

DEMOCRATIC REPUBLIC OF CONGO

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KEY INDICATORS, 2009–2011

| Total Public Agricultural Research Spending | 2009 | | 2011 |
|---|---------|------------|---------|
| Congolese francs (million constant 2005 prices) | 1,975.5 | | 3,474.8 |
| PPP dollars (million constant 2005 prices) | 9.2 | | 16.2 |
| Overall growth | | 76% | |
| Total Number of Public Agricultural Researchers | | | |
| Full-time equivalents (FTEs) | 340.4 | | 423.9 |
| Overall Growth | | 25% | |
| Research Intensity | | | |
| Spending as a share of agricultural GDP | 0.10% | | 0.17% |
| FTE researchers per 100,000 farmers* | 2.44 | | 2.94 |

Note: Acronyms, definitions, and an overview of agricultural R&D agencies are available on page 4.

▶ Despite rapid growth in recent years, DR Congo's agricultural R&D spending remains well below the levels required to sustain its needs; in fact, spending levels as a share of AgGDP are among the lowest in Africa.

▶ Agricultural researcher numbers also grew rapidly in recent years, particularly at INERA and CRAA, although most of this growth occurred among researchers trained to the BSc or MSc levels.

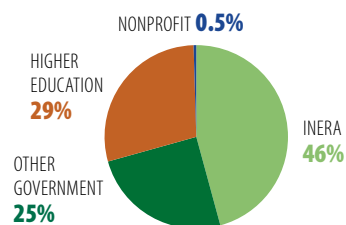
▶ Accounting for just 9 percent of total researchers, women are severely underrepresented in agricultural R&D in DR Congo, especially given that the country's agricultural labor force is predominantly female.

FINANCIAL RESOURCES, 2011

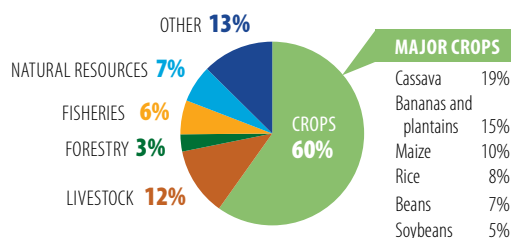
| Spending Allocation | |
|-----------------------------|-----|
| Salaries | 77% |
| Operating and program costs | 19% |
| Capital investments | 4% |
| Funding Sources | |
| Government | 81% |
| Donors | 14% |
| Sales of goods/services | 4% |

Note: Shares are based on data for INERA only.

INSTITUTIONAL PROFILE, 2011



RESEARCH FOCUS, 2011



Notes: Major crops include those that are the focus of at least 5 percent of all crop researchers; 31% of total crop researchers focused on a wide variety of other crops.

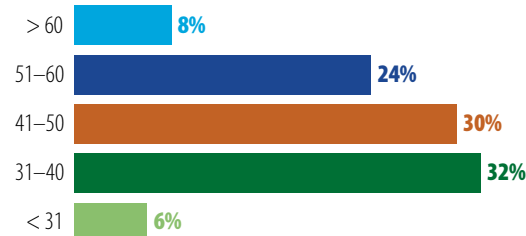
RESEARCHER PROFILE, 2011



Number by qualification (FTEs)



Share by age group (years)



CHALLENGE

- ▶ INERA and the other government agencies are challenged by a severe lack of scientists qualified to the PhD level; moreover, most that do have PhD degrees are approaching retirement age. Universities employ the bulk of the country's PhD-qualified agricultural scientists, but their teaching commitments combined with a lack of support staff make it difficult for them to conduct research effectively.

