

MAURITANIA

Gert-Jan Stads, Souleymane Guèye, and Léa Vicky Magne Domgho

KEY INDICATORS, 2001–2011

Total Public Agricultural Research Spending	2001		2008		2011
Ouguiyas (million constant 2005 prices)	628.8		723.6		879.9
PPP dollars (million constant 2005 prices)	6.4	↑	7.3	↑	8.9
Overall Growth		15%		22%	
Total Number of Public Agricultural Researchers					
Full-time equivalents (FTEs)	62.1	↑	71.8	↓	62.9
Overall Growth		16%		-12%	
Agricultural Research Intensity					
Spending as a share of agricultural GDP	0.40%		0.61%		0.80%
FTE researchers per 100,000 farmers	10.60		10.14		8.25

Note: Data procedures and methodology are available on page 2.

► Compared with many other countries in West Africa, crop and livestock research play a relatively minor role in Mauritania given its arid climate. IMROP, which focuses on fisheries research, is the country's largest agricultural R&D agency, accounting for close to two-thirds of Mauritania's agricultural R&D spending in 2011.

► Total agricultural R&D spending fluctuated considerably during 2001–2011. The 2013 renewal of the fisheries treaty between Mauritania and the EU is expected to have a positive impact on spending levels in the near future.

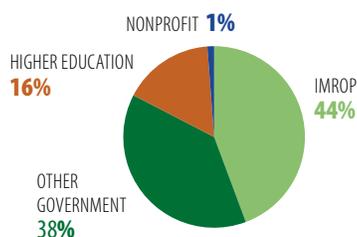
► IMROP is relatively well-funded and resourced, but the main crop and livestock research centers (CNRADA and CNERV) and the higher education agencies lack sufficient funding and research staffing.

FINANCIAL RESOURCES, 2011

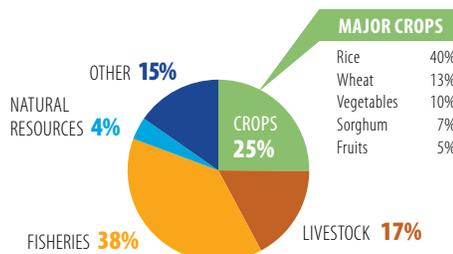
Spending Allocation	
Salaries	61%
Operating and program costs	26%
Capital investments	13%
Funding Sources	
Government	82%
Donors	18%
Other	1%

Note: Due to availability, financial data exclude the higher education and nonprofit sectors.

INSTITUTIONAL PROFILE, 2011



RESEARCH FOCUS, 2011



Notes: Major crops include those that are the focus of at least 5 percent of all crop researchers; 25 percent of total crop researchers focused on a wide variety of other crops.

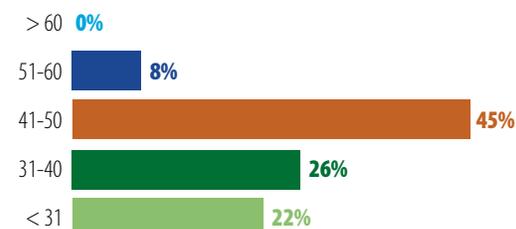
RESEARCHER PROFILE, 2011



Number by qualification (FTEs)



Share by age group (years)



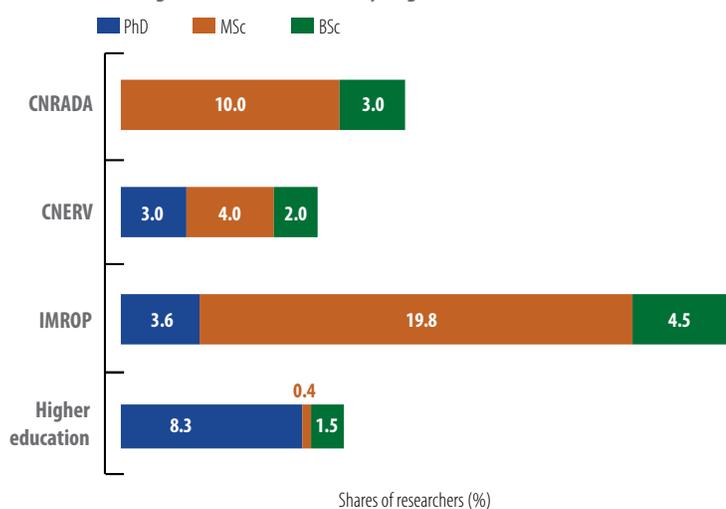
CHALLENGE

- ▶ Researcher numbers at CNRADA and CNERV have gradually fallen over time as a result of long-term recruitment restrictions preventing the replacement of departing or retiring researchers. Funding shortages, a lack of well-qualified scientists, and dilapidated equipment and infrastructure seriously limit CNRADA's and CNERV's research outputs, and hence their impact on Mauritania's crop and livestock sectors.

