BENIN

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KEY INDICATORS, 2000–2011

Total Public Agricultural Research Spending	2000	2008	2011
CFA francs (million constant 2005 prices)	2,827.2	5,075.8	5,756.3
PPP dollars (million constant 2005 prices)	12.9	23.1	26.2
Overall Growth		**80%**	**13%**
Total Number of Public Agricultural Researchers			
Full-time equivalents (FTEs)	121.3	121.6	155.7
Overall Growth		**0%**	**28%**
Agricultural Research Intensity			
Spending as a share of agricultural GDP	0.43%	0.60%	0.62%
FTE researchers per 100,000 farmers	8.76	7.77	9.63

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

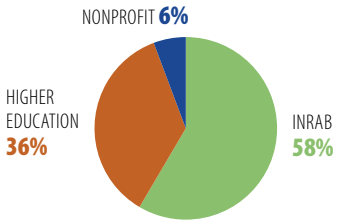
- Agricultural R&D spending in Benin more than doubled between 2000 and 2011, largely driven by the combined effect of an increase in internally generated revenues at INRAB and greater involvement in agricultural R&D on the part of UAC.
- After a period of stagnation, the national number of agricultural researchers rose sharply between 2008 and 2011; nevertheless, restrictions on public-sector recruitment prevented INRAB from offering the new recruits permanent positions with associated benefits.
- Agricultural researchers have become more qualified in Benin in recent years; 55 percent of researchers held PhD degrees in 2011 compared with just 38 percent in 2000.

FINANCIAL RESOURCES, 2011

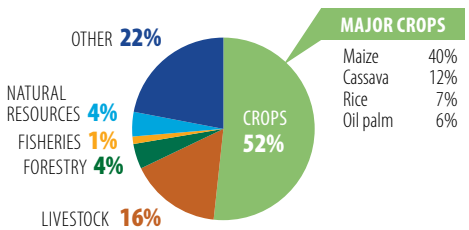
Spending Allocation	
Salaries	30%
Operating costs and capital investments	70%
Funding Sources	
Government	27%
Donors	28%
Sales of goods/services	39%
Other	6%

Note: Shares are based on data for INRAB only. Salaries only include those of permanent staff.

INSTITUTIONAL PROFILE, 2011



RESEARCH FOCUS, 2011

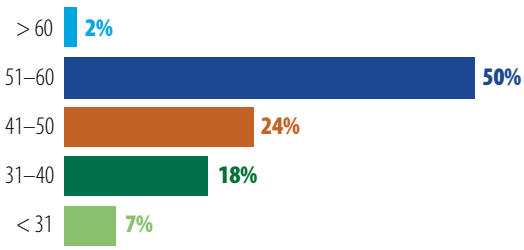


Notes: Major crops include those that are the focus of at least 5 percent of all crop researchers; 35 percent of total crop researchers focused on a wide variety of other crops.

RESEARCHER PROFILE, 2011

Number by qualification (FTEs)

Share by age group (years)



Note: Data exclude expatriate researchers.

CHALLENGE

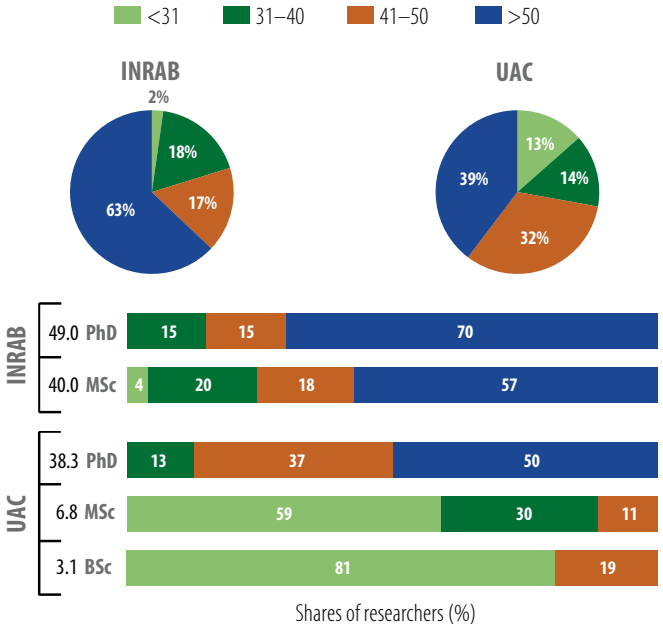
- A disparity in the official status of INRAB's scientists (as researchers) and university scientists (as teacher–researchers) prevents INRAB from offering the competitive salaries and benefits needed to attract, motivate, and keep its researchers. Long-term recruitment restrictions and the departure of many of the young, recent PhD graduates in favor of better conditions have left INRAB with an aging pool of scientists.

