

# LESOTHO

Kathleen Flaherty, Maleoa Mohloboli, and Nienke Beintema

## Key Trends

- ▶ Lesotho's agricultural research spending fell by one-third during 2009, and thereafter remained fairly constant, in inflation-adjusted terms. Spending contracted further in 2014 due to reduced government support to DAR—the country's main agricultural research agency—and the cessation of research at MFLR. The 2015 spike in spending was due to increased government investment in DAR's infrastructure.
- ▶ In 2016, Lesotho invested 0.94 percent of its AgGDP in agricultural research, which aligns with the 1 percent minimum level recommended by the African Union and the United Nations. This result, however, is more a reflection of Lesotho's small size than its commitment to agricultural R&D.
- ▶ The country's total number of agricultural researchers fell during 2009–2016 due to staff resignations, transfers, and training leave at DAR, and a decline in time allocated to research at NUL-FA.

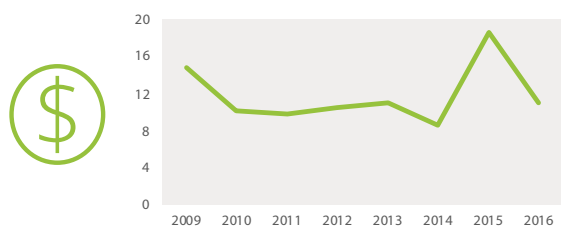
## Current Challenges

- ▶ DAR is almost entirely funded by the government, but allocations have only been sufficient to cover the cost of salaries. The only exception to this was 2015, when the government allocated funding for upgrades to infrastructure. Research funding has been restricted to small research grants and alliances with regional and international agencies.
- ▶ Lesotho has insufficient agricultural research capacity. As of 2016, only 14 percent of DAR's researchers held PhD degrees; its pool of researchers is young and inexperienced; and opportunities for training, mentoring, and career growth are limited. In addition, staff morale and retention is low due to uncompetitive remuneration packages and insufficient resources for the conduct of effective research.

## Policy Developments and Options

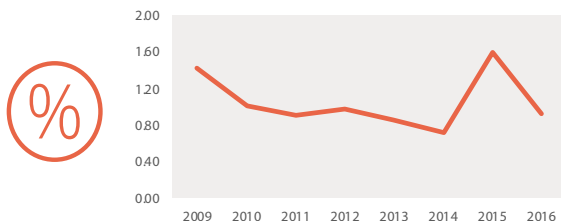
- ▶ Increased allocations of funding for infrastructure stemmed from the government's commitment to commercializing agriculture, both in the areas of technology generation and dissemination, and through numerous specialized services, such as seed and soil testing, as well as pest and disease diagnosis.
- ▶ Resolving constraints to researcher capacity is a priority for DAR. Improvements have been made in recent years, but more efforts are needed. One solution, used effectively in other countries, could be hiring recently retired researchers as consultants to train and mentor junior scientists over a transition period.
- ▶ Attaining (semi)autonomous status, another trend in many countries, could help DAR to diversify and increase its funding base, and support the development of critical mass of competent researchers.

## AGRICULTURAL RESEARCH SPENDING

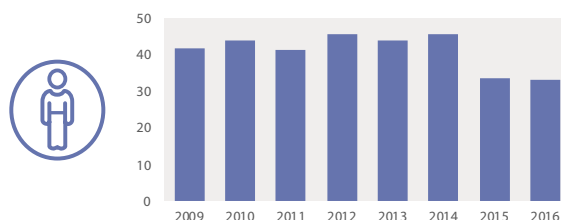


	LESOTHO	BOTSWANA	NAMIBIA (2014)	ESWATINI (FORMERLY SWAZILAND)
Million maloti (2011 constant prices)	11.1			
Million PPP dollars (2011 constant prices)	2.8	17.5	6.9	6.7
Agricultural research spending as a share of AgGDP	0.94%	2.27%	0.93%	0.70%
Full-time equivalents	33.2	116.0	99.7	26.2
Share of researchers with MSc and PhD degrees	43%	66%	90%	87%

