

MAURITANIA

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AGRICULTURAL RESEARCH SPENDING



Million ouguiyas
(2011 constant prices)

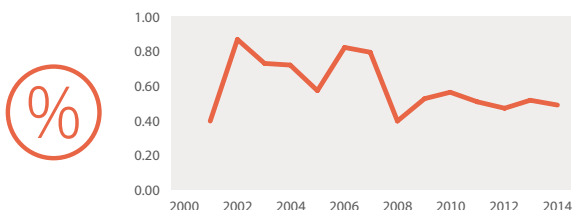
1,810.8

Million PPP dollars
(2011 constant prices)

15.6

	MAURITANIA	BURKINA FASO	MALI	SENEGAL
Million ouguiyas (2011 constant prices)	1,810.8			
Million PPP dollars (2011 constant prices)	15.6	48.5	37.9	51.3

SPENDING INTENSITY

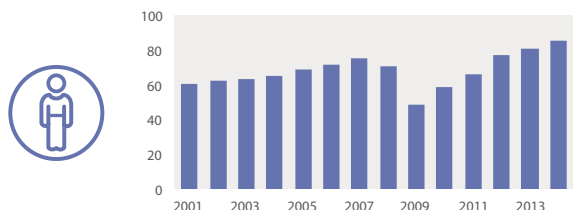


Agricultural research
spending as a share
of AgGDP

0.49%

Agricultural research spending as a share of AgGDP	0.49%	1.01%	0.38%	1.15%
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AGRICULTURAL RESEARCHERS



Full-time
equivalents

86.0

Share of researchers with
MSc and PhD degrees

69%

Full-time equivalents	86.0	310.8	285.7	124.4
Share of researchers with MSc and PhD degrees	69%	99%	96%	100%

Notes: Data above are for 2014. Research conducted by the private for-profit sector is excluded from this factsheet due to lack of available data. Information on access to further resources, data procedures and methodologies, and acronyms and definitions are provided on Page 4. See www.asti.cgiar.org/Mauritania/directory for an overview of Mauritania's agricultural R&D agencies.



Spending volatility

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, accounted for the bulk of the country's agricultural research spending in 2014. IMROP's funding, which has fluctuated considerably over time due to the expiration and renewal of various fisheries treaties with the European Union, was the main driver of significant long-term volatility in the country's total agricultural research investment.



Capacity challenges

Funding shortages, lack of a critical mass of qualified scientists, and dilapidated infrastructure limit CNRADA's and CNERV's research outputs and, hence, their impact on Mauritania's crop and livestock sectors. WAAPP—a World Bank-funded project, currently in preparation in Mauritania—is set to address these centers' most acute human resource challenges. To maintain and motivate researchers over time, however, inequities in status and salary levels of researchers employed at CNRADA and CNERV versus those employed at IMROP and in the higher education sector need to be addressed.



Institutional reform needed

Although the World Bank-funded Agricultural Services Program (1995–2004) included plans to merge CNRADA and CNERV to form a single NARI and establish a national agricultural research plan, none of this materialized. Twelve years later, the country still urgently needs a more effective national S&T policy strategy, better coordination of agricultural research, and further strengthening of its crop and livestock research institutes. Strong political will and matching funding are needed to revitalize agricultural research in Mauritania.

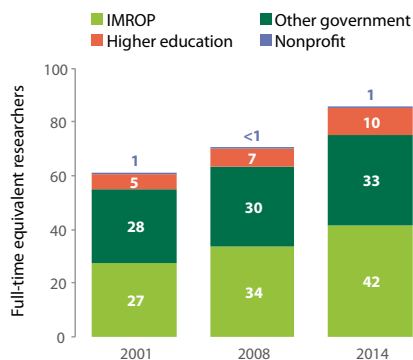


Limited private research

Agricultural research performed by the private sector is minimal in Mauritania. Most of the larger agricultural companies do not employ in-house research staff, but instead outsource their research to IMROP, CNRADA, or CNERV. Top Lait, a milk producer, is the only company identified as being actively involved in agricultural research. Its 3 FTE researchers carry out research related to livestock genetic improvement, fodder, and animal health.

