

CENTRAL AFRICAN REPUBLIC

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KEY INDICATORS, 2009–2011

Total Public Agricultural Research Spending	2009		2011
CFA francs (million constant 2005 prices)	512.5		724.7
PPP dollars (million constant 2005 prices)	1.9		2.7
Overall Growth		41%	
Total Number of Public Agricultural Researchers			
Full-time equivalents (FTEs)	118.2		134.0
Overall Growth		13%	
Agricultural Research Intensity			
Spending as a share of agricultural GDP	0.12%		0.16%
FTE researchers per 100,000 farmers	9.50		10.59

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

► Agricultural R&D funding increased rapidly during 2009–2011 after a decade of sustained donor suspensions. A resurgence in political instability in late-2012 once again caused funding levels to decline abruptly.

► CAR's agricultural R&D spending as a share of agricultural AgGDP (0.16 percent in 2011) is among the lowest in Africa.

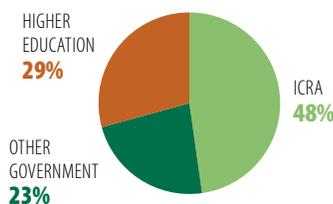
► The country's main agricultural R&D agency, ICRA, is severely challenged in terms of human resources: it lacks a critical mass of PhD-qualified researchers, and the vast majority of its researchers are approaching retirement age.

FINANCIAL RESOURCES, 2011

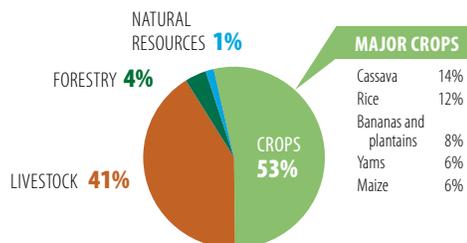
Spending Allocation	
Salaries	28%
Operating and program costs	24%
Capital investments	48%
Funding Sources	
Government	50%
Donors and development banks	24%
Sales of goods/services	25%

Note: Due to lack of availability, financial data exclude the higher education sector.

INSTITUTIONAL PROFILE, 2011



RESEARCH FOCUS, 2011



Notes: Major crops include those that are the focus of at least 5 percent of all crop researchers; 55 percent of crop researchers focused on a wide variety of other crops.

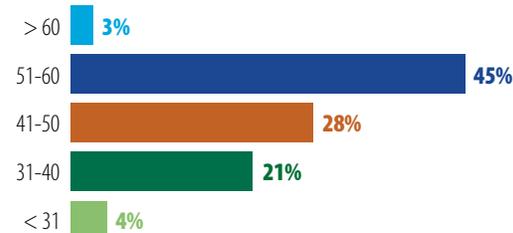
RESEARCHER PROFILE, 2011



Number by qualification (FTEs)



Share by age group (years)



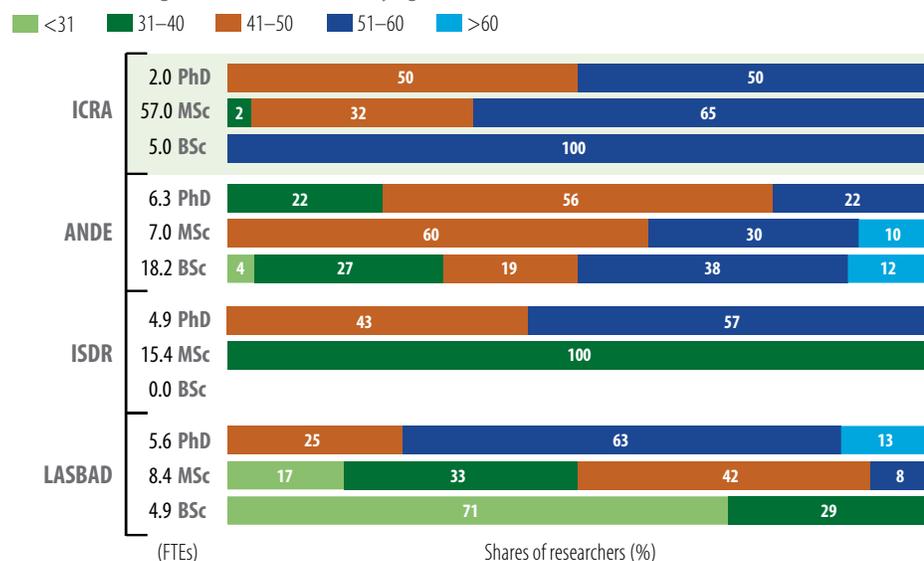
CHALLENGE

- ▶ Long-term recruitment restrictions have distorted the age distribution of researchers employed at ICRA. As a result, two-thirds of ICRA's researchers are due to retire in the coming decade. Moreover, unlike many of their colleagues across West and Central Africa, ICRA's researchers have not had the benefit of donor-funded PhD training opportunities, as is evidenced by the institute's extremely low number of PhD-qualified researchers.

