
| Ruhango    | Southern Province | 31                              | 514                                     |
| Karongi    | Western Province  | 18.9                            | 334                                     |
| Ngororero  | Western Province  | 18.5                            | 493                                     |
| Nyabihu    | Western Province  | 10.1                            | 556                                     |
| Nyamasheke | Western Province  | 17.9                            | 326                                     |
| Rubavu     | Western Province  | 38.1                            | 1041                                    |
| Rusizi     | Western Province  | 21.9                            | 422                                     |
| Rutsiro    | Western Province  | 22.3                            | 279                                     |

<sup>&</sup>lt;sup>7</sup> See http://www.indexmundi.com/rwanda/population.html

<sup>&</sup>lt;sup>8</sup> See https://www.cia.gov/library/publications/the-world-factbook/geos/rw.html

<sup>&</sup>lt;sup>9</sup> See <a href="http://en.wikipedia.org/wiki/Kigali">http://en.wikipedia.org/wiki/Kigali</a>

<sup>&</sup>lt;sup>10</sup> See http://en.wikipedia.org/wiki/List\_of\_Rwanda\_districts\_by\_population

The age/gender profile is outlined below:<sup>11</sup>

| 0-14 years:      | 42.3%   | male 2,561,999 | female 2,521,530               |
|------------------|---------|----------------|--------------------------------|
| 15-24 years:     | 19.1%   | male 1,142,985 | female 1,145,500               |
| 25-54 years:     | 32.2%   | male 1,943,017 | female 1,929,924               |
| 55-64 years:     | 3.9%    | male 219,111   | female 254,064                 |
| 65 years and ove | r: 2.5% | male 119,086   | female 175,373 (2013 estimate) |

# 2. GNI per capita<sup>12</sup>

2012 - (US) \$600

#### **Income**

The average annual salary in Rwanda is 460~RWF. <sup>13</sup> As of April 2014 the exchange rate was 937.195 RWF to 1.00~EUR. <sup>14</sup>

# 3. Stability

Rwanda continues to rebuild itself and its economy, with tea and coffee being key exports. One New York based company *The Excellent Tea Company* sells only Fair Trade Superb Black Tea from Rwanda. <sup>15</sup> The National Agricultural Exports Board reported that 1,752.1 tonnes of tea was exported in November 2013 alone. <sup>16</sup> Rwanda has been a member of the World Trade Organisation since 1996 and has been listed on the UN's Least Developed Countries List since 1971. <sup>17</sup>

The Rwandan Investment Group was set up in May 2006 focusing mainly on funding construction and energy development, presently there are three large investment companies within the group: Peat Energy Company; Rwanda Energy Company and CIMERWA (Manufacturing). The Rwanda Government website itself provides an attractive list of reasons to invest ranging from sustained economic growth to internet connectivity; for further insight the following footnote is recommended reading. 19

Science and technology are championed by the Rwandan Government and as such the World Bank co-hosted a science and technology innovation forum in Kigali in March 2014.<sup>20</sup>

#### Ease of doing business

Rwanda is aiming to become a middle-income country by 2020 with the help of its *Vision* 2020.<sup>21</sup> With little natural resources to draw upon, Rwanda imports far more than it exports and ranks 32 on the Ease of Doing Business index.<sup>22</sup>

<sup>&</sup>lt;sup>11</sup> See <a href="http://www.indexmundi.com/rwanda/demographics\_profile.html">http://www.indexmundi.com/rwanda/demographics\_profile.html</a>

<sup>&</sup>lt;sup>12</sup> See http://data.worldbank.org/country/rwanda

<sup>&</sup>lt;sup>13</sup> See http://www.worldvision.org/our-impact/country-profiles/rwanda

<sup>&</sup>lt;sup>14</sup> See http://www.xe.com/currencyconverter/convert/?Amount=1&From=USD&To=RWF

<sup>&</sup>lt;sup>15</sup> See http://www.excellent-tea.com/superb-black-tea.html

<sup>&</sup>lt;sup>16</sup> See http://www.ventures-africa.com/2014/01/rwanda-tea-exports-surge-86-9/

<sup>&</sup>lt;sup>17</sup> See http://www.un.org/en/development/desa/policy/cdp/ldc/ldc list.pdf

<sup>&</sup>lt;sup>18</sup> See http://www.rig.co.rw/index.php?option=com\_content&view=article&id=48&Itemid=143