POLICY OPTION

- ▶ If Mauritania is to build a critical mass of highly qualified crop and livestock researchers, the government needs to recruit and train scientists without delay, and provide the necessary remuneration, working conditions, and other incentives to maintain their commitment over time. A necessary first step is to reduce the differences in status and salary levels between researchers employed at CNRADA and CNERV, and those employed at IMROP and the higher education agencies.

Distribution of agricultural researchers by degree, 2011



IMROP (employing 28 FTEs in 2011) is by far the largest of the country's agricultural research institutes, reflecting the importance of the fisheries sector to the Mauritanian economy. The absolute number of PhD-qualified researchers at government agencies is very small. In 2011, CNERV and IMROP employed just 3.0 and 3.6 FTE researchers with PhD degrees, respectively, whereas CNRADA employed none. In contrast, average degree levels at the higher education agencies are much higher.

▶ URGENT NEED TO ADDRESS HUMAN CAPACITY CHALLENGES IN AGRICULTURAL R&D

Average qualification levels of agricultural researchers in Mauritania are much lower than those in most Maghreb and West African countries. One often-cited reason for this are the extraordinarily low salary levels, which make it extremely difficult for research institutes to attract and maintain highly qualified researchers. Unlike their colleagues at IMROP, scientists employed at CNRADA and CNERV lack official researcher status and are instead classified as civil servants (with matching salaries). Both centers lack training budgets, and the only degree-level training opportunities available to researchers are those funded by donors. Currently, no CNRADA researchers are undertaking postgraduate training, while two CNERV scientists are pursuing doctorate-level training in Dakar, funded by the French government.

A minimum number of PhD-qualified scientists is generally considered fundamental to the conception, execution, and management of high-quality research and to effective interaction with policymakers, donors, and other stakeholders, both locally and through regional and international forums. The launch of WAAPP–Mauritania in 2015 is set to address some of the most acute human capacity challenges that CNRADA and CNERV are facing. Capacity building will play a major role in this World Bank loan-funded project, but it is too early to say exactly how many researchers and technicians will benefit from postgraduate and short-term training under WAAPP.

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)
Mauritania	62.9	-12%	25%
Senegal	112.2	-16%	70%
Mali	307.0	-4%	33%
Burkina Faso	218.0	-12%	48%

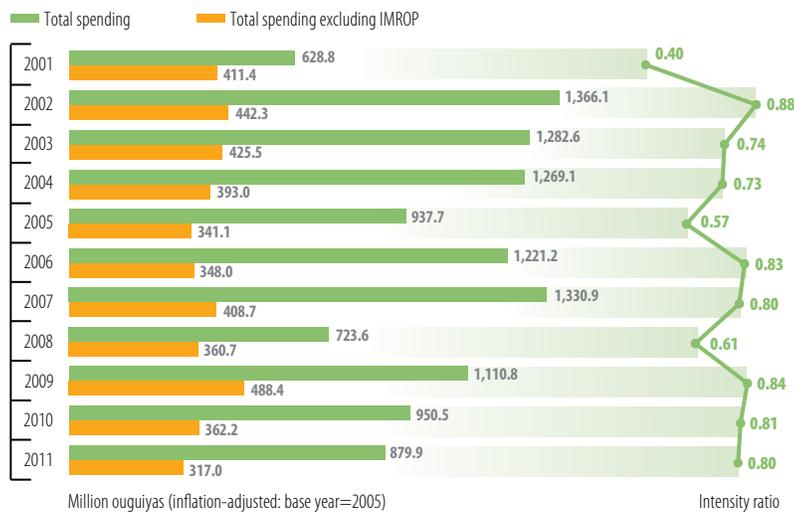
CHALLENGE

- ▶ Despite the fact that the World Bank-funded Agricultural Services Program (1995–2004) was to merge CNRADA and CNERV into a single national agricultural R&D institute, implement a national agricultural R&D plan, and establish a national S&T council, none of this materialized. Ten years later, the country still urgently needs a more effective national S&T policy strategy, better coordination of agricultural R&D, and further strengthening of its crop and livestock research institutes.

POLICY OPTIONS

- ▶ Strong political will and matching funding are needed to revitalize agricultural R&D in Mauritania. The government needs to clearly identify its long-term R&D priorities, implement much-needed institutional reform, and allocate sustained funding to support R&D programs—not just for fisheries, but for other sectors as well. Creative mechanisms to stimulate private-sector R&D funding should also be explored.