SOLUTION

- ▶ Given the prevalence of junior agricultural researchers in need of hands-on training and mentorship, raising the retirement age at government agencies from 60 to 65 years (in line with universities) would at least buy some time in terms of the ongoing employment of existing PhD-level scientists. Given that young graduates are currently attracted away from the higher education sector by more lucrative positions elsewhere, narrowing the large salary gap between junior and senior staff at universities could encourage more graduates to pursue an academic career.

| | PhD | MSc | BSc | Total | PhDs over 50 | Support staff to scientist ratio |
|------------------------------------|-----|-----|-----|-------|------------------|----------------------------------|
| <i>Research staff (headcounts)</i> | | | | | <i>(share %)</i> | |
| INERA | 6 | 50 | 138 | 194 | 100% | 15.3 |
| CRH | 1 | 0 | 15 | 16 | 100% | 4.6 |
| CRAA | 1 | 8 | 53 | 62 | 100% | 1.0 |
| CREN-K | 5 | 9 | 7 | 21 | 40% | 4.0 |
| <i>Faculty staff (headcounts)</i> | | | | | <i>(share %)</i> | |
| UNIKIN | 34 | 5 | 43 | 82 | 68% | 0.5 |
| UNIKIS | 22 | 32 | 16 | 70 | 82% | 0.6 |
| UNILU | 22 | 2 | 18 | 42 | 13% | 0.7 |

Note: All data are for 2011. Technicians and other support staff with degrees have been excluded.

▶ TRAINING AND EXPANDING INERA'S POOL OF SCIENTISTS





In recent years, DR Congo has achieved some important gains in building its researcher capacity. Two of INERA's researchers obtained doctorate degrees in 2012, and a third followed in their footsteps in 2013. Four additional INERA scientists secured grants from the Belgian government and CIALCA to undertake PhD training in Belgium and Tanzania; these researchers are expected to return to INERA in 2014. An important component of the REAFOR^a project (2007–2010) also focused on training INERA's research staff. Funding from this project facilitated a near doubling of MSc-qualified scientists at INERA from 27 in 2009 to 50 in 2011. Most of these scientists earned their degrees from UNIKIN and UNIKIS, but some were trained in Belgium, South Africa, and Uganda.

^a REAFOR is a four-year program funded by the Food and Agriculture Organization of the United Nations and the European Union. It was launched in 2006 to help DRC breathe new life into research related to agriculture and forestry.

UNTAPPED POTENTIAL IN AGRICULTURAL R&D IN THE HIGHER EDUCATION SECTOR

Although universities employ a much higher (and younger) proportion of PhD-qualified agricultural scientists compared with INERA and other government agencies, few of them have the time or resources to focus on research. With students of agricultural sciences numbering around 1,000 at each of the country's three largest higher education agencies, it is not surprising that teaching is their dominant activity—often despite universities' research mandates and the desires of individual scientists to integrate research into their academic careers. PhD-qualified scientists in the higher education sector are an untapped resource whose time could potentially be put to better use, were they provided with the necessary support staff and financial resources to enable them to conduct research.

CROSS-COUNTRY COMPARISONS OF KEY INDICATORS

| | Total number of researchers, 2011 (FTEs) | Growth in number of researchers, 2008–2011 | Share of PhD researchers, 2011 (FTEs) |
|-----------------|--|--|---------------------------------------|
| DR Congo | 423.9 | 25% ^a  | 13% |
| Rwanda | 180.4 | 44%  | 12% |
| Burundi | 132.3 | 32%  | 18% |
| Kenya | 1,150.9 | 13%  | 32% |

^a For DR Congo, this growth is based on data for the 2009–2011 period.

CHALLENGE

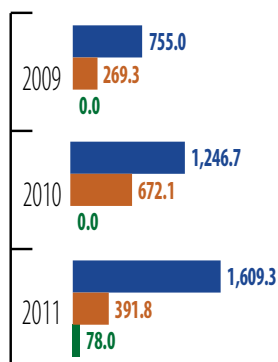
- ▶ Underinvestment in agricultural R&D in DRC is serious. The government funds research staff salaries, but funding for actual research programs and the much-needed rehabilitation of R&D infrastructure is largely dependent on volatile donor support.

SOLUTION

- ▶ The government needs to clearly identify its long-term R&D priorities and secure stable and sustainable funding for R&D programs. Donor funding should be better aligned with national priorities to ensure the consistency and complementarity of resulting research programs. Creative mechanisms designed to stimulate private-sector R&D funding should also be explored.