POLICY OPTION

- The Benin government is currently considering modifying INRAB's status to give it greater autonomy and hence flexibility in its funding and recruitment practices, which would enable it to offer its researchers more competitive salaries and conditions. A final determination is expected in 2014.

Seventy percent of INRAB's researchers and half of UAC's PhD-qualified professional staff are more than 50 years of age. This situation is compounded at INRAB by a retirement age of 60 years (five years earlier than at UAC), making the recruitment, training, and mentoring of young researchers urgent. Moreover, while UAC has strengthened its capacity over time with a continuous influx of young graduates, long-term restrictions on public-sector recruitment have prevented INRAB from replenishing its pool of researchers.

Distribution of INRAB's and UAC's researchers by age bracket, 2011



Note: In 2011, INRAB employed 36 technical support staff with BSc degrees and UAC employed 3.5 technical support staff with MSc degrees and 6 with BSc degrees (in FTEs). These staff members do not have official researcher status.

THE CAPACITY DRAIN FROM INRAB TO UAC

Over the past decade, a large number of INRAB's young researchers received PhD training at UAC (often funded by Danida), but upon graduation many of them chose a career at UAC instead of returning to INRAB. INRAB's older MSc researchers are rarely offered PhD training opportunities, and often stay at INRAB until they retire. This dichotomy has distorted the age distribution of INRAB's pool of scientists.

Agricultural scientists widely regard UAC as a more attractive employer compared with INRAB. UAC not only offers researchers salaries that are three to five times higher than INRAB's, but also research projects that are better funded and laboratories that are better equipped. Although official figures are difficult to obtain, it is estimated that about half of INRAB's researchers are involved at UAC to some degree, either through short-term projects or more formal levels. Given the difference in UAC's and INRAB's retirement ages, many of INRAB's researchers spend the last five years of their careers at UAC.

While on face value the national agricultural research capacity is maintained despite the drain on INRAB's human resources capacity, it is important to note that UAC has much weaker linkages with farmers compared with INRAB's linkages. University-based scientists are generally more concerned with academic research (such as publications) rather than applied research focusing on the specific needs of farmers.

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)
Benin	**155.7**	**28%**	**54%**
Togo	114.7	71%	31%
Burkina Faso	218.0	–12%	48%
Ghana	607.0	22%	38%

CHALLENGE

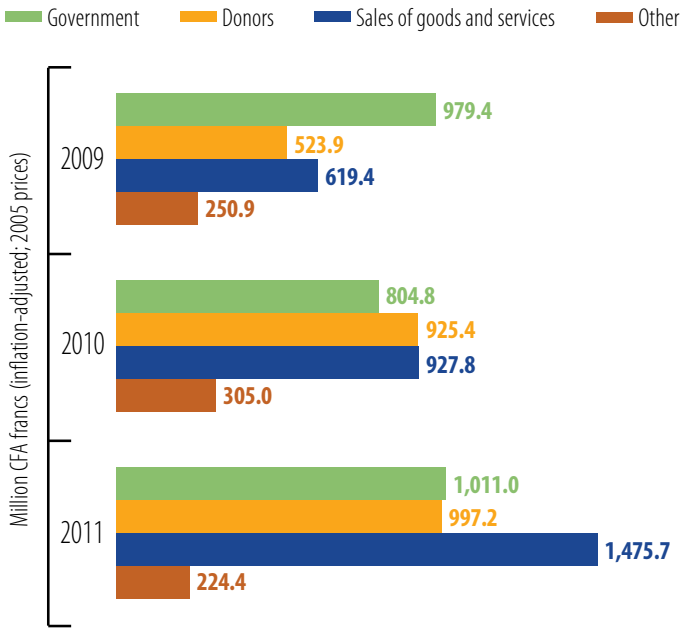
- Compared with most national agricultural research institutes in Africa, government funding to INRAB is extremely low. The institute is forced to generate significant revenues internally in order to fund its actual research activities. It is also heavily reliant on donor support.

OBSERVATION

- Recent government support to WAAPP and to the construction of modern headquarters for INRAB are signs of the government's commitment to agricultural R&D. Nonetheless, more government funding is needed to support INRAB's research programs if agricultural R&D is to contribute to improving agricultural productivity and reducing poverty.

During 2009–2011, of INRAB's total funding, government support accounted for 31 percent, donor funding for 27 percent, and internally generated revenues for 33 percent. Government funding only covers the cost of salaries for INRAB's permanent staff. To fund the cost of actual research programs (including the salaries of contract-based staff) INRAB is largely dependent on contributions from donors—such as Denmark, Germany, and the Netherlands—together with revenues generated internally through the sale of oil palm, maize, rice, and cowpea seeds.

