

MOZAMBIQUE

RECENT DEVELOPMENTS IN AGRICULTURAL RESEARCH

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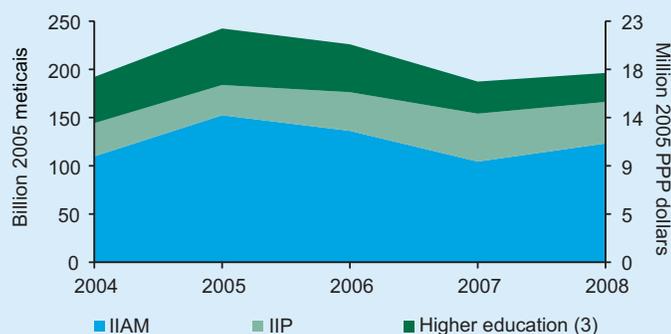
INVESTMENT AND CAPACITY TRENDS IN AGRICULTURAL R&D

Agricultural research and development (R&D) in Mozambique, as with economic and agricultural development more broadly, was greatly constrained by the country's long-fought civil war, which ended in 1992. Since then, Mozambique has made progress in rebuilding its agricultural R&D system. In 2008, investment in agricultural R&D in Mozambique totaled 196 billion meticaïs or 18 million dollars, both in 2005 constant prices (Figure 1; Table 1).¹ Unless otherwise stated, all dollar values in this note are expressed in purchasing power parity (PPP) prices.² PPPs reflect the purchasing power of currencies more effectively than do standard exchange rates because they compare the prices of a broader range of local—as opposed to internationally traded—goods and services. Fluctuations in donor funding appear to have affected year-to-year spending, but overall expenditures averaged 209 billion meticaïs or 19 million dollars over the 2004–08 period. Agricultural research capacity steadily increased after 2004, resulting in a total of 263 full-time equivalent (FTE) researchers in 2008; 100 more than in 2004 (Figure 2). Almost all of this growth, however, took place at government agencies, not in the higher education sector.

Key Trends Since 2004

- Agricultural research and development (R&D) in Mozambique is highly dependent on donor funding, which generally fluctuates from year to year. In addition, government support for research activities has decreased considerably and, coupled with budget restrictions and late and irregular disbursements of funds, has negatively affected the performance of agricultural research.
- Agricultural research capacity has steadily grown since 2004 in terms of numbers of full-time equivalent (FTE) researchers. In 2008, Mozambique employed 263 FTE researchers; however, agricultural research staff is relatively younger and less well-qualified (in terms of postgraduate degrees) compared with other countries in the region.
- The country's main public agricultural R&D agency, the Agricultural Research Institute of Mozambique (IIAM), was created in 2005 through the amalgamation of four research agencies.
- Nonprofit and for-profit private companies, although involved in some collaboration with IIAM and the higher education agencies, continue to have minimal involvement in agricultural R&D in Mozambique.

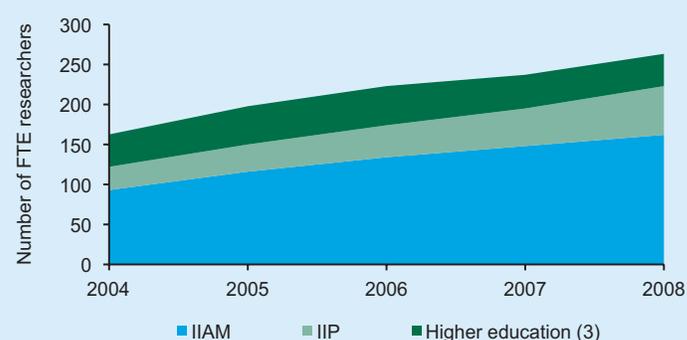
Figure 1—Agricultural R&D spending adjusted for inflation, 2004–08



Source: Calculated by authors from ASTI–IIAM 2009.

Notes: Figures in parentheses indicate the number of agencies in each category. Financial data are presented in “old” Mozambican meticaïs. In July 2006 the “new” metical was introduced at a value equal to 1,000 “old” meticaïs. For more information on coverage and estimation procedures, see the Mozambique country page on ASTI’s website at asti.cgiar.org/mozambique.