INERA spending by cost category, 2009–2011

Salaries Operating and program costs Capital investments

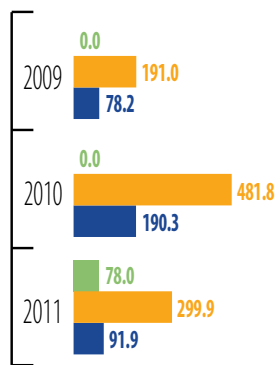


Million 2005 Congolese francs

INERA's spending doubled between 2009 and 2011 driven entirely by increased salary expenditures. In 2011, salaries accounted for close to 80 percent of INERA's total expenditures. Operating, program, and capital costs fluctuated largely from year to year.

Funding sources for INERA's operating, program, and capital investments, 2009–2011

Government Donors Sales of goods and services



Million 2005 Congolese francs

The government funded just 6 percent of INERA's operating, program, and capital expenditures during 2009–2011. Donors accounted for nearly 70 percent of these expenses, and the remainder was generated internally.

▶ INERA'S RESEARCH AGENDA IS HIGHLY DONOR-DRIVEN

Too much of the critical decisionmaking about research priorities is currently devolved to donors, with the result that the research agenda is skewed toward short-term goals that are not necessarily aligned with national priorities. Until 2010, the government solely funded INERA's research and support staff salaries, whereas the costs of actual research programs and rehabilitation of R&D infrastructure were primarily donor-funded. This situation has changed somewhat since REAFOR called for increased counterpart funding from the government in 2010, but disbursements are still only a fraction of levels allocated at the beginning of the financial year, making budget, planning, and staffing decisions extremely difficult. The situation at universities is similar, with the government covering the cost of professors' salaries, and external funding supporting the cost of actual research.

Since 2004, INERA has received sizeable support from the Belgian government as part of the Improved Crop Production (APV) project, Phase 2 of which aimed to strengthen INERA's institutional and organizational capacity, rehabilitate its germplasm centers, and boost production of high-quality seed. Belgium also plays a key role in funding degree training, either bilaterally or through CIALCA. In addition to those already mentioned, other important donors to agricultural R&D in DR Congo include Canada, Germany, IAEA, and regional networks like ASARECA and CORAF/WECARD.

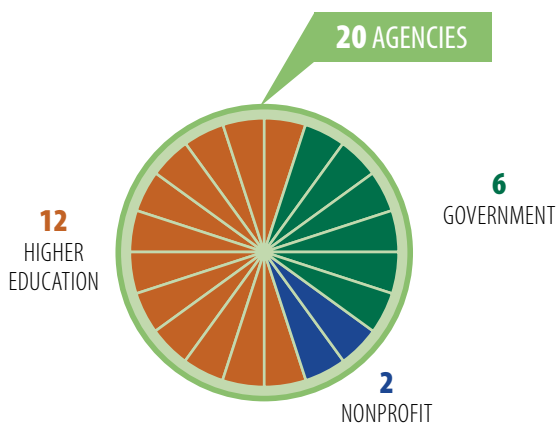
CROSS-COUNTRY COMPARISONS OF KEY INDICATORS *continued*


| | Total spending, 2011 (million 2005 PPP dollars) | Overall spending growth, 2008–2011 | Spending as a share of AgGDP, 2011 |
|----------|--|---------------------------------------|---------------------------------------|
| DR Congo | 16.2 | 76% ^b | 0.17% |
| Rwanda | 27.2 | 35% | 0.69% |
| Burundi | 8.4 | -20% | 0.57% |
| Kenya | 188.1 | 11% | 1.22% |

^b For DR Congo, this growth is based on data for the 2009–2011 period.

