

MAURITIUS

Nienke Beintema and Raj Ramnauth

Key Trends

- ▶ Mauritius invests a significant share of its AgGDP in agricultural research (4.82 percent in 2016). Total spending (adjusted for inflation) fluctuated over time but remained fairly stagnant during 2010–2016.
- ▶ The creation of FAREI in 2014 through a merger of FARC and AREU represented a reassessment of research priorities to address the country's financial and human resource constraints. FAREI is primarily funded by the government, supplemented by limited donor and project funding, and revenues from the sale of goods and services.
- ▶ Until 2012, MSIRI was a nonprofit institute conducting sugar research funded through a commodity tax on sugar production, but with the end of the EU sugar protocol and introduction of fixed sugar prices, tax revenues dwindled. MSIRI now operates under the Mauritius Cane Industry Authority, and its research mandate is sugarcane rather than sugar.

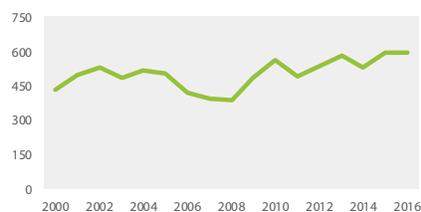
Current Challenges

- ▶ Salary-related expenses absorb the majority of FAREI's funding, leaving little to support operating- and program-related expenses or capital investments, all of which are crucial to the effective conduct of research.
- ▶ Funding constraints have limited training and staff development at FAREI, MSIRI, and the other government agencies. When hired, researchers have a basic degree and obtain additional qualifications on an ad hoc basis from the University of Mauritius. The university's Faculty of Agriculture only offers limited PhD level courses, and no national policy has been established to fund postgraduate training abroad. Staff are therefore limited to self-financing or external competitive scholarships.

Policy Options

- ▶ Research agencies need a critical mass of high-caliber professionals to effectively generate and disseminate research outputs and mentor junior scientists. FAREI could be used to provide researchers with an opportunity to pursue higher degrees in priority areas in collaboration with the University of Mauritius.
- ▶ Although FAREI is also officially responsible for coordinating the national agricultural research agenda, funding shortages have prevented it from adopting this role.
- ▶ FAREI needs to reassess its institutional and research priorities in line with the government's goals of improving food security and deriving 50 percent of national food needs through biofarming.

AGRICULTURAL RESEARCH SPENDING



Million Mauritian rupees
(2011 constant prices)

595.0

Million PPP dollars
(2011 constant prices)