Institutional composition of Mauritania's agricultural research

Despite a considerable increase in the total number of researchers during 2001–2014, the institutional composition of agricultural research in Mauritania has changed little over time. As of 2014, government agencies accounted for 87 percent of the country's agricultural researchers, higher education agencies for 12 percent, and nonprofit agencies for 1 percent.



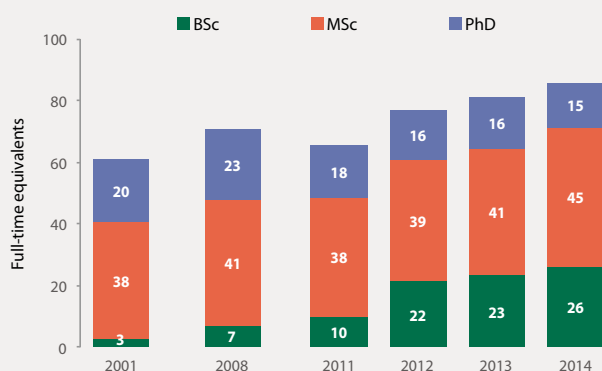
Distribution of Mauritania's agricultural researchers across agencies

Eight agencies—four government, three higher education, and one nonprofit—conduct agricultural research in Mauritania. IMROP accounts for nearly half the country's agricultural researchers (in FTEs). CNRADA and CNERV, the main crop and livestock research agencies, are the second- and third-largest, employing 16 and 13 FTEs in 2014, respectively.

Agricultural researchers, 2014	FTEs
Government agencies	
IMROP	42
CNRADA	16
CNERV	13
CNLA	4
Higher education agencies	
École Normale Supérieure	3
Higher Institute of Technological Studies	4
University of Nouakchott, Department of Biology	3
Nonprofit agencies	
Association of Livestock Professionals	1
Total	86

Mauritania's agricultural researchers by qualification level

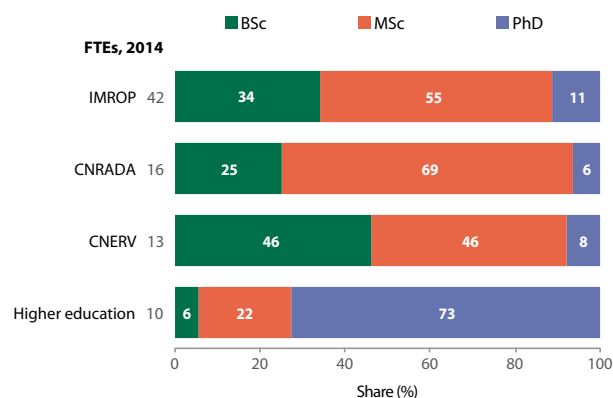
A decline in PhD-qualified researcher numbers since 2008 has left Mauritania without a critical mass of well-qualified scientists. Recent capacity growth mainly occurred among scientists qualified to the BSc- and MSc-degree level. As a result, average qualification levels are considerably lower in Mauritania than in most other West African countries.



Note: Data exclude BSc-qualified support staff employed at IMROP who do not hold official researcher status.

Mauritania's agricultural researchers by agency/sector and qualification level

As of 2014, the majority of agricultural researchers based at government agencies were qualified to the BSc- or MSc-degree level, whereas close to three-quarters of those in the higher education sector held PhD degrees. This difference reflects better remuneration within the higher education sector, and a higher retirement age (65 versus 60 years).



Mauritania's MSc- and PhD-qualified agricultural researchers by discipline

Mauritania lacks qualified agricultural researchers in numerous areas. As of 2014, CNRADA, CNERV, and CNLA were without PhD-qualified plant breeders, animal breeders, soil scientists, and socioeconomists despite the critical importance of these areas. Fisheries is by far the most important discipline among MSc- and PhD-qualified researchers.