INRAB's sources of funding, 2009–2011



WAAPP TO STRENGTHEN CAPACITY IN MAIZE RESEARCH

WAAPP is a subregional program co-financed by World Bank loans, a multi-donor trust fund, and national governments for the purpose of increasing the productivity of priority crops in West Africa. The program aims to facilitate regional cooperation in generating and disseminating agricultural technology and to establish national centers of specialization to strengthen the alignment of national and regional priorities. The project also funds demand-driven technology generation and adoption through a competitive funding scheme managed by CORAF/WECARD. Benin was selected as home to the subregion's center of excellence for maize.

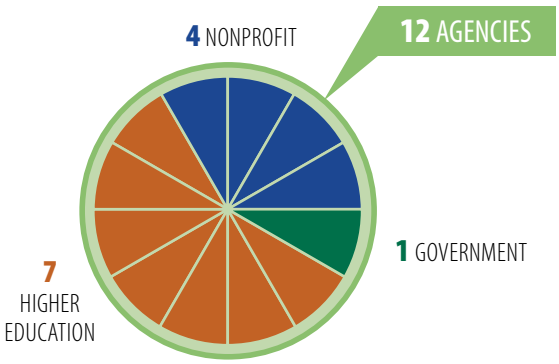
WAAPP–Benin was launched in 2012 with a national budget of over CFA 8 billion for five years. A call for proposals prompted submissions by multidisciplinary teams from various agencies. Twenty projects (including seven on extension) were awarded grants in late-2012, and funding began in 2013. Although WAAPP does not fund the recruitment of new researchers, it does support capacity building through MSc training of two members and PhD training of one member of each of the 20 project teams. WAAPP is also providing funding for various short-term training activities within the subregion, as well as funding for the rehabilitation of essential maize research equipment and of INRAB's soil, water, and environmental science laboratory.

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
Benin	**26.2**	**13%**	**0.62%**
Togo	7.6	–9%	0.42%
Burkina Faso	25.4	29%	0.42%
Ghana	68.1	18%	0.69%

OVERVIEW OF BENIN'S AGRICULTURAL RESEARCH AGENCIES

Twelve public agencies conduct agricultural R&D in Benin. INRAB (employing 91 FTE researchers in 2011) is the only government agency and by far the largest of the country's agricultural R&D agencies, accounting for close to 60 percent of Benin's agricultural researchers (in FTEs) in 2011. INRAB is headquartered in Cotonou and operates three regional centers (in the Center, North, and South) and two commodity-based centers (focusing on cotton and other fibers, and on perennial plants). INRAB's scientists conduct research on crops, livestock, postharvest technology, socioeconomics, forestry, agricultural engineering, and natural resources. Benin's higher education sector plays an important role in national agricultural R&D. Seven UAC units are actively engaged in agricultural R&D, the largest of which is the Faculty of Agricultural Sciences (22 FTEs in 2011). The Faculty of Agronomy of the University of Parakou (8 FTEs) is the only non–UAC higher education agency involved in agricultural R&D. Four NGOs conduct agricultural R&D in Benin; together they employed 9 FTE agricultural researchers in 2011. Research carried out in these NGOs is of a rather socioeconomic nature, but concerns topics that are connected with agriculture as well. Agricultural R&D conducted by the private for-profit sector in Benin is negligible.



For a complete list of the agencies included in ASTI's dataset for Benin, visit **www.asti.cgiar.org/benin.**

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 Benin, visit* **www.asti.cgiar.org/benin.**

ACRONYMS USED IN THIS FACTSHEET

AgGDP	Agricultural gross domestic product
CORAF/WECARD	West and Central African Council for Agricultural Research and Development
Danida	Danish International Development Agency
FTE(s)	Full-time equivalent (researchers)
INRAB	National Agricultural Research Institute of Benin
NGO	Nongovernmental organization
PPP(s)	Purchasing power parity (exchange rates)
R&D	Research and development
UAC	University of Abomey-Calavi
WAAPP	West Africa Agricultural Productivity Program

ABOUT ASTI, IFPRI, AND INRAB

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 Research Institute of Benin (INRAB)** is Benin's principal agricultural R&D agency. It falls under the Ministry of Agriculture, Livestock, and Fisheries and conducts research on crops, livestock, postharvest technology, socioeconomics, forestry, agricultural engineering, and natural resources.

ASTI/IFPRI and INRAB 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 INRAB.