## SPENDING INTENSITY

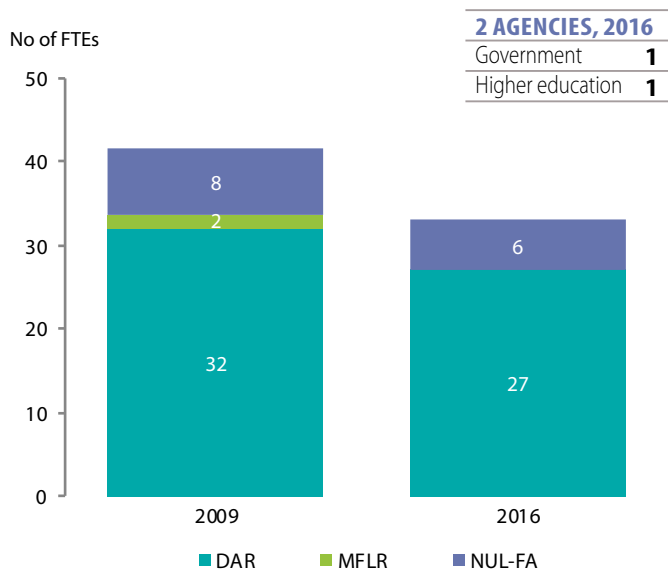


## AGRICULTURAL RESEARCHERS



## Institutional composition of agricultural research

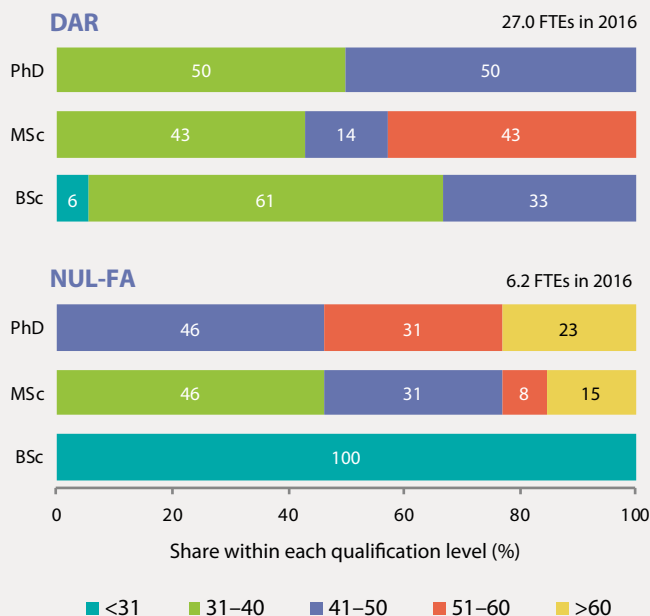
Two agencies conducted agricultural research in Lesotho in 2016. DAR, the only government agency, accounted for the majority of the country's agricultural researchers (27 FTE researchers in 2016). By comparison, NUL-FA only employed 6 FTE researchers that year.



Note: MFLR discontinued its research activities in 2012.

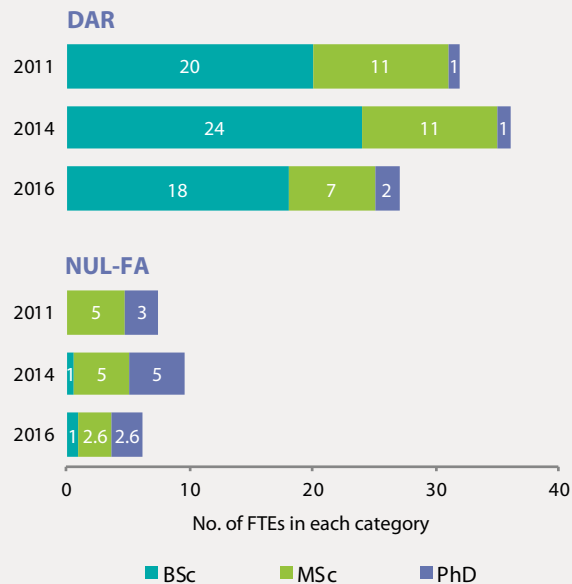
## Distribution of agricultural researchers by qualification level and age bracket

In 2016, a majority of DAR's agricultural researchers were under 41 years of age. Although absolute numbers were small, on the whole, NUL-FA's MSc- and PhD-qualified researchers were older.