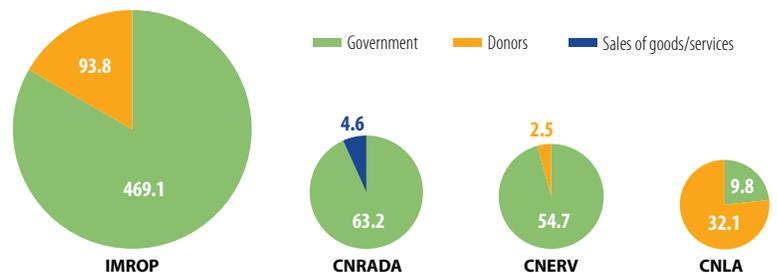
Long-term trends in Mauritania's agricultural R&D spending, 2000–2011



Over the 2001–2011 period, IMROP accounted for close to two-thirds of Mauritania's agricultural R&D spending. Although Mauritania's agricultural research intensity ratio (0.80 in 2011) is higher than the West African average (0.39) and reasonably close to the 1- percent minimum target recommended by NEPAD and the United Nations, the country is clearly underinvesting in crop and livestock research. Without the inclusion of investments in fisheries research made by IMROP, Mauritania's 2011 agricultural R&D intensity ratio would drop to just 0.29.

The national government is the main source of agricultural R&D funding in Mauritania. The recent renewal of the fisheries treaty between Mauritania and the EU will cause EU funding to IMROP to rise in the coming years, most of which will be allocated to staff training and actual research activities. Donor funding to CNRADA and CNERV is currently negligible, but is also set to increase with the launch of WAAPP–Mauritania in 2015.

Funding sources of main agricultural R&D agencies (in million 2005 ouguiyas), 2011



Note: Data take into account the fact that IMROP's and CNLA's researchers only devote 90 and 30 percent, respectively, of their time to agricultural R&D.

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
Mauritania	8.9	22%	0.80%
Senegal	24.8	4%	0.83%
Mali	33.6	33%	0.61%
Burkina Faso	25.4	29%	0.42%

OVERVIEW OF MAURITANIA'S AGRICULTURAL RESEARCH AGENCIES

Eight agencies conduct agricultural research in Mauritania. IMROP (employing 28 FTE researchers in 2011) is the country's principal agricultural research agency, accounting for close to half of the country's agricultural research staffing. IMROP is administered by the Ministry of Fisheries, is headquartered in Nouadhibou, and focuses on a variety of research topics including stock assessment, species biology and ecology, fisheries management, fisheries technology, and socioeconomics. CNRADA (13 FTEs) is Mauritania's largest crop research agency. The center's research is organized under five main programs—irrigation-based production systems, rain- and river-fed production systems, desert oases systems, sylvopastoral (forestry/forage) systems, and peri-urban production systems. CNERV (9 FTEs) is the country's main livestock and veterinary research agency, while CNLA (2 FTEs) conducts research on monitoring and combating locust plagues. CNRADA, CNERV, and CNLA are all administered by the Ministry of Rural Development. APE (0.8 FTE) is Mauritania's only nonprofit agency involved in agricultural R&D; its limited research focuses on improved milk and meat production, and animal health. Compared with many other West African countries, Mauritania's higher education sector accounts for a relatively small (although increasing) share of total agricultural research capacity. The University of Nouakchott has no agricultural faculty, so agricultural research fall under the Department of Biology (3 FTEs) and focuses on crop genetic improvement, nutritional sciences, animal ecology, entomology, and parasitology. ENS and ENVFA (6 FTEs and 1 FTE, respectively) conduct limited socioeconomic and biodiversity research.



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

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 Mauritania, visit www.asti.cgiar.org/mauritania.

ACRONYMS USED IN THIS FACTSHEET

APE	Association of Livestock Professionals
CNERV	National Livestock and Veterinary Research Center
CNLA	National Anti-Locust Center
CNRADA	National Agricultural Research and Development Center
ENS	École Normale Supérieure
ENVFA	National School of Agricultural Training and Extension
EU	European Union
FTE(s)	Full-time equivalent (researchers)
GDP	Gross domestic product
IMROP	Mauritanian Institute of Oceanographic Research and Fisheries
NEPAD	New Partnership for Africa's Development
PPP	Purchasing power parity (exchange rates)
R&D	Research and development
S&T	Science and technology
WAAPP	West Africa Agricultural Productivity Program

ABOUT ASTI, IFPRI, AND CNERV

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 Livestock and Veterinary Research Center (CNERV)** is Mauritania's principal veterinary research agency. It focuses on livestock genetic improvement, disease diagnosis and detection, epidemiological research, meat product control, and forage analyses.

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