





# ZIMBABWE

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## KEY INDICATORS, 2003–2011

Total Public Agricultural Research Spending	2003		2009		2011
US dollars (million constant 2005 prices)	3.7		2.9		5.9
PPP dollars (million constant 2005 prices)	3.6		2.8		5.7
<b>Overall Growth</b>		<b>-22%</b>		<b>105%</b>	
Total Number of Public Agricultural Researchers					
Full-time equivalents (FTEs)	138.0		171.7		176.7
<b>Overall Growth</b>		<b>24%</b>		<b>3%</b>	
Agricultural Research Intensity					
Spending as a share of agricultural GDP	0.39%		0.37%		0.79%
FTE researchers per 100,000 farmers	4.27		5.54		5.60

Note: Acronyms, definitions, and an overview of agricultural R&D agencies are available on page 4.

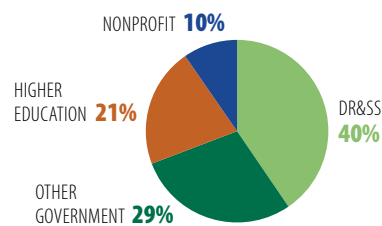
- ▶ Agricultural research spending and staffing levels in Zimbabwe recovered during 2009–2011 after the adoption of a multicurrency regime, which brought economic stabilization and ended the years of hyperinflation.
- ▶ Only 12 percent of agricultural researchers held PhD qualifications in 2011, which is very low compared with other countries in Africa.
- ▶ Agricultural R&D in Zimbabwe is primarily funded by the government, but for the most part that support only covers salaries and not the operating costs or capital investments associated with conducting research.

## FINANCIAL RESOURCES, 2011

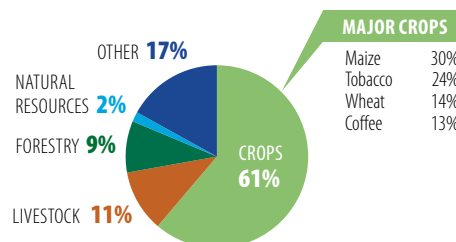
Spending Allocation	
Salaries	67%
Operating and program costs	16%
Capital investments	17%
Funding Sources	
Government	99%
Donors	1%

Note: Shares are based on data for DR&SS only.

## INSTITUTIONAL PROFILE, 2011



## RESEARCH FOCUS, 2011

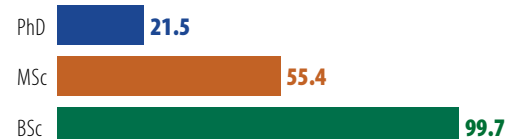


Notes: Major crops include those that are the focus of at least 5 percent of all crop researchers; 19 percent of total crop researchers focused on a wide variety of other crops.