## Agricultural researchers by qualification level

The total number of agricultural researchers employed in Lesotho declined slightly during 2009–2016. More than half of all researchers were qualified to the BSc level, and about one-third were qualified to the MSc level. Lesotho only employs a small number of PhD-qualified agricultural researchers.



## Agricultural researchers by gender

Female participation in agricultural research in Lesotho is among the highest in Africa. The share of female researchers increased during 2011–2016, although it should be noted that shifts in shares by qualification level and age bracket only represent small numbers of FTEs.



### Share of women within each qualification level, 2016

BSc	52%	MSc	60%	PhD	52%
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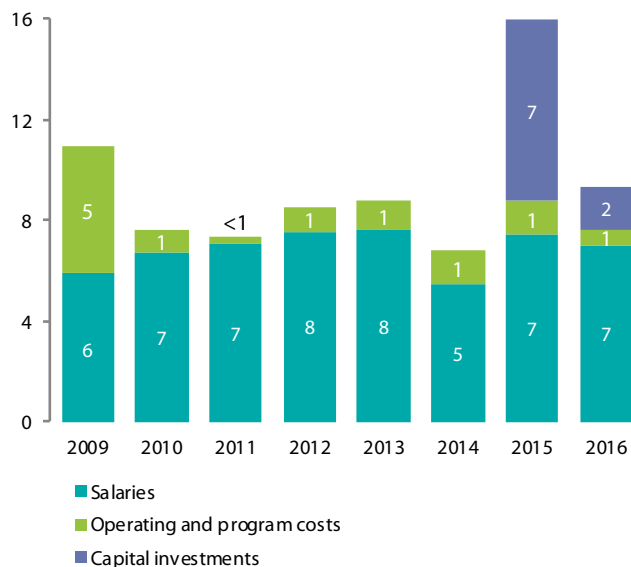
### Share of women by age bracket, 2016

< 41	37%	41–50	76%	> 50	72%
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## DAR's spending by cost category

Salary-related expenses accounted for the majority of DAR's total spending during 2009–2014. In 2015 and, to a lesser extent, 2016, the government allocated substantial capital for the purpose of repairing and upgrading the department's laboratories and facilities, including the purchase of new equipment, furniture, and the installation of solar power.

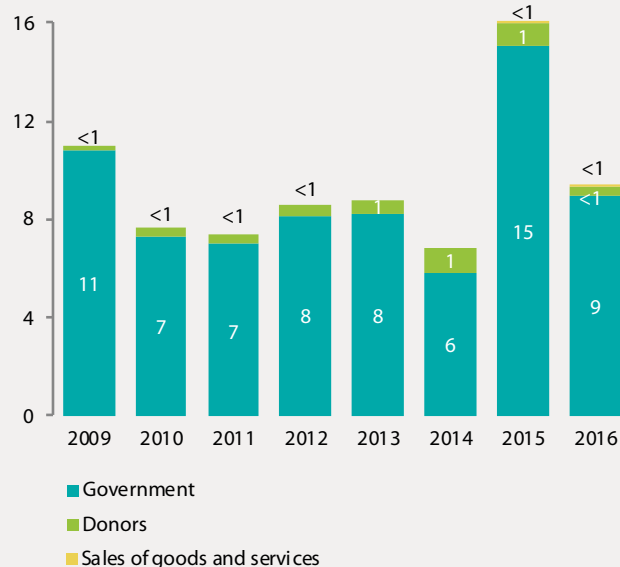
Million maloti (inflation-adjusted; base year = 2011)



## Sources of DAR's funding

DAR receives almost all of its funding from the government. Additional small shares of funding are derived from donors and generated through the sale of goods and services. Government funding increased substantially in 2015 due to a new focus on commercializing agriculture and, hence, enhancing the efficiency of DAR's specialized services.

