MAURITIUS

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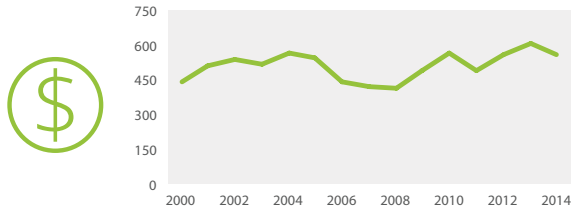
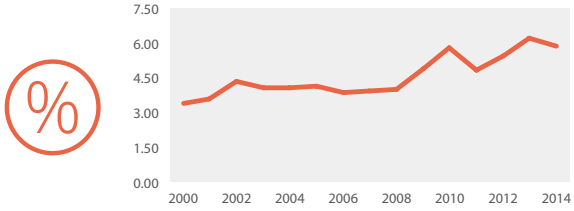
AGRICULTURAL RESEARCH SPENDING



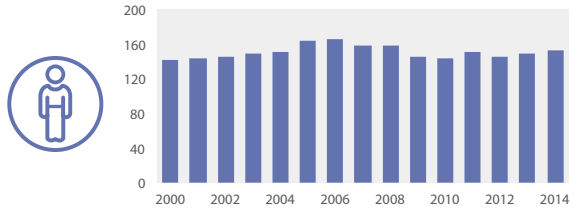
	MAURITIUS	MADAGASCAR	MALAWI	ZAMBIA
Million Mauritian rupees (2011 constant prices)	560.4			
Million PPP dollars (2011 constant prices)	35.2	10.3	28.1	26.9

SPENDING INTENSITY



	MAURITIUS	MADAGASCAR	MALAWI	ZAMBIA
Agricultural research spending as a share of AgGDP	5.89%	0.13%	0.53%	0.51%

AGRICULTURAL RESEARCHERS



	MAURITIUS	MADAGASCAR	MALAWI	ZAMBIA
Full-time equivalents	152.9	204.8	147.3	245.6
Share of researchers with MSc and PhD degrees	73%	98%	83%	57%

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/Mauritius/directory** for an overview of Mauritius's agricultural R&D agencies.

Constant spending levels

Agricultural research in Mauritius is mostly funded by the government, supplemented by limited donor and specific project funding, and revenues from the sale of goods and services. Government funding primarily covers salaries and day-to-day operations. Total agricultural research spending (adjusted for inflation) has fluctuated somewhat over time but remained fairly stagnant during 2000–2014. The country's intensity ratio is high, reflecting the dominance of sugar research.

Capacity concerns

The number of researchers at government agencies has doubled since 2000 and overall qualifications have also improved with more researchers now holding MSc degrees. UoM-FoA offers postgraduate programs and the government provides scholarships and research proposal funding in prioritized agricultural science fields. Nonetheless, government agencies employ very few PhD-qualified researchers. Also, in recent years, government funding for additional recruitments or to fill existing vacancies has been constrained, thereby limiting employment opportunities for graduates.

Contraction in sugar research

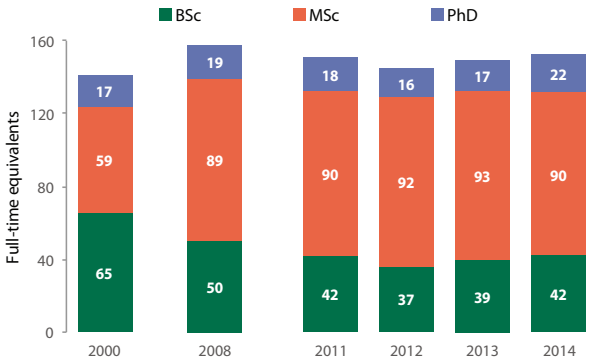
Until 2012, MSIRI was an independent nonprofit institute that conducted sugar research and was funded through a commodity tax on sugar production. With the phasing out of the EU sugar protocol and the end of fixed sugar prices, tax revenues dwindled and the institute faced serious financial constraints. As a result, MSIRI now operates under the aegis of the newly formed Mauritius Cane Industry Authority, and its research mandate became sugarcane rather than sugar. The sugar industry corporations have been diversifying their activities and are massively investing in real estate projects at the expense of sugarcane cultivation.