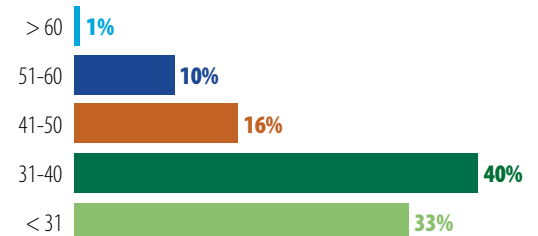
## RESEARCHER PROFILE, 2011



### Number by qualification (FTEs)



### Share by age group (years)



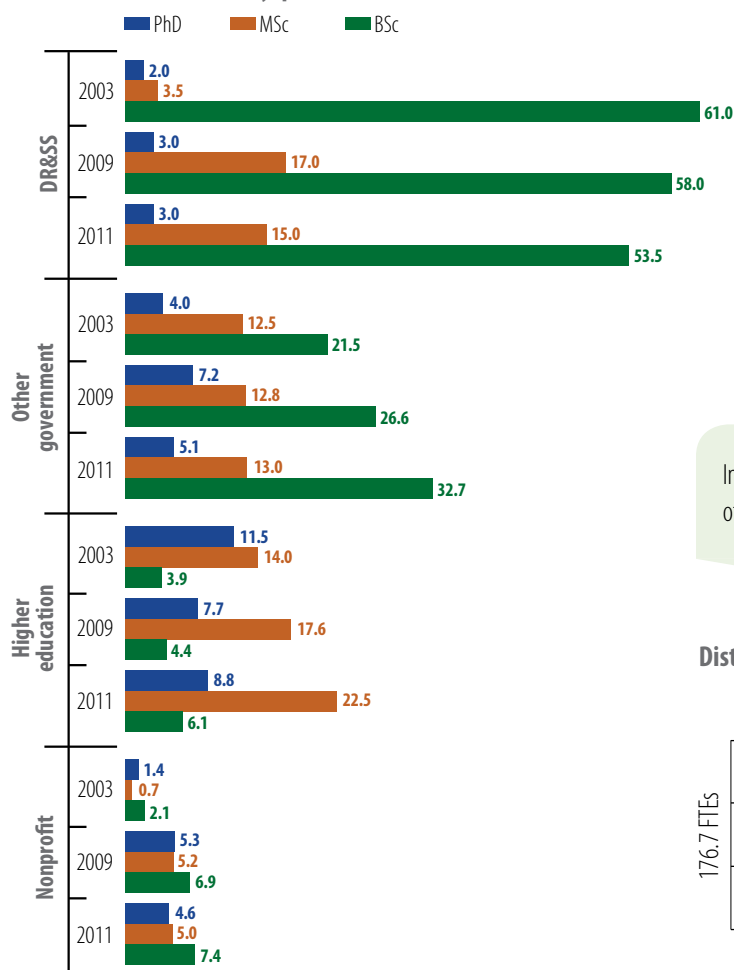
## CHALLENGE

- ▶ Government agricultural research agencies in Zimbabwe employ very few scientists with PhD degrees. Many experienced staff members left the country during 2000–2008, when hyperinflation eroded the value of staff salaries. Even after 2008, low salary levels have acted as an impediment to building research capacity. Newly hired researchers tend to be younger and less well-qualified, and they often seek other employment within a few years.

## POLICY OPTIONS

- ▶ To leverage funding to build research capacity, training opportunities should be sought through bilateral cooperation with countries that already have strong agricultural research systems. Human resource capacity could also be strengthened through a mentorship program and in-house training in program management and research design; multidisciplinary and multi-institutional research collaboration and implementation; and project impact assessment and evaluation.

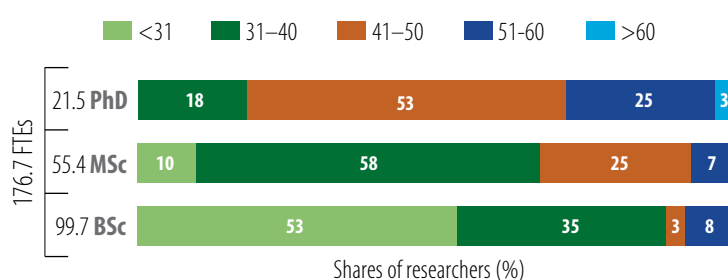
Total number of researchers by qualification level, 2003, 2009, and 2011 (FTEs)



While the number of researchers across all agencies holding PhD degrees changed little between 2003 and 2011, the number holding MSc degrees almost doubled. At DR&SS, despite the growth in the number of researchers with MSc degrees, as of 2011 three-quarters of the agency's researchers were only qualified to the BSc level and hence were in need of further training.

In 2011, three-quarters of Zimbabwe's researchers were under 41 years of age. Half of the total number of researchers were both under 41 years and only held BScs.

Distribution of researchers by age and qualification level, 2011



## 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)
<b>Zimbabwe</b>	<b>176.7</b>	<b>3%<sup>a</sup></b>	<b>12%</b>
Botswana	123.8	26%	20%
Malawi	162.3	41%	20%
Mozambique	313.6	22%	8%

<sup>a</sup> For Zimbabwe, this growth is based on data for the 2009–2011 period.

## CHALLENGE

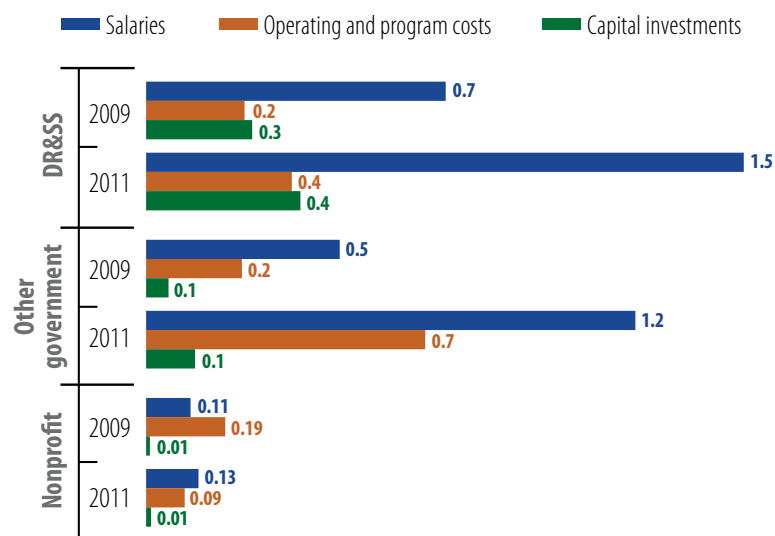
- ▶ Although the 2009 stabilization of Zimbabwe's macroeconomic situation has begun to reverse the decline of the country's government agricultural research system, overall low levels of investment in agricultural research limit its effective contribution to agricultural sector growth.

## POLICY OPTIONS

- ▶ While donor support has shifted from humanitarian assistance to development and recovery programs, it remains to be seen whether there will be an improvement in funding for agricultural research. In the absence of donor support, the government will need to significantly increase its funding allocation. The recent introduction of a results-based mechanism for allocating government budgets is a positive development, but the pool of available funds remains low.