<sup>&</sup>lt;sup>19</sup> See http://www.gov.rw/Invest-in-Rwanda

 $<sup>^{20}\,</sup>See\ \underline{http://www.worldbank.org/en/news/feature/2014/03/12/higher-education-in-science-and-technology-is-critical-for-africas-development}$ 

#### 4. IT infrastructure

Internet users per 100 people:<sup>23</sup>

2012 8.0

2011 7.9

Fixed broadband internet subscribers per 100 people:<sup>24</sup>

2012 0.02

2011

Mobile cellular subscriptions per 100 people:<sup>25</sup>

2012 502011 40

#### **Broadband**

In the Budde Report *Rwanda* – *Telecoms, Mobile, Broadband and Forecasts*, a key development is the "Joint Venture with Korea Telecom to provide a national LTE network by 2016". The original development has since moved on from its initial agreement in 2013 and two venture companies are now included: Olleh Rwanda Networks Ltd who is responsible for 4G connectivity and Africa Olleh Services who is responsible for Cloud services.<sup>26</sup>

Liquid Telecom built the Pan-African fibre network which runs through central, eastern and southern Africa – including Rwanda. To complement the constantly growing infrastructure Rwanda will need to train potential employees to fill available roles. Improved broadband has seen schemes such as the *ICT Buses* which are used to act as mobile telecentre platforms and funded by the World Bank. Services include basic ICT training and use of services such as photocopying and printing.<sup>27</sup>

The Intra-Africa Optical Fibre Network is also something to note: Rwandan access to ICT is supported by the UbuntuNet Alliance, <sup>28</sup> associated with the Rwandan National Research and Education Network (RwEdNet).

# 5. Schooling, including ICT aspects

Languages

Information from Index Mundi:<sup>29</sup> The official language of Rwanda is Kinyarwanda; however French and English are also listed as official languages and Kiswahili (Swahili) is used in commercial centres.

 $\frac{\text{http://web.worldbank.org/WBSITE/EXTERNAL/TOPICS/EXTINFORMATIONANDCOMMUNICATIONANDTECHNO}{\text{LOGIES/0,,contentMDK:}20687836\sim \text{menuPK:}282840\sim \text{pagePK:}210058\sim \text{piPK:}210062\sim \text{theSitePK:}282823,00.\text{html}}$ 

<sup>&</sup>lt;sup>21</sup> See <a href="http://en.wikipedia.org/wiki/Vision">http://en.wikipedia.org/wiki/Vision</a> 2020 (Rwanda)

<sup>&</sup>lt;sup>22</sup> See <a href="http://www.doingbusiness.org/rankings">http://www.doingbusiness.org/rankings</a>

<sup>&</sup>lt;sup>23</sup> See <a href="http://data.worldbank.org/indicator/IT.NET.USER.P2">http://data.worldbank.org/indicator/IT.NET.USER.P2</a>

<sup>&</sup>lt;sup>24</sup> See <a href="http://wdi.worldbank.org/table/5.12">http://wdi.worldbank.org/table/5.12</a>

<sup>&</sup>lt;sup>25</sup> See http://data.worldbank.org/indicator/IT.CEL.SETS.P2

<sup>&</sup>lt;sup>26</sup> See http://www.rdb.rw/home/newsdetails/article/rwanda-kt-public-private-partnership-on-track.html

<sup>&</sup>lt;sup>27</sup> See

<sup>&</sup>lt;sup>28</sup> See <a href="http://www.ubuntunet.net/about">http://www.ubuntunet.net/about</a>

<sup>&</sup>lt;sup>29</sup> See http://www.indexmundi.com/rwanda/languages.html

In respect of language, Rwanda has moved from teaching in French to English.... The Africa Portal explains the historical nature of the change in detail and should be observed.<sup>30</sup>

# Schooling<sup>31</sup>

The structure of the educational system in Rwanda dictates what is known as a 6-3-3-4 system. This means that learners spend 6 years in primary school, 3 years in junior school, 3 in secondary school and 4 at university level. Not all students continue at every level and competition for places is present. Instruction from teachers is in English thereon after the first three years of primary school which are taught in Kinyarwanda. Examinations remain paper based. Rwandan primary school children benefit from the One Laptop per Child Project funded by the One Laptop per Child Association (OLPCA) and the Cambridge-based OLPC Foundation (OLPCF). In 2009 120,000 laptops were reportedly ordered as part of this scheme. Distance learning is key to providing education in Rwanda where it is hoped the One Laptop per Child Project will be of benefit particularly to children with disabilities and those who are unable to attend school regularly. Over half of Rwanda's population are children and many are responsible for maintaining their own families, this is due in some part to loosing parents to AIDs and HIV.