POLICY OPTIONS

- ▶ If CAR is to build a critical mass of highly qualified agricultural researchers at the national level, the government needs to recruit and train young researchers without delay, and to source sufficient, stable funding to be able to provide the necessary remuneration, working conditions, and other incentives to maintain their commitment to ICRA over time. Reducing the large salary gap between government and university scientists would be a necessary first step.

Distribution of agricultural researchers by age bracket, 2011



ICRA's pool of researchers is by far the oldest and least qualified of CAR's agricultural R&D agencies. As of 2011 (the most recent year for which data were available), 42 of ICRA's 64 researchers were more than 50 years old, and only two held PhD degrees.

▶ LIMITED TRAINING OPPORTUNITIES FOR ICRA'S RESEARCHERS

ICRA's researchers are among the least highly qualified of national agricultural R&D institutes in Africa. In 2011, the institute employed just two PhD-qualified researchers. The University of Bangui currently offers no PhD-level training in agricultural sciences, so researchers wishing to pursue such training have no choice but to travel abroad. Moreover, ICRA has no dedicated staff training budget, so scientists who decide to pursue higher training must secure their own funding. Occasionally funding is made available through the French Embassy's Service for Cooperation and Culture or through the Regional Pole of Applied Research in Agricultural Development Systems in Central Africa, but these opportunities are rare. Of the ICRA researchers that succeeded in securing funding for training in recent years, most were pursuing MSc and PhD training in Belgium, France, the United States, or other francophone countries in West and Central Africa. The fact that scientists employed at ICRA receive considerably lower remuneration compared with those employed at the University of Bangui or in the private sector makes it extremely challenging for ICRA to maintain and motivate staff, especially upon their return from training abroad.

CROSS-COUNTRY COMPARISONS OF KEY INDICATORS

	Total number of researchers, 2011 (FTEs)	Growth in number of researchers, 2009–2011	Share of PhD researchers, 2011 (FTEs)
CAR	134.0	13%	14%
Chad	123.3	32%	17%
Congo, Democratic Rep.	423.9	25%	13%
Congo, Rep.	104.0	-1% ^a	31%

^a For the Republic of Congo, this growth is based on data for the 2008–2011 period.

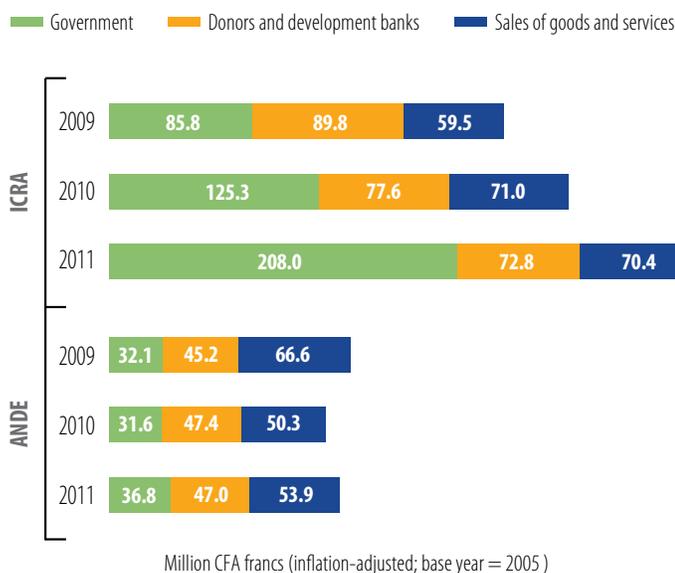
CHALLENGE

- ▶ Underinvestment in agricultural R&D in CAR is serious. In 2011, the country invested just 0.16 percent of its AgGDP in agricultural R&D, which is only a fraction of the 1 percent minimum level recommended by NEPAD and the United Nations. Unpredictable government funding combined with contractions in donor funding—both prompted by persistent political instability—are significant impediments to the execution of agricultural R&D.

POLICY RESPONSE

- ▶ The CAR government recently established the Plan for the Sustainable Recovery of Agricultural Research, with an estimated total cost of more than 2 billion CFA francs. The plan focuses on strengthening ICRA's institutional capacity, strengthening partnerships among the country's agricultural research stakeholders, and increasing regional collaboration in agricultural research. Nevertheless, ongoing political unrest has delayed the plan's implementation.