### Spending by cost category across agencies, 2009 and 2011

Million PPP dollars (inflation-adjusted; base year = 2005)



Despite overall spending growth during 2009–2011, expenditures per researcher remained extremely low at Zimbabwe's research agencies. As of 2011, most spending at DR&SS was allocated to salaries (67 percent), with the remaining amount being split between operating and program costs (16 percent) and capital investments (17 percent). Spending also grew during this timeframe at other government agencies, such as the Forestry Commission of Zimbabwe and the Tobacco Research Board, although shares across cost categories remained largely unchanged. Nonprofit agencies spent much less in total but allocated higher shares to operating and program costs (40 percent in 2011).

### ▶ RECENT DEVELOPMENTS RELATING TO AGRICULTURAL RESEARCH POLICY

The relevant ministry, MAMID, is currently working on a comprehensive agricultural policy to set a vision for the country's agricultural sector over the next 20 years and to address existing challenges relating to agricultural research, such as (1) inadequate operating/program budgets (only 3.7 percent of the Ministry's overall budget in 2009 was allocated to agricultural research); (2) inadequate and uncompetitive salary levels, which make keeping well-qualified and experienced researchers an uphill battle; (3) the disruption or discontinuation of numerous long-term research programs due to lack of funding; (4) the deterioration and obsolescence of physical infrastructure and equipment; (5) the low number of published research outputs, precipitated by the dormancy of local agricultural journals due to lack of funding; (6) the contraction in support from the agribusiness sector, mainly due to declining business transactions; (7) the lack of effective linkages between government institutes and universities, and between research and extension, largely due to funding constraints; and (8) the lack of an effective process for setting research priorities.

Zimbabwe participated in the CAADP process in 2009 and expects to attract further sources of funding through the Zimbabwe Agricultural Investment Plan, which the government has endorsed, and which led to the signing of the CAADP Compact in 2013. The principles of CAADP recognize the importance of agricultural research as a path toward agricultural development. Furthermore, under the Zimbabwe Agenda for Sustainable Socio-Economic Transformation, 2013–2018, MAMID is now developing an Agricultural Research and Extension Policy in order to create an enabling environment for investment in research for agricultural development.

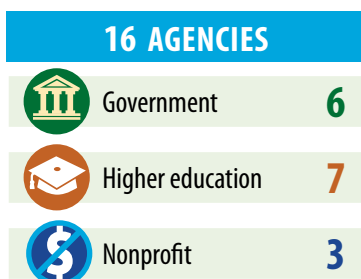
## CROSS-COUNTRY COMPARISONS OF KEY INDICATORS *continued*


	Total spending, 2011 (million 2005 PPP dollars)	Overall spending growth, 2008–2011	Spending as a share of AgGDP, 2011
<b>Zimbabwe</b>	<b>5.7</b>	<b>105%<sup>b</sup></b>	<b>0.79%</b>
Botswana	17.5	-27%	2.44%
Malawi	34.3	110%	1.03%
Mozambique	20.7	14%	0.36%

<sup>b</sup> For Zimbabwe, this growth is based on data for the 2009–2011 period.

## OVERVIEW OF ZIMBABWE'S AGRICULTURAL RESEARCH AGENCIES

Sixteen agencies conduct agricultural R&D in Zimbabwe. The main agricultural R&D agency, DR&SS (employing 72 FTE researchers in 2011), accounts for about 40 percent of the country's agricultural researchers and focuses on crops. Other government agricultural R&D agencies include the Tobacco Research Board (24 FTEs in 2011), Forestry Commission of Zimbabwe (16 FTEs), Institute of Agricultural Engineering (7 FTEs), Department of Livestock and Veterinary Services (4 FTEs), and Pig Industry Board (0.3 FTEs). The higher education sector includes three faculties at the University of Zimbabwe, the largest being the Faculty of Agriculture (19 FTEs). The Faculty of Science, Department of Biological Sciences, and the Faculty of Veterinary Science also conduct some research, as do four other universities that each employed between 2 and 5 FTEs. Three nonprofit agencies—the African Institute for Agrarian Studies, Institute for Rural Technologies, and Ruzivo Trust—also conduct agricultural R&D. Research conducted by private-for-profit companies is minimal and hence is excluded from the analysis presented in this factsheet.



 For a complete list of the agencies included in ASTI's dataset for Zimbabwe, visit [www.asti.cgiar.org/zimbabwe](http://www.asti.cgiar.org/zimbabwe).

## 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](http://www.asti.cgiar.org/methodology); for more information on agricultural R&D in Zimbabwe, visit [www.asti.cgiar.org/zimbabwe](http://www.asti.cgiar.org/zimbabwe).

## ACRONYMS USED IN THIS FACTSHEET

CAADP	Comprehensive Africa Agriculture Development Programme
DR&SS	Department of Research and Specialist Services
FTE(s)	Full-time equivalent (researchers)
MAMID	Ministry of Agriculture, Mechanisation and Irrigation Development
PPP(s)	Purchasing power parity (exchange rates)
R&D	Research and development

## 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.

ASTI/IFPRI gratefully acknowledge participating agricultural R&D agencies for their contributions to the data collection and preparation of this country factsheet. ASTI also thanks the Bill and Melinda Gates Foundation for its 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.

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