37.3

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BOTSWANA

MADAGASCAR

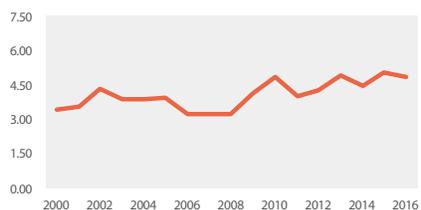
MOZAMBIQUE

17.5

10.4

31.8

SPENDING INTENSITY



Agricultural research
spending as a share
of AgGDP

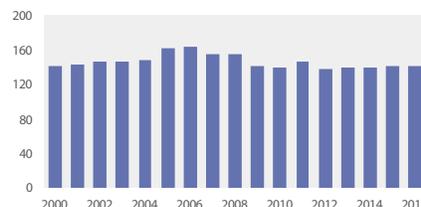
4.82%

2.27%

0.14%

0.43%

AGRICULTURAL RESEARCHERS



Full-time
equivalents

141.8

116.0

214.3

386.1

Share of researchers with
MSc and PhD degrees

74%

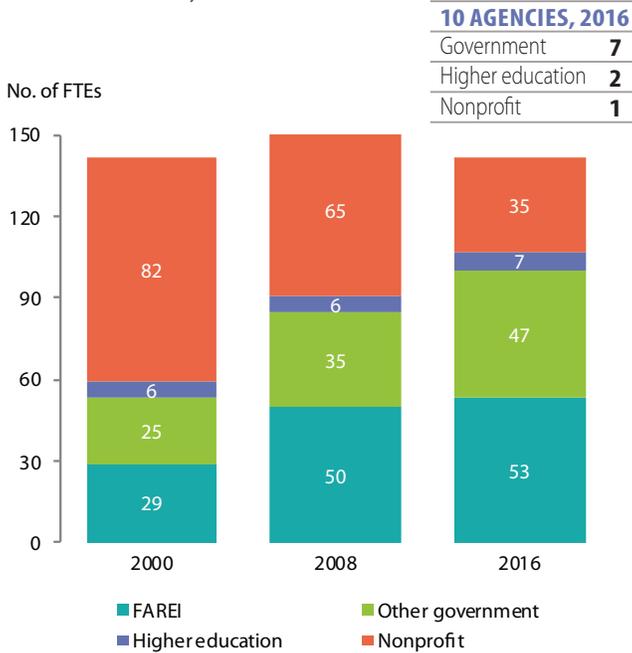
66%

97%

54%

Institutional composition of agricultural research

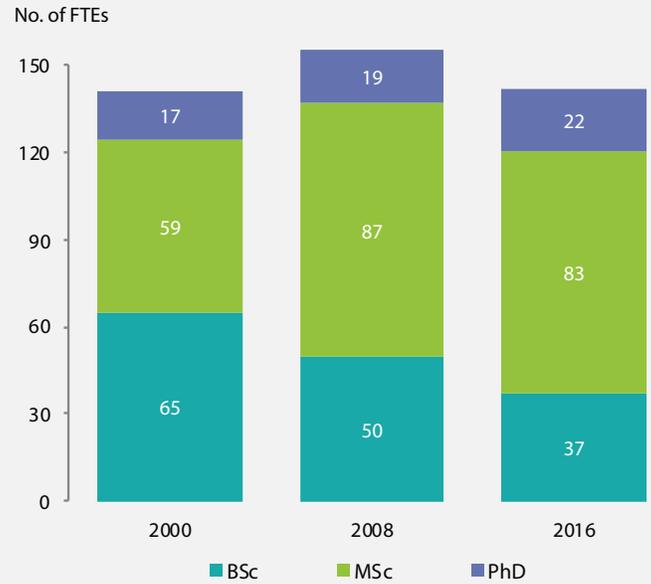
The composition of researchers across institutional sectors shifted during 2009–2016. MSIRI lost many of its researchers due to the elimination of the sugar tax, and capacity for both fisheries and oceanographic research grew substantially. Capacity at the University of Mauritius remained very low (5 percent of total researchers in 2016).



Notes: Data for FAREI in 2000 and 2008 are for its predecessors, FARC and AREU.

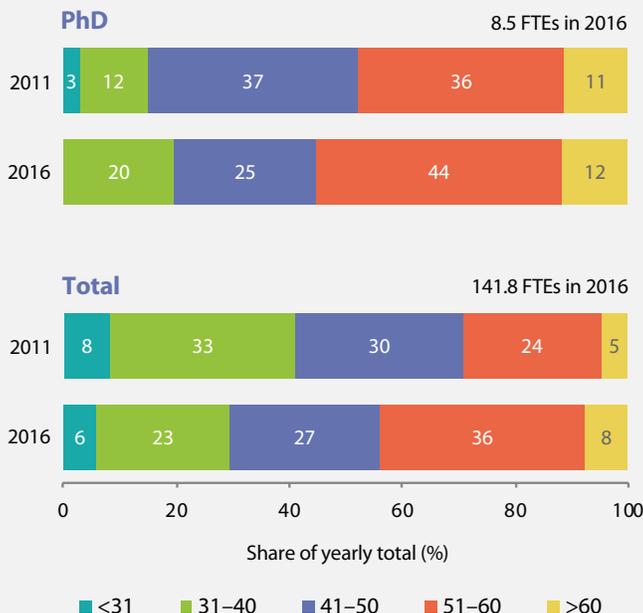
Agricultural researchers by qualification level

As of 2016, close to 60 percent of all researchers held MSc degrees. Although the number of PhD-qualified researchers rose slightly during 2008–2016, the share remained low (15 percent in 2016). The number of BSc-qualified researchers fell from 2000, mostly due to the sharp decline in the number of researchers employed at MSIRI.