ICRA's and ANDE's funding sources, 2009–2011



Note: Data reflect the fact that ANDE's researchers only devote 70 percent of their time to agricultural R&D.

Of ICRA's and ANDE's total funding during 2009–2011, on average, the government provided 41 percent, donors contributed 30 percent, and 29 percent was generated internally through the sale of goods and services. Government funding to ICRA nearly doubled between 2010 and 2011, but contracted again upon the return of civil unrest in December 2012.

▶ POLITICAL INSTABILITY AT THE BASIS OF FUNDING SHOCKS

CAR's recent history has been marked by numerous political and military crises, which have had devastating consequences for the country's agricultural sector and its agricultural R&D agencies. ICRA was the target of repeated vandalism, looting, and destruction during the political turmoil of 2003 and 2013. Similarly, much of ANDE's livestock was stolen.

The country's political instability has discouraged donors from investing in agricultural R&D in CAR. Prior to the 1998 suspension of aid from the World Bank and European Union, CAR benefited greatly from the World Bank's Agricultural Institutions Support Project, but the aid suspension prompted an exodus of well-qualified scientist from the country and marked the beginning of a decade of financial hardship for ICRA. The situation improved around 2009 when the World Bank resumed its funding, and financial commitments by the government increased. The main donors to ICRA during 2009–2012 included the World Bank, AfricaRice, the Food and Agriculture Organization of the United Nations, the African Development Bank, the European Union, and the African Research Center on Bananas and Plantains. Nevertheless, the recent resurgence in political instability has caused donor funding to rapidly decline once again.

The uncertain and volatile inflow of donor funding to both ICRA and ANDE has forced the two agencies to generate considerable shares of their revenues through the sale of goods and services. ICRA generates significant funding by selling cassava, rice, maize, groundnut, and banana seed; by offering training; and by conducting research for the private sector. ANDE produces and sells poultry feed and provides a variety of services on demand.

CROSS-COUNTRY COMPARISONS OF KEY INDICATORS *continued*

	Total spending, 2011 (million 2005 PPP dollars)	Overall spending growth, 2009–2011	Spending as a share of AgGDP, 2011
CAR	2.7	41%	0.16%
Chad	13.0	9%	0.90%
Congo, Democratic Rep.	16.2	76%	0.17%
Congo, Rep.	5.1	-10% ^b	0.94%

^b For the Republic of Congo, this growth is based on data for the 2008–2011 period.

OVERVIEW OF CAR'S AGRICULTURAL RESEARCH AGENCIES

Four agencies conduct agricultural R&D in CAR. Two government agencies, ICRA and ANDE, fall under the Ministry of Agriculture and Rural Development and focus on crops and livestock, respectively. ICRA (employing 64 FTE researchers in 2011) is headquartered in Bangui and comprises forestry, savanna, agropastoral, biotechnology, and research support departments targeting a variety of research themes. ANDE (employing 31 FTEs) conducts livestock and veterinary research, mostly relating to cows. Under the University of Bangui, LASBAD (19 FTEs) and ISDR (20 FTEs) are mandated to devote a considerable amount of time to research. Both agencies, however, lack the necessary infrastructure to conduct field research. ISDR primarily focuses on research related to forestry, cassava, and livestock, whereas LASBAD predominantly concentrates on poultry and a variety of crops.



 For a complete list of the agencies included in ASTI's dataset for Central African Republic, visit www.asti.cgiar.org/car.

ASTI DATA PROCEDURES AND METHODOLOGIES

- ▶ The **data underlying this fact sheet** 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 Central African Republic, visit www.asti.cgiar.org/car.

ACRONYMS USED IN THIS FACTSHEET

AgGDP	Agricultural gross domestic product
ANDE	National Livestock Development Agency
CAR	Central African Republic
FTE(s)	Full-time equivalent (researchers)
ICRA	Central African Agricultural Research Institute
ISDR	Higher Institute for Rural Development
LASBAD	Laboratory of Biological and Agricultural Sciences for Development
NEPAD	New Partnership for Africa's Development
PPP(s)	Purchasing power parity (exchange rates)
R&D	Research and development

ABOUT ASTI, IFPRI, AND ICRA

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 **Central African Agricultural Research Institute (ICRA)** under the Ministry of Agriculture and Rural Development is CAR's principal agricultural research agency; it focuses on crop and forestry research.

ASTI/IFPRI and ICRA 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 ICRA.