Reform of research coordination

FAREI, formed in 2014 through a merger of AREU and FARC, has taken over FARC's role of coordinating national agricultural research. Nevertheless, ongoing funding shortages, a prevalent issue for FARC, have prevented FAREI from assuming this role. Additional uncertainty stems from the ongoing reform of the Agricultural Services of the Ministry of Agro Industry and Food Security. Moreover, with the government's intention to derive 50 percent of the country's food needs through biofarming by 2019, FAREI should also reassess its institutional and research priorities.

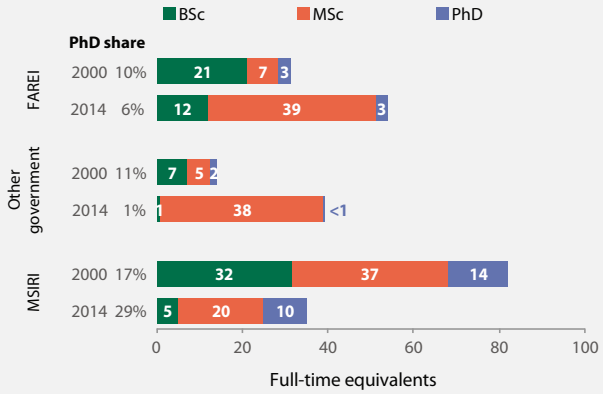
Mauritius's agricultural researchers by qualification level

The country's total number of researchers fluctuated somewhat during 2011–2014, with around 60 percent of the total researchers qualified to the MSc-degree level. Although the absolute number of PhD-qualified researchers increased during this period, their share in the overall total remained low (14 percent in 2014).



Mauritius's agricultural researchers by sector and qualification level

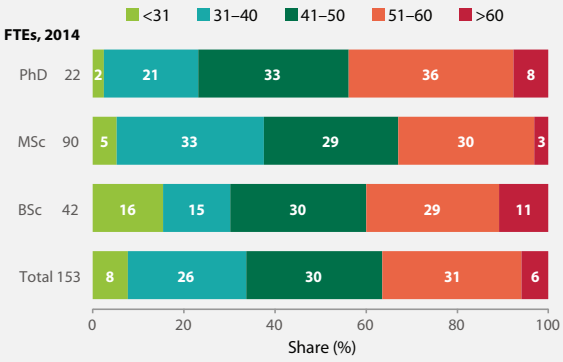
Agricultural researcher numbers at FAREI and the other government agencies rose substantially during 2000–2014, mostly among those qualified to the MSc-degree level. In contrast, researcher numbers at MSIRI declined considerably, particularly among BSc- and MSc-qualified researchers.



Notes: Figure excludes higher education agencies. FAREI data for 2000 refer to FARC and AREU, its predecessors.

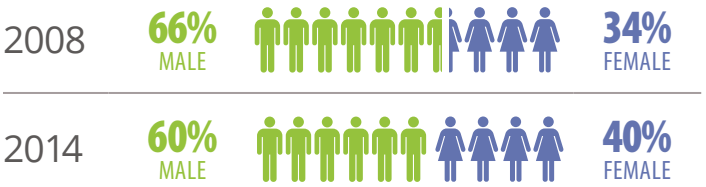
Mauritius's agricultural researchers by age bracket

In 2014, close to 40 percent of all researchers were in their 50s and 60s; for those qualified to the PhD level, the share was slightly higher (44 percent).



Mauritius's share of female researchers

Overall, the share of female researchers rose from 34 percent in 2008 to 40 percent in 2014. Notably, shares of female researchers increased as their qualification levels increased (the reverse is usually the case in other African countries). On average, female researchers in Mauritius are younger than their male colleagues.



By qualification level, 2014

BSc **37%**	MSc **41%**	PhD **46%**

By age bracket, 2014

< 41 **54%**	41–50 **44%**	> 50 **25%**

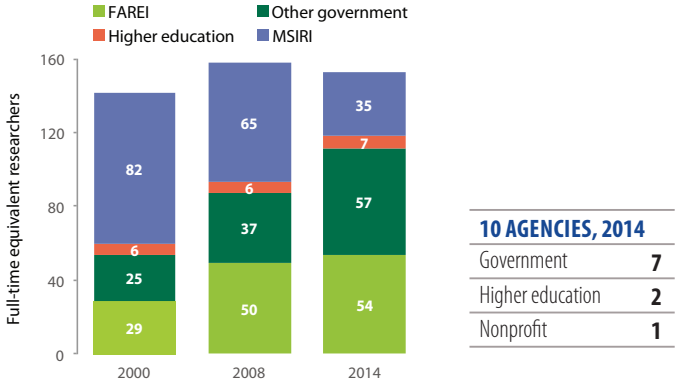
FAREI and MSIRI's MSc- and PhD-qualified agricultural researchers by discipline

About one-third of the MSc- and PhD-qualified agricultural researchers employed at FAREI and MSIRI are crop scientists. Socioeconomics also constitutes a relatively strong discipline.