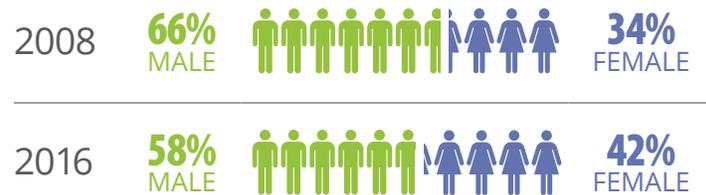
Distribution of agricultural researchers by age bracket

Mauritius has a comparatively low share of PhD-qualified researchers, most of whom are nearing retirement: as of 2016, 56 percent were in their 50s and 60s; which is considerably higher than the 2011 share (47 percent). The 8 FTE researchers with PhD degrees in the government sector were younger: only 27 percent were 51 years or older in 2016.



Agricultural researchers by gender

Overall, the share of female researchers rose from 34 percent in 2008 to 42 percent in 2016. On average, female researchers in Mauritius are younger than their male colleagues.



Share of women within each qualification level, 2016

BSc	41%	MSc	42%	PhD	43%
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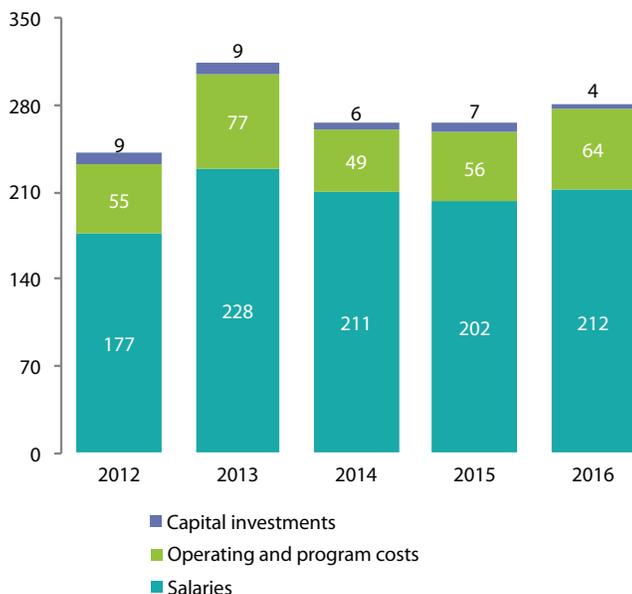
Share of women by age bracket, 2016

< 41	52%	41–50	51%	> 50	30%
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FAREI's spending by cost category

Salaries and related expenses accounted for three-quarters of FAREI's total spending during 2012. Operating and program costs accounted for most of the remaining spending. Capital investments during this period were negligible.

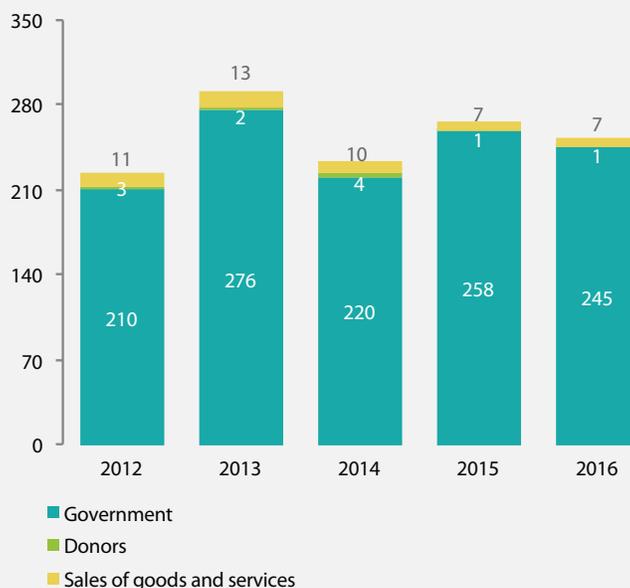
Million Mauritian rupees (inflation-adjusted; base year = 2011)



FAREI's sources of funding

The national government provides almost all of FAREI's funding, which averaged 95 percent during 2012–2016. Some funds were raised through the sale of goods and services and through donor contributions during the same period.