# 6. University-level institutions

#### **Ministry of Education (MINEDUC)**

The Ministry in overall charge of education is *MINEDUC*. A comprehensive account of MINEDUC history can be found on its website. <sup>35</sup>

#### Universities summarised

Rwanda has one public university (formed from several) and 15 private universities. These are listed on the Ministry of Education website reproduced below with further detail:

#### Public

University of Rwanda (UR, former NUR established 1963)
 www.ur.ac.rw/

The University of Rwanda now consists of associated colleges following the introduction of law No 71/2013.<sup>36</sup> It was previously known as NUR.

Seven associated UR colleges:

*NB:* Where 'former' is seen, this signifies the associated colleges being integrated into the UR which occurred in 2013.

 UR – College of Arts and Social Sciences (Former NUR) http://www.nur.ac.rw/

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<sup>&</sup>lt;sup>30</sup> See http://www.africaportal.org/articles/2012/05/31/costs-and-consequences-rwanda%E2%80%99s-shift-language-policy

<sup>&</sup>lt;sup>31</sup> See <a href="http://en.wikipedia.org/wiki/Education">http://en.wikipedia.org/wiki/Education</a> in Rwanda

<sup>&</sup>lt;sup>32</sup> See http://rwanda.usembassy.gov/rwanda\_system\_of\_education.html

<sup>&</sup>lt;sup>33</sup> See http://en.wikipedia.org/wiki/One Laptop Per Child

<sup>&</sup>lt;sup>34</sup> See <a href="http://www.worldvision.org/our-impact/country-profiles/rwanda">http://www.worldvision.org/our-impact/country-profiles/rwanda</a>

<sup>&</sup>lt;sup>35</sup> See <a href="http://www.mineduc.gov.rw/spip.php?rubrique2">http://www.mineduc.gov.rw/spip.php?rubrique2</a>

<sup>&</sup>lt;sup>36</sup> See http://www.nur.ac.rw/spip.php?article1427

• UR – College of Education (Former KIE)

http://www.ce.ur.ac.rw/

Formally

• UR – College of Sciences and Technology (Former KIST)

http://www.kist.ac.rw/

• UR – College of Medicine and Health Sciences (Former KHI)

http://www.khi.ac.rw/

• UR – College of Business and Economics (CBE Former SFB)

CBE was formally known as the school of finance and banking (SFB) and is still referred to as this on social networking site Facebook.<sup>37</sup>

http://www.cbe.ur.ac.rw/

- UR College of Agriculture, Animal Sciences and Veterinary Medicine (Former ISAE) http://isae.ac.rw/index.php?id=2
- UR Nyagatare Campus (Former Umutara Polytechnic) Rwanda Teachers College (RTC) http://www.nyagatarecampus.ur.ac.rw/

#### Integrated Polytechnic Regional Centres

- Integrated Polytechnic Regional Centre North: Tumba College of Technology (IPRC – North Campus, established 2008) http://www.tct.ac.rw/
- Integrated Polytechnic Regional Centre Kicukiro Campus (IPRC-Kigali Campus, established 2008)

http://www.iprckigali.ac.rw/

- Integrated Polytechnic Regional Centre South (IPRC South Campus, established 2010) http://iprcsouth.ac.rw/
- Integrated Polytechnic Regional Centre West (IPRC West Campus, established 1989) http://www.iprcwest.ac.rw/
- Integrated Polytechnic Regional Centre East (IPRC East Campus, established 1989) http://www.iprceast.ac.rw/

#### Further Public Institutions

- Institute of Legal Practice and Development (ILPD, established 2006) http://www.ilpd.ac.rw/index.php?id=68
- Byumba School of Nursing And Midwifery (BSNM, established 1995) http://bsnm.ac.rw/principal.php
- Kibungo School of Nursing And Midwifery (KSNM, established 2002)
- http://www.ksnm.ac.rw/index.php/
- Nyagatare School of Nursing & Midwifery (NSNM, established 2002) http://nursingnsnm.weebly.com/

<sup>&</sup>lt;sup>37</sup> See https://www.facebook.com/SchoolofFinanceandBanking