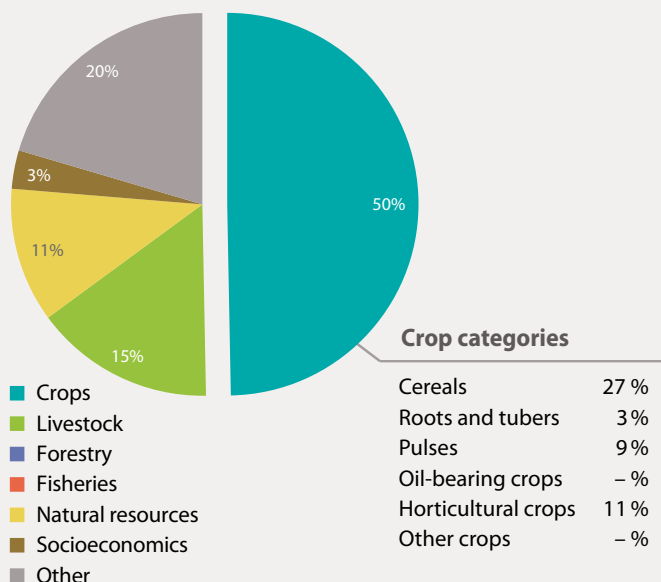
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## Agricultural researchers by area of focus

In 2016, half of Lesotho's FTE researchers conducted crop research, and 15 and 11 percent, respectively, undertook livestock and natural resources research. Maize, wheat, and sorghum were the main cereals under investigation. Other major crops included vegetables, beans and other pulses, and potatoes.

### Share of researchers, 2016



## Recent peer-reviewed publications

During 2015-2016, DAR and NUL-FA published an average of 0.5 and 13.5 journal articles, respectively. NUL-FA also published books and book chapters. Publications per researcher averaged 0.48 across the two-year period.

Type	Number of publications, 2015–2016 yearly average		
	DAR	NUL-FA	Per FTE researcher
Journal articles			
International	—	10.5	0.315
Regional	0.5	1.5	0.060
National	—	1.5	0.045
Books	—	0.5	0.015
Books chapters	—	1.5	0.045
<b>Total</b>	<b>0.5</b>	<b>15.5</b>	<b>0.480</b>

## Resources for Lesotho

This factsheet presents recent data on the performance of agricultural research in Lesotho, 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](http://www.asti.cgiar.org) and include:



ASTI's **interactive country page** for Lesotho 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 Lesotho and many other countries.



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

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LESOTHO

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**Current challenges**  
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**Policy observations**  
Increased allocations of funding for infrastructure stemmed from the government's commitment to commercializing agriculture, both in the areas of technology generation and dissemination, and through numerous specialized services, such as seed testing, and pest and disease diagnosis.  
Resolving constraints to researcher capacity is a priority for DAR. Improvements have been made in recent years, but more efforts are needed. One solution, used effectively in other countries, could be hiring recently retired researchers as consultants to train and mentor junior scientists over a transition period.  
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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](http://www.asti.cgiar.org/methodology).

## Acronyms

AgGDP	agricultural gross domestic product
DAR	Department of Agricultural Research
FTE(s)	full-time equivalent(s)
NUL-FA	National University of Lesotho, Faculty of Agriculture
MFLR	Ministry of Forestry and Land Reclamation
PPP(s)	purchasing power parity (exchange rates)
R&D	research and experimental development

## About ASTI, IFPRI, and DAR

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 **Department of Agricultural Research (DAR)**, Lesotho's principal agricultural research agency, falls under the Ministry of Agriculture and Food Security and focuses on crop and livestock research.

ASTI/IFPRI and DAR 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 DAR.

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