Agricultural researchers, 2014	FTEs		Share (%)	
	MSc	PhD	MSc	PhD
Plant breeding/genetics (incl. biotechnology)	6	2	10	15
Plant pathology	1	1	2	8
Plant physiology	5	–	8	–
Botany	1	–	2	–
Other crop sciences	9	–	15	–
Zoology/entomology	2	2	3	15
Other animal and livestock	2	1	3	8
Forestry and agroforestry	–	–	–	–
Fisheries and aquatic resources	–	–	–	–
Soil sciences	–	3	–	23
Natural resources management	5	–	8	–
Water and irrigation management	1	–	2	–
Ecology	–	–	–	–
Biodiversity conservation	–	–	–	–
Food sciences and nutrition	–	–	–	–
Socioeconomics (incl. agricultural economics)	7	–	12	–
Extension and education	1	1	2	8
Other sciences	19	3	32	23
Total	59	13	100	100
Other sciences	28	5	31	22
Total	**90**	**22**	**100**	**100**

Institutional composition of Mauritius's agricultural research

The country's institutional distribution changed during 2009–2014. Due to the phasing out of the sugar cess, MSIRI lost many of its researchers as well as its status as an independent agency. Research capacity at the two fisheries and oceanography agencies (AFRC and MOI) increased substantially as a result of the government prioritizing of these two sectors.

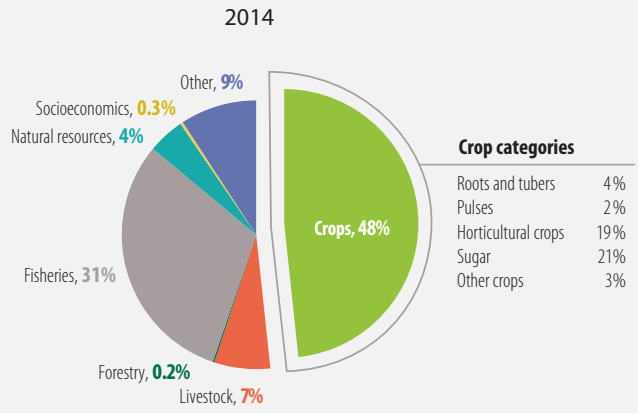


10 AGENCIES, 2014	
Government	7
Higher education	2
Nonprofit	1

Note: FAREI data for 2000 and 2008 refer to FARC and AREU, its predecessors.

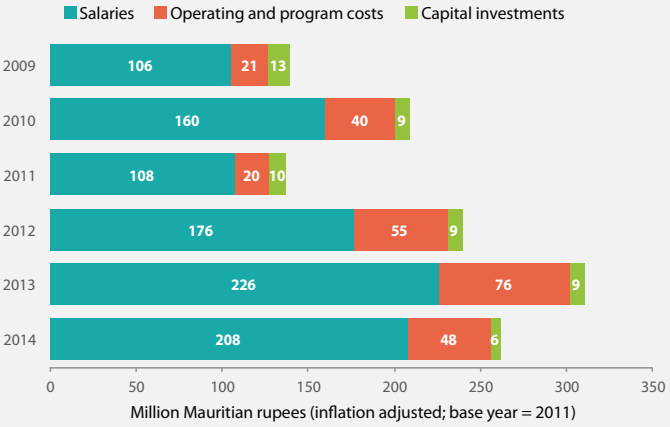
Mauritius's agricultural researchers by area of focus

In 2014, 48 percent of the county's agricultural researchers conducted crop research, and 31 percent undertook fisheries research, reflecting the economic importance of the fisheries sector. That same year, 43 percent of the crop researchers focused on sugar research. Other major crops were bananas and other fruits, vegetables, potatoes, and flowers.