#### Private

- Catholic Institute of Kabgayi (ICK, established 2002) http://www.uck.ac.rw/
- Kigali Independent University (ULK, established 1996) http://www.ulk-kigali.net/index.php
- Institute of Agriculture, Technology and Education of Kibungo (INATEK, established 2003)
   Previously known in French as Institut d'Agriculture, de Technologie et d'Education de Kibungo until 2010 when its name was amended to be in English.
   http://inatek.ac.rw/
- Institut Laique adventiste de Kigali (INILAK, established 1997) http://www.inilak.ac.rw/
- Adventist University of Central and East Africa (AUCA, established 1979) http://www.auca.ac.rw/
- Institut d'Enseignement Supérieur de Ruhengeri (INES, established 2002) http://www.ines.ac.rw/
- Catholic University of Rwanda (CUR, established 2011?) http://www.cur.ac.rw/
- Kigali Institute of Management (KIM, established 2005) http://kimrwanda.com/
- Byumba Polytechnic (IPB, established 200) http://www.byumbapolytechnic.com/
- Protestant Institute of Arts & Social Sciences (PIASS, established 2010) http://www.piass.ac.rw/
- Rwanda Tourism University College (RTUC, established 2008) http://rtuc.ac.rw/
- Mount Kenya University Kigali Campus (MKU Kigali, established 2006) <a href="http://www.mku.ac.ke/">http://www.mku.ac.ke/</a>
- University of Kigali (UoK, established 1996)
   <a href="http://www.uok.ac.rw/">http://www.uok.ac.rw/</a>
- Carnegie Mellon University in Rwanda (CMU-R, CMU Pittsburgh established 1965) http://www.cmu.edu/rwanda/
  - CMU Rwanda is an international location for the main University located in Pittsburgh which offers its Master of Science in Information Technology.<sup>38</sup>
- St Joseph Integrated Technical College (SJITC, established 2010) http://sjitc.net/

The University of Rwanda was the country's very first university and opened in 1963 starting its journey with just 49 students and growing to 11,000 students today. Unfortunately the university had to close due to staff and students being killed during the genocide of 1994, but reopened and began rebuilding not just its buildings but indeed its learning population year on year.

In 2013 the 11 public universities at that time were merged into the University of Rwanda and can be seen in the above list as colleges and integrated polytechnics.

<sup>&</sup>lt;sup>38</sup> See <a href="http://en.wikipedia.org/wiki/Carnegie\_Mellon\_University">http://en.wikipedia.org/wiki/Carnegie\_Mellon\_University</a>

<sup>&</sup>lt;sup>39</sup> See http://www.nur.ac.rw/spip.php?article1

Many Universities started life as training centres or other non-higher education establishments but have been upgraded to deliver higher education-level programmes and become centres of excellence. An example: advanced certificate in nursing.<sup>40</sup>

Rwanda received a loan <sup>41</sup> from the Africa Development Fund to create ICT regional centres of excellence. These centres are being designed for university level students.

#### **Regional Universities and Polytechnics**

See the earlier section on Integrated Polytechnic Regional Centres.

### Academy (of note)

Africa Digital Media Academy
 <a href="http://www.wda.gov.rw/africa\_digital\_media\_academy">http://www.wda.gov.rw/africa\_digital\_media\_academy</a>
 Tutorials are video-based and the academy is overseen by the Workforce Development Authority.

## **Branch campuses of Foreign Tertiary Institutions**

Mount Kenya University Kigali Campus is a tertiary institution of Mount Kenya University, based in Thika, Kenya. It has an e-learning portal using the Sakai suite of software <sup>42</sup> and MKU has a virtual campus in Bungoma, Kisumu and Somaliland.

Science, technology and humanities are the focus of MKU and its prospectus<sup>43</sup> boasts the following Schools: *School of Business and Public Management; School of Social Sciences; School of Law; School of Health Sciences; School of Pharmacy; School of Nursing; School of Pure and Applied Sciences; School of Education.* 

Carnegie Mellon University Rwanda or CMU-R is another tertiary institution, its main campus being Carnegie Mellon University which boasts Google Vice President Andrew W. Moore as Dean of the School of Computer Science. <sup>44</sup> The Rwandan branch is one of many degree-granting campuses worldwide and is one of five Centres of Excellence in Africa. CMU is the pioneer of the SEI e-learning portal. <sup>45</sup>

Students studying at the CMU-R campus can pick from two graduate programmes: MS in Information Technology and MS in Electrical and Computer Engineering. Courses are taught in English language.