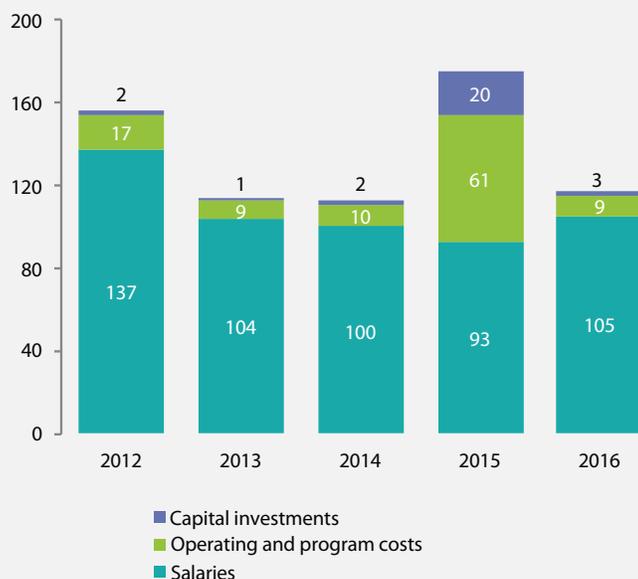
Million Mauritian rupees (inflation-adjusted; base year = 2011)



MSIRI's spending by cost category

The majority of MSIRI's funding is allocated to salaries and related costs—about 90 percent of the total, with the exception of 2015. The ACP-Sugar Research Program, funded by the European Union to help sugar industries in affected countries adjust to a more competitive market, came to completion that year.

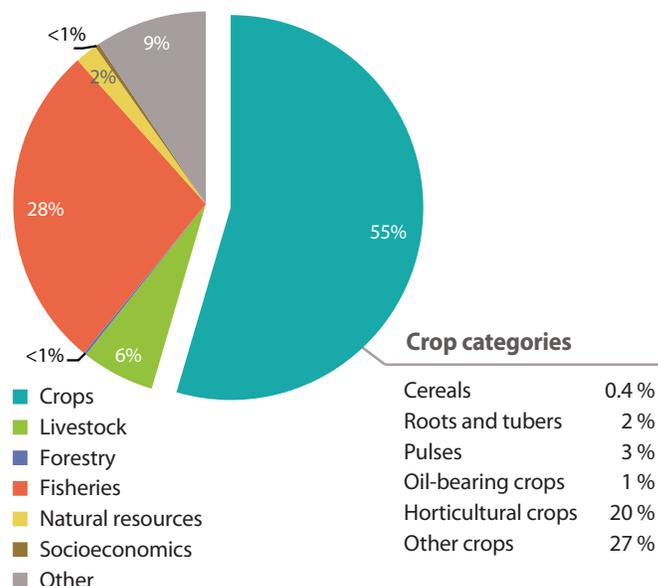
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Agricultural researchers by area of focus

In 2014, 55 percent of the county's agricultural researchers conducted crop research, and 28 percent undertook fisheries research, reflecting the economic importance of the fisheries sector. Almost all crop researchers focused on sugar, vegetables, and fruit. Research on cereals, roots and tubers, pulses, and oil-bearing crops was negligible.

Share of researchers, 2016



Resources for Mauritius

This factsheet presents recent data on the performance of agricultural research in Mauritius, 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 Mauritius 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 Mauritius and many other countries.



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

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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 and international organizations is excluded.
- ▶ 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

ACP	African, Caribbean and Pacific
AgGDP	agricultural gross domestic product
AREU	Agricultural Research and Extension Unit
FARC	Food and Agricultural Research Council
FAREI	Food and Agricultural Research and Extension Institute
FTE(s)	full-time equivalent(s)
MSIRI	Mauritius Sugarcane Industry Research Institute
PPP(s)	purchasing power parity (exchange rates)
R&D	research and experimental development

ABOUT ASTI, IFPRI, AND FAREI

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 facilitated 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 **Food and Agricultural Research and Extension Institute (FAREI)** is responsible for coordinating, conducting, and monitoring research and extension related to agriculture, forestry, fisheries, and food production; the institute falls under the Ministry of Agro Industry and Food Security.

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