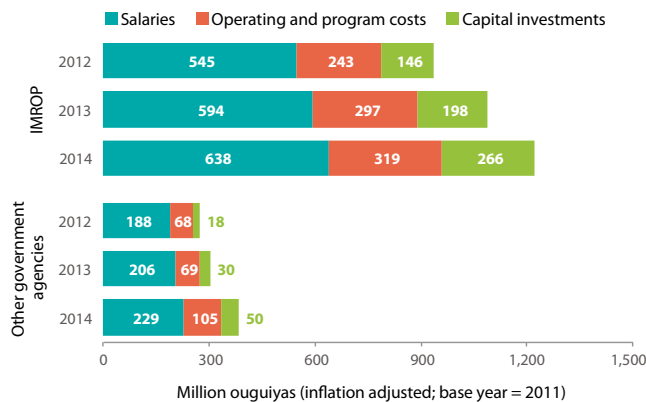
Agricultural researchers, 2014	FTEs		Share (%)	
	MSc	PhD	MSc	PhD
Plant breeding/genetics (incl. biotechnology)	1	–	2	–
Plant pathology	1	–	3	–
Plant physiology	1	<1	2	5
Botany	1	–	2	–
Seed science and technology	2	1	5	13
Other crop sciences	2	–	5	–
Animal husbandry	1	–	2	–
Veterinary medicine	5	–	12	–
Other animal and livestock	–	–	–	–
Zoology/entomology	1	1	3	13
Forestry and agroforestry	–	–	–	–
Fisheries and aquatic resources	15	4	36	50

Agricultural researchers, 2014	FTEs		Share (%)	
	MSc	PhD	MSc	PhD
Soil sciences	1	–	2	–
Natural resources management	–	–	–	–
Water and irrigation management	1	–	2	–
Ecology	5	–	11	–
Biodiversity conservation	3	1	7	13
Food sciences and nutrition	–	–	–	–
Socioeconomics (incl. agricultural economics)	2	–	5	–
Other sciences	–	<1	–	5
Total	42	8	100	100

Note: Data exclude the nonprofit and higher education sectors.

Government agencies' spending by cost category

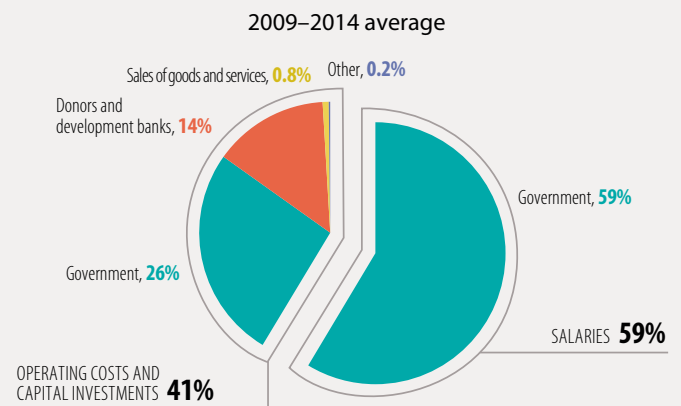
Spending at IMROP and the other government agencies rose steadily between 2012 and 2014, mostly driven by higher operating and capital expenditures. IMROP invests a relatively larger share of its total funding in capital improvements, and its salary-related expenses constitute a lower share in comparison with the other government agencies.



Note: The other government agencies are CNRADA, CNERV, and CNLA.

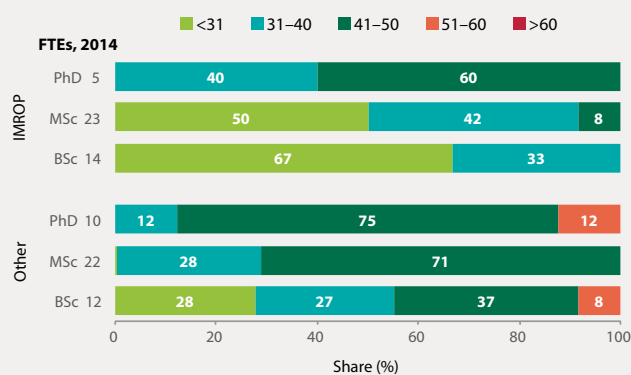
Comparison of spending and funding at government agencies

Government funding is sufficient to cover the collective salary bill of IMROP, CNRADA, CNERV, and CNLA, along with a substantial portion of the agencies' operating costs. Donors and development banks contributed 14 percent of the agencies' combined funding during 2009–2014, and the sale of goods and services represented less than 1 percent.



Mauritania's agricultural researchers by age bracket

As of 2014, nearly 60 percent of Mauritanian agricultural researchers were under 40 years old, setting the country apart from many other West African countries challenged with aging pools of researchers. Overall, IMROP's researchers are very young, but (unsurprisingly) those with PhD degrees tend to be older than their MSc- and BSc-qualified colleagues.