<sup>40</sup> See

 $<sup>\</sup>frac{http://www.brown.edu/academics/medical/bright/sites/brown.edu.academics.medical.bright/files/uploads/MOH\%20Rwanda\%20HRH\%20Strategic\%20Plan\%202011\%20-\%202016.pdf$ 

 $<sup>^{41} \</sup> See \ \underline{http://www.afdb.org/fileadmin/uploads/afdb/Documents/Project-related-Procurement/GPNRwandaICT\%20\%203-\underline{12.pdf}$ 

<sup>42</sup> See https://sakaiproject.org/

<sup>43</sup> See http://www.mku.ac.ke/docs/Prospectus%202013.pdf

<sup>44</sup> See <a href="http://www.cmu.edu/index.shtml">http://www.cmu.edu/index.shtml</a>

<sup>&</sup>lt;sup>45</sup> See http://www.sei.cmu.edu/training/elearning/

# 7. Distance Learning

### Infrastructure for distance learning

As a developing country, infrastructure is constantly evolving in Rwanda and directly links to the country's Vision 2020. Comprehensive information on Rwanda's ICT goals can be found in the National Information and Communication Infrastructure policy. To summarise and quote from the plan: "The Rwandan ICT for Development (ICT4D) process is aimed at facilitating the socio-economic development of Rwanda, through the deployment and exploitation of information and communications technologies (ICTs) within the economy and society."

One key sub plan is titled *The Sub-Plan for ICTS in Education* which includes e-learning and as such the EDE-in-schools programme, seeing e-learning as an important instructional tool and also one to train its teachers in.

## Support for distance learning and e-learning

As suggested above, there is substantial support from the Rwandan Government and a definite need for distance and e-learning in Rwanda.

Support is also being offered from abroad, with the University of Maryland School of Nursing recruiting a Distance and E-learning Programmes Advisor in Rwanda. This position is being recruited as part of the *Rwanda Human Resources for Health (HRH) Programme*<sup>46</sup> which is addressing the lack of highly qualified health professionals.

MINEDUC<sup>47</sup> (Ministry of Education) explains the e Teacher Training at Teacher Training Colleges programme on its website, aimed at training teachers in how to use and implement ICT in the classroom. The REB e-learning system for that e Teacher Training Service programme is free to register on. <sup>48</sup>

In 2005 ten Scottish Universities agreed to provide scholarships for Rwandan women. The *Rotary University Scholarship Scheme Rwanda* (RUSSR) continued in 2006, 2007 and 2008.<sup>49</sup>

Further positive support comes from *Open Learning Exchange Rwanda* (OLE), which focuses on promoting information on Public Health and Environment using ICT; this is in partnership with SPIDER – a Swedish resource centre. The e-magazine *ICTS in Basic Education* is one of OLE's innovations. <sup>51</sup>

There is also negative press associated with Rwandan distance learning and notably Kigali Institute of Education (KIE). In 2012 distance learning students complained the courses took too long and did not provide enough Tutor support.<sup>52</sup> KIE is now part of the University of Rwanda which offers 12 courses as either distance learning or tele-education opportunities.

<sup>&</sup>lt;sup>46</sup> See http://www.hrhconsortium.moh.gov.rw/

<sup>&</sup>lt;sup>47</sup> See <a href="http://www.mineduc.gov.rw/spip.php?article399">http://www.mineduc.gov.rw/spip.php?article399</a>

<sup>&</sup>lt;sup>48</sup> See http://elearning.reb.rw/course/category.php?id=7

<sup>&</sup>lt;sup>49</sup> See <a href="http://app.dundee.ac.uk/pressreleases/prapr05/rwandan.html">http://app.dundee.ac.uk/pressreleases/prapr05/rwandan.html</a>

<sup>&</sup>lt;sup>50</sup> See <u>http://spidercenter.org/</u>

<sup>&</sup>lt;sup>51</sup> See http://olerwanda.org/sites/olerwanda.org/files/OLE Rwanda-ICTs in Basic Education Magazine.pdf

<sup>&</sup>lt;sup>52</sup> See http://www.newtimes.co.rw/news/index.php?i=15091&a=57316

However the Distance Learning page of its now College of Education website still outlines the same learning methodology which complaints relate to in 2012.<sup>53</sup>