OVERVIEW OF DR CONGO'S AGRICULTURAL RESEARCH AGENCIES

Twenty public agencies conduct agricultural R&D in DR Congo. INERA (194 FTE researchers in 2011) is by far the largest and employs close to half the country's agricultural researchers (in FTEs). INERA has a broad mandate covering crop, livestock, forestry, and fisheries research. It operates 12 research centers and stations across the country focusing on locally relevant adaptive research. Other important government agencies include CRAA, CRH, and CREN-K, focusing on food technology, hydrology, and nuclear agriculture, respectively. The faculties of agriculture at UNIKIN and UNILU and the faculty of science at UNIKIS are DR Congo's largest agricultural R&D agencies in the higher education sector. An increasing number of private universities and nongovernment organizations have also become involved in agricultural R&D in recent years, but their capacity is limited. Agricultural R&D conducted by the private for-profit sector is excluded from the synthesis in this factsheet. Some private agro-industrial companies based in DR Congo are known to conduct research on oil palm, chinchona (a medicinal plant), coffee, and sugar.



 For a complete list of the agencies included in ASTI's dataset for DR Congo, visit www.asti.cgiar.org/drcongo.

ASTI DATA PROCEDURES AND METHODOLOGIES

- ▶ The **data underlying this factsheet** were predominantly derived through primary surveys, although some data were drawn from secondary sources or were estimated.
- ▶ **Public agricultural research** includes research conducted by government agencies, higher education agencies, and nonprofit institutions.
- ▶ ASTI bases its calculations of human resource and financial data on **full-time equivalent (FTE) researchers**, which take into account the proportion of time staff actually spend on research compared with other activities.
- ▶ ASTI presents its financial data in 2005 local currencies and **2005 purchasing power parity (PPP) dollars**. PPPs reflect the relative purchasing power of currencies more effectively than do standard exchange rates because they compare prices of a broader range of local—as opposed to internationally traded—goods and services.
- ▶ ASTI estimates the **higher education sector's research expenditures** because it is not possible to isolate them from the sector's other expenditures.
- ▶ Note that, due to **decimal rounding**, the percentages presented can sum to more than 100.



For more information on ASTI's data procedures and methodology, visit www.asti.cgiar.org/methodology; for more information on agricultural R&D in DR Congo, visit www.asti.cgiar.org/drcongo.

ACRONYMS USED IN THIS FACTSHEET

| | |
|---------------------|--|
| ASARECA | Association for Strengthening Agricultural Research in East and Central Africa |
| CORAF/WECARD | West and Central African Council for Agricultural Research and Development |
| CRAA | Agri-Food Research Center |
| CREN-K | Nuclear Energy Research Center, Kinshasa |
| CRH | Hydrobiology Research Center |
| FTE(s) | Full-time equivalent (researchers) |
| IAEA | International Atomic Energy Agency |
| INERA | National Agricultural Study and Research Institute |
| PPP(s) | Purchasing power parity (exchange rates) |
| R&D | Research and development |
| REAFOR | Reviving Agricultural and Forestry Research in DR Congo |
| SSA | Africa south of the Sahara |
| UNIKIN | University of Kinshasa |
| UNIKIS | University of Kisangani |
| UNILU | University of Lubumbashi |

ABOUT ASTI, IFPRI, AND INERA

Working through collaborative alliances with numerous national and regional R&D agencies and international institutions, **Agricultural Science and Technology Indicators (ASTI)** is a comprehensive and trusted source of information on agricultural R&D systems across the developing world. ASTI is led by the **International Food Policy Research Institute (IFPRI)**, which—as a CGIAR member—provides evidence-based policy solutions to sustainably end hunger and malnutrition and reduce poverty. The **National Agricultural Study and Research Institute (INERA)** is DR Congo's principal agricultural research agency; the Institute falls under the Ministry of Higher Education and Scientific Research and focuses on crop, livestock, forestry, and fisheries research.

ASTI/IFPRI and INERA gratefully acknowledge participating agricultural R&D agencies for their contributions to the data collection and preparation of this country factsheet. ASTI also thanks the Bill and Melinda Gates Foundation for its generous support of ASTI's work in Africa south of the Sahara. This factsheet has been prepared as an ASTI output and has not been peer reviewed; any opinions are those of the authors and do not necessarily reflect the policies or opinions of IFPRI or INERA.

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* This December 2013 version reports FTE researchers per 100,000 farmers, which is an adjustment from the November 2013 version (which reported per thousand farmers).