Mauritania's share of female researchers

During 2008–2014, Mauritania's share of female researchers nearly tripled (from 5 to 14 percent). Although CNERV and IMROP employ comparatively more female researchers than the other agencies (31 and 16 percent, respectively), women are still grossly underrepresented within Mauritanian agricultural research agencies.



By qualification level, 2014

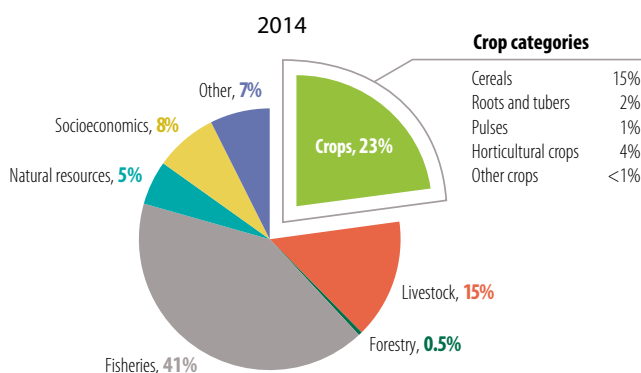
BSc 18%	MSc 13%	PhD 13%
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By age bracket, 2014

< 41 6%	41–50 27%	> 50 0%
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Mauritania's agricultural researchers by area of focus

Given its arid climate, crop and livestock research play a lesser role in Mauritania than in other West African countries. Fisheries dominate the agricultural research agenda, representing 41 percent of total agricultural researchers in 2014. The country's most researched crops include rice, wheat, vegetables, fruits, maize, beans, potatoes, sweet potatoes, and sorghum.



Crop varieties released by selected crop research agencies

CNRADA, Mauritania's main crop research agency, runs research programs focusing on cereals, horticultural crops, quinoa, date palm, and roots and tubers. The center released no new varieties during 2012–2014, however. By way of comparison, the NARIs of neighboring Senegal and Mali, released 17 and 14 new crop varieties over this period, respectively.

Crop	Number of varieties, 2012–2014		
	CNRADA Mauritania	ISRA Senegal	IER Mali
Cowpea	—	5	—
Groundnut	—	10	—
Maize	—	1	3
Millet	—	—	3
Rice	—	—	3
Sorghum	—	1	3
Wheat	—	—	2
Other	—	—	—
Total	—	17	14

Resources for Mauritania

This factsheet presents recent data on the performance of agricultural research in Mauritania, primarily focusing on key financial, human resource, institutional, and output indicators, while also highlighting relevant trends, challenges, and institutional changes. Additional resources are available at www.asti.cgiar.org and include:



ASTI's **interactive country page** for Mauritania features national agricultural research investment and capacity data, a data exploration and download tool, as well as access to a variety of country publications.



ASTI's **benchmarking tool** allows key agricultural research indicators to be ranked and compared across African countries.



ASTI's **data download tool** provides access to more in-depth ASTI datasets and graphs for Mauritania and many other countries.



ASTI's **agency directory** provides a view of agencies that conduct agricultural research in Mauritania, along with their locations and key agency-level indicators.



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.
- ▶ **Agricultural research** includes research conducted by the government, higher education, and nonprofit sectors; research conducted by the private for-profit sector is excluded due to lack of available data.
- ▶ 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 2011 local currencies and **2011 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 **decimal rounding** can cause totals to be one point higher or lower than the sum of their parts.



For more information on ASTI's data procedures and methodology, visit www.asti.cgiar.org/methodology.

Acronyms

AgGDP	agricultural gross domestic product
CNERV	National Livestock and Veterinary Research Center
CNLA	National Anti-Locust Center
CNRADA	National Agricultural Research and Development Center
IMROP	Mauritanian Institute of Oceanographic and Fisheries Research
FTE(s)	full-time equivalent(s)
NARI(s)	national agricultural research institute(s)
PPP(s)	purchasing power parity (exchange rates)
R&D	research and development
S&T	science and technology
WAAPP	West Africa Agricultural Productivity Program

ABOUT ASTI AND IFPRI

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.

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