On a more positive note an exciting development announced in February 2014 comes from Facebook which together with Nokia and the Government of Rwanda has agreed a pilot project (SocialEDU) for free educational content. This content will be available via an edX programme integrated with Facebook: edX is a MOOC provider of more than 150 courses. <sup>54</sup> It also links in with infrastructure as Nokia will be providing affordable smartphones on reduced tariffs. <sup>55</sup>

# Distance learning providers

- University of Maryland School of Nursing will be a future provider based on aforementioned recruitment.
- University of Rwanda: College of Education provides distance learning and teleeducation (using V-Sat technology<sup>56</sup>) via CODEL (Centre for Open, Distance and E-Learning). Its College of Education promotes this, however it is still behind in the use of technology as courses are largely reliant on CD and paper format despite the word 'e-learning' being used on its website.
- Kepler is providing university qualifications through blended learning making use of MOOCS and linking students with employers. <sup>57</sup> Courses are provided in the following areas of curriculum: Business Management & Finance, Computer Science, and Engineering.
- Edinburgh Business School<sup>58</sup> quotes representation in Rwanda on its website and although this campus is based in Kampala, examinations have taken place in Kigali. The Kampala campus is an approved partner to deliver the EBS Master of Administration Programme.<sup>59</sup>

#### **Distance learning portals**

The following are examples of distance learning portals from universities in Rwanda.

University of Rwanda and Relevant College Campuses:

Http://elearn.nur.ac.rw University of Rwanda

<u>http://197.243.41.170/moodle/</u> The College of Business and Economics (CBE)

<u>http://kcms.kist.ac.rw/</u>
College of Sciences and Technology (KIST)

http://khi.tulanerw.org/cms/node/214 College of Medicine and Health Sciences

http://197.243.41.170/moodle/ College of Business and Economics

<sup>&</sup>lt;sup>53</sup> See <a href="http://www.ce.ur.ac.rw/otherprogram.php?rubrique=2">http://www.ce.ur.ac.rw/otherprogram.php?rubrique=2</a> and footnote 49

<sup>54</sup> See https://www.edx.org/

 $<sup>^{55}~</sup>See~\underline{http://www.internet.org/press/introducing-socialedu}~and~\underline{https://newsroom.fb.com/news/2014/02/internet-org-announces-socialedu/}$ 

<sup>&</sup>lt;sup>56</sup> See http://en.wikipedia.org/wiki/Very-small-aperture\_terminal

<sup>&</sup>lt;sup>57</sup> See http://kepler.org/

<sup>&</sup>lt;sup>58</sup> See <a href="http://www.ebsglobal.net/studying-globally/rwanda">http://www.ebsglobal.net/studying-globally/rwanda</a>

<sup>&</sup>lt;sup>59</sup> See http://www.matuganda.com/mba.html

Other Institutions

<a href="http://virtual.mku.ac.ke/portal/">http://virtual.mku.ac.ke/portal/</a><a href="http://virtual.mku.ac.ke/portal/">http://virtual.mku.ac.ke/portal/</a></a><a href="http://virtual.mku.ac.ke/portal/">http://virtual.mku.ac.ke/portal/</a><a href="http://virtual.mku.ac.ke/portal/">http://virtual.mku.ac.ke/portal/</a><a href="http://virtual.mku.ac.ke/portal/">http://virtual.mku.ac.ke/portal/</a><a href="http://virtual.mku.ac.ke/portal/">http://virtual.mku.ac.ke/portal/</a><a href="http://virtual.mku.ac.ke/portal/">http://virtual.mku.ac.ke/portal/</a><a href="http://virtual.mku.ac.ke/portal/">http://virtual.mku.ac.ke/portal/</a><a href="http://virtual.mku.ac.ke/portal/">http://virtual.mku.ac.ke/portal/</a><a href="http://virtual.mku.ac.ke/portal/">http://virtual.mku.ac.ke/portal/</a><a href="http://virtual.mku.ac.ke/portal/">http://virtual.mku.ac.ke/portal/</a>

### Open educational resources - OER

OER (in the strict sense) for Rwanda is limited but there is some progress. Rwanda has a TESSA community<sup>60</sup> and the University of Rwanda, College of Education is a TESSA partner. 15 study units are available from the community web page including; Life Skills, Numeracy and Teacher Educator Guidance.