FAREI's spending by cost category

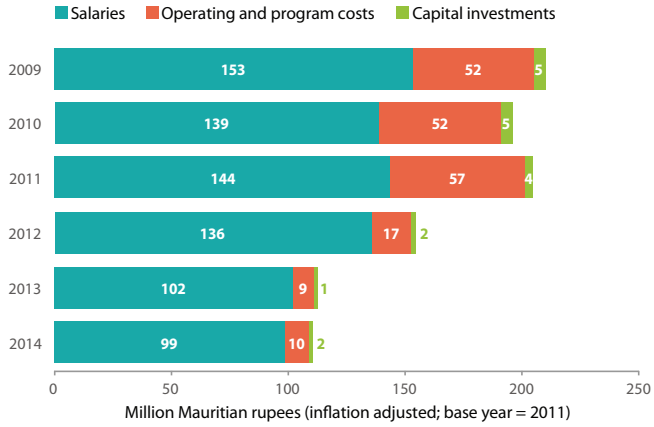
Agricultural researcher numbers at FAREI rose between 2012 (when the institute was established) and 2014, which is reflected in progressively higher salary expenses. A similar increase occurred in the costs associated with day-to-day operations and research activities, increasing responsibilities for the implemention of the Food Security Fund Schemes.



Note: Data for 2009–2011 refer to FARC and AREU, FAREI's predecessors.

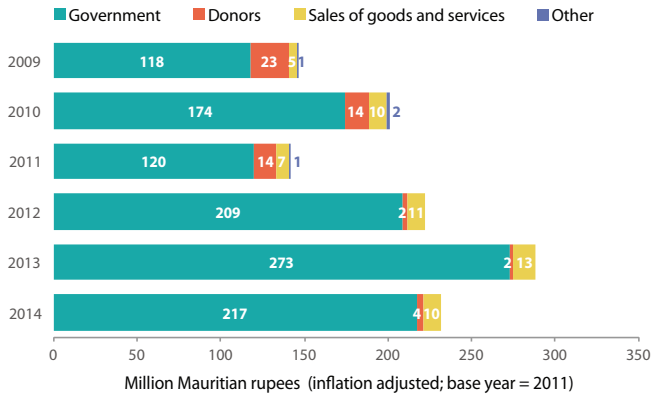
MSIRI's spending by cost category

Lack of funding at MSIRI led to contractions in researcher numbers and, hence, salary-related expenses during 2013–2014 and created challenges to both the institute's daily operations and its research activities.



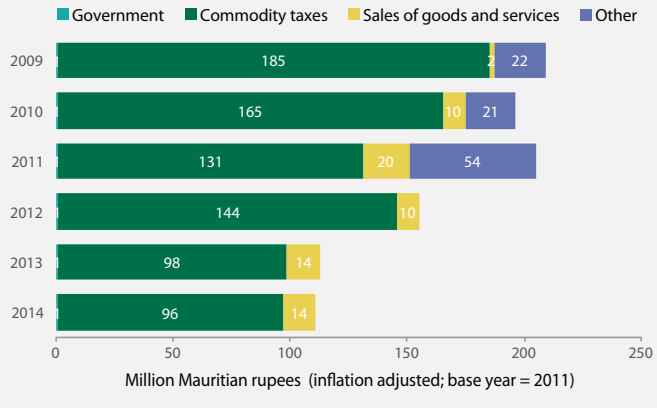
FAREI's funding sources

Government contributions accounted for an average of 90 percent of FAREI's funding during 2009–2014. Government funding has risen considerably since 2012 as a result of the implementation of the Food Security Fund Schemes of the Ministry of Agro Industry and Food Security. Donor contributions, in contrast, have contracted.



MSIRI's funding sources

Until recently, MSIRI derived its funding through a commodity tax on the proceeds of sugar production. With the phasing out of the EU sugar protocol and fixed sugar prices, annual income through the commodity tax fell considerably and the institute was forced to supplement its funding through the sales of goods and services and other sources.



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.

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

AREU	Agricultural Research and Extension Unit
AgGDP	agricultural gross domestic product
AFRC	Albion Fisheries Research Centre
FARC	Food and Agricultural Research Council
FAREI	Food and Agricultural Research and Extension Institute
FTE(s)	full-time equivalent(s)
MOI	Mauritius Oceanography Institute
MSIRI	Mauritius Sugarcane Industry Research Institute
PPP(s)	purchasing power parity (exchange rates)
R&D	research and development
UOM-FA	University of Mauritius, Faculty of Agriculture

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 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 **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.

ASTI/IFPRI and FAREI gratefully acknowledge participating agricultural R&D agencies for their contributions to the data collection and preparation of this factsheet. ASTI also acknowledges the Bill & Melinda Gates Foundation and CGIAR Research Program on Policies, Institutions, and Markets for their 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 FAREI.