### **Open University**

The UK OU previously began a project in 2010 named *Open University-Rwanda* whereby it was advising the Rwandan Government on setting up distance learning nationally. Unfortunately no further information has been posted on its website and Rwanda does not feature in its International Development Office brochure, so an up to date outlook on progress is unavailable.<sup>61</sup>

# 8. Funding and regulation

The Rwanda higher education system faces many challenges: infrastructure, internet, availability of peripherals, funding and indeed the young population being able to afford to participate. Scholarships are available but not in excess and not widely in all subjects. The KCB Foundation of the KCB Bank Group for example offers scholarships to train teachers in English at the Kigali Institute of Education. <sup>62</sup> Higher Education is seen as a tool to achieve the goal of a knowledge-based country but sustainable funding systems are very much in development.

# **Funding**

#### Student fees

University

University fees are listed and charged per one credit and **in addition** to basic registration fees. International students are charged double the per credit fee Rwandans/East Africans are charged.

Public University Fees Example

University of Rwanda<sup>63</sup> (Tables overleaf adapted from the UR website)

<sup>&</sup>lt;sup>60</sup> See http://www.tessafrica.net/rwanda

<sup>&</sup>lt;sup>61</sup> See http://www.open.ac.uk/about/international-development/news/ou-advises-rwanda-distance-learning

<sup>&</sup>lt;sup>62</sup> See <a href="http://rw-en.kcbbankgroup.com/foundation/pillars/education-4/project/kagogo-primary-school-computer-labs/">http://rw-en.kcbbankgroup.com/foundation/pillars/education-4/project/kagogo-primary-school-computer-labs/</a>

<sup>63</sup> See <a href="http://www.nur.ac.rw/spip.php?article85">http://www.nur.ac.rw/spip.php?article85</a>

| Type of fees<br>(Undergraduate)                  | Rwandans<br>(fees in Rwf) | East African<br>Nationals (fees<br>in Rwf) | International/<br>Foreign Students<br>(fees in Rwf) |
|--|---------------------------|--|---|
| Admission  | 5, 000                    | 10, 000                                    | 10,000  |
| Registration                                     | 25, 000                   | 25, 000                                    | 25, 000   |
| Caution  | 25, 000                   | 25, 000                                    | 25, 000   |
| Penalty fee for late admissions and registration | 15, 000                   | 15, 000                                    | 15, 000   |

| Funding Band                         | Tuition Fees for<br>Rwandans and East<br>African Nationals | Cost of one 1 credit/Rwandans<br>and East Africans |
|--------------------------------------|--|--|
| Humanities and Related<br>Programmes | 600,000 RwF  | 5,000 RwF  |

| PROGRAMME<br>(Masters)                                  | Tuition fees for National<br>Students in Rwf | Tuition Fees for Foreign<br>Students in USD |  |  |  |
|---|--|---|--|--|--|
| M. Sc. BUSINESS<br>LAW                                  | 2,700,000                                    | 4,500                                       |  |  |  |
| Application Fee: Rwf 10,000 (equivalent to US \$17)     |  |   |  |  |  |
| Registration Fee: Rwf 40,000 (or equivalent of US \$70) |  |   |  |  |  |

NB: Caution: fees are refundable

# Private University Fees Example

Catholic Institute of Kabgayi<sup>64</sup> (Table adapted from UCK website)

| Programme (Tuition Fees/Year)   | Level   | Registration fees | Schooling fees |  |
|---|---------|-------------------|----------------|--|
| D.  | 1 and 2 | 30,000 Rwf        | 370,000 Rwf    |  |
| Day   | 3 and 4 | 30,000 Rwf        | 400,000 Rwf    |  |
| Essia   | 1 and 2 | 30,000 Rwf        | 400,000 Rwf    |  |
| Evening   | 3 and 4 | 30,000 Rwf        | 430,000 Rwf    |  |
| Week-End  | 1 and 2 | 30,000 Rwf        | 450,000 Rwf    |  |
| NB: Research project for the 4 <sup>th</sup> Level only = 130,000 Rwf |         |                   |                |  |
| PGDE (Post Graduate Diploma in Education                              | -       | 35,000 Rwf        | 630,000 Rwf    |  |

 $<sup>^{64}~</sup>See~\underline{http://www.uck.ac.rw/Admission\%20 requirements.php}$ 

#### Student loans

Student loans are available and contribution-based; further information can be found directly on the *Rwanda Education Board* website. <sup>65</sup>

### Regulation

#### Quality assurance

The Ministry of Education (MINEDUC) regulates and oversees legislation and law, also projects such as One Laptop per Child; managing all sub agencies related to education. The Rwanda Government website points to MINEDUC in all education matters. The sub-agencies mentioned are:

- Rwanda Education Board http://www.reb.rw/ (focuses on Schools)
- Workforce Development Authority http://www.wdarwanda.org/ (Strategic)
- Institute of Scientific and Technological Research http://irst.ac.rw/ (Research)
- Rwanda National Commission for UNESCO
   <a href="http://www.unesco-rwanda.org/">http://www.unesco-rwanda.org/</a> (Analysis and policy advice from United Nations)
- Higher Education Council
   <a href="http://hec.gov.rw/">http://hec.gov.rw/</a> (Quality Assurance)
- Higher Learning Institutions
  All universities, both public and private
- UMWALIMU http://www.umwalimusacco.co.rw/ (Savings and Credit Cooperative for teachers – SACCO)

### 9. Conclusion

Rwanda is aiming for a 'knowledge based economy' which is mentioned all over the internet. There are hints of online training in all educational establishments, for example *The Institute of Legal Practice and Development* provides an e-resources library like most HE providers and advertises that its staff are continuously trained towards ICT integration within the classroom; including e-learning. *Perii E Resources* lists whole libraries of journals and e-book sites for learners to access for free. So whilst e-learning has not been adopted everywhere yet people are working towards this and allowing access to the online resources they have in the meantime. However, many web links to e-learning portals appear to be broken, suggesting there are work-in-progress systems that have yet to be rebuilt or launched; an example of which can be seen in the following footnote. <sup>66</sup> The key point here is that Rwanda is working towards successful, tried and tested e-learning services.

Whilst e-learning development is ongoing, the question of affordability for higher education remains, especially in a low income country where children themselves have such large responsibilities for families of their own. Scholarships are available from organisations such as *Generation Rwanda*<sup>67</sup> but "We find Rwanda's brightest students that can't afford university, fund their education, and train them", so there are likely many young people in

<sup>65</sup> See http://www.reb.rw/index.php?id=87

<sup>66</sup> See http://elearning.moh.gov.rw/

<sup>&</sup>lt;sup>67</sup> See http://www.generationrwanda.org/about/

Rwanda who may not necessarily fit their bill but who want to further their education and knowledge – or, not have access or the ability to promote themselves to organisations such as Generation Rwanda.

Rwanda needs infrastructure, funding and ways to generate income in order to feed back into the education cycle and advance further. Teachers and lecturers require further training in order to embrace e-learning and distance learning and learners need more opportunities to enter higher education at a manageable financial level.

# 10. References and further reading

#### **Further reading**

- Ease of doing business information: <a href="http://www.doingbusiness.org/~/media/giawb/doing%20business/documents/profiles/country/RWA.pdf">http://www.doingbusiness.org/~/media/giawb/doing%20business/documents/profiles/country/RWA.pdf</a>
- Rwanda's Vision 2020: http://edprs.rw/content/vision-2020
- Rwanda Trade Profile: http://comtrade.un.org/pb/FileFetch.aspx?docID=4906&type=country%20pages
- Ministry of Higher Education: http://www.mohe.gov.jo/HomePage/tabid/36/language/en-US/Default.aspx
- Ministry of Youth and ICT:
- <a href="http://www.minict.gov.rw/ict/documentation/tracing-major-developments-in-rwanda-s-ict-sector">http://www.minict.gov.rw/ict/documentation/tracing-major-developments-in-rwanda-s-ict-sector</a>
- Ministry of Education Higher Education Policy 2008
   file:///C:/Users/CHARLOTTE/Downloads/Higher% 20Education% 20Policy.pdf
- Scholarships for Developing Countries
   http://www.scholars4dev.com/?s=rwanda&x=0&y=0

#### Wikis and related

- Wikipedia: Rwanda: <a href="http://en.wikipedia.org/wiki/Rwanda">http://en.wikipedia.org/wiki/Rwanda</a>
- Wikipedia: Education in Rwanda: <a href="http://en.wikipedia.org/wiki/Education\_in\_Rwanda">http://en.wikipedia.org/wiki/Education\_in\_Rwanda</a>
- Re.ViCa/VISCED wiki: Rwanda, <a href="http://virtualcampuses.eu/index.php/Rwanda">http://virtualcampuses.eu/index.php/Rwanda</a>
- **POERUP wiki: Rwanda**, http://poerup.referata.com/wiki/Rwanda
- British Council: Rwanda, <a href="http://www.britishcouncil.org/africa-rw-contact-us">http://www.britishcouncil.org/africa-rw-contact-us</a>