Figure 2—Agricultural research staff in full-time equivalents, 2004–08



Source: Calculated by authors from ASTI–IIAM 2009.

Notes: Figures in parentheses indicate the number of agencies in each category. Figure excludes IIAM staff with degrees but without official researcher status.

Table 1—Overview of agricultural R&D spending and research staff levels, 2008

Type of agency	Total spending			Total staffing	
	Mozambican meticaïs (million 2005 prices)	PPP dollars	Shares (%)	Number (FTEs)	Shares (%)
IIAM	123,162.7	11.3	62.7	162.0	61.5
IIP	43,091.3	3.9	22.0	61.0	23.2
Higher education (3)	30,045.0	2.8	15.3	40.3	15.3
Total (5)	196,299.0	18.0	100	263.3	100

Source: Compiled by authors from ASTI-IIAM 2009.

Notes: Figures in parentheses indicate the number of agencies in each category. Table excludes IIAM staff with degrees but without official researcher status.

The Agricultural Research Institute of Mozambique (IIAM) is the country's main agricultural R&D agency, accounting for two-thirds of national agricultural research investments and human resource capacity. IIAM's number of FTE researchers grew significantly, from 93 in 2004 to 162 in 2008. The Fisheries Research Institute (IIP) has also undergone remarkable growth, doubling in size from 29 FTE researchers in 2004 to 61 in 2008, and accounting for 23 percent of the country's total agricultural research capacity. IIP's expenditures also increased, from 34 billion meticaïs in 2004 to 43 billion in 2008, representing 22 percent of total agricultural research expenditures. IIP is responsible for all the country's marine and inland fisheries research.

The higher education sector accounted for 15 percent of total agricultural research capacity in Mozambique in 2008. The main university is Eduardo Mondlane University (UEM), which has two faculties conducting agricultural research: the Faculty of Agronomy and Forestry Engineering and the Faculty of Veterinary Science. Each of these two faculties employed 17 FTE researchers in 2008. Mozambique also has a private university that conducts agricultural research, the Mussa Bin Bique University, which is located in Nampula Province and employed 7 FTE researchers in 2008.

Nonprofit and for-profit private companies, although engaged in some collaboration with IIAM and UEM, were found to have minimal involvement in agricultural R&D in Mozambique. Therefore, analyses in this country note exclude the nonprofit and private sectors.

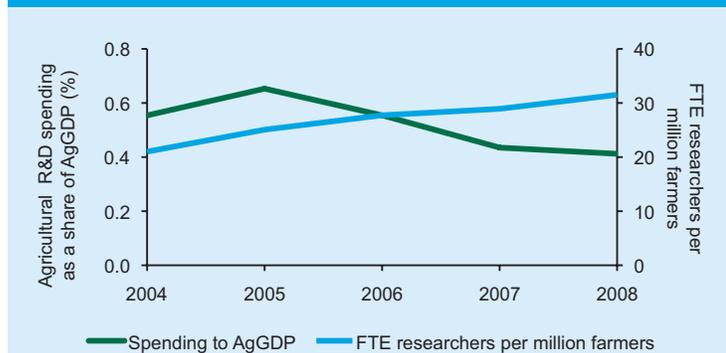
In 2008, female researchers constituted 33 percent of IIAM's total research staff (ASTI-IIAM 2009). The average support-staff-per-researcher ratio decreased from 7.1 in 2004 to 4.4 in 2008 due to the rapid increase in researcher numbers combined with relatively stable support-staff numbers (ASTI-IIAM 2009). IIAM had the highest ratio, at 5.9 support staff per researcher in 2008, compared with 2.2 for IIP and 1.6 for the higher education agencies. Lower support-staff ratios at higher education agencies are common across countries given that research is not their primary mandate.

A common indicator used to compare agricultural R&D spending across countries is the research intensity ratio—that is, total spending on agricultural R&D as a percentage of agricultural output (AgGDP). In 2008, for every \$100 of agricultural output, \$0.41 was invested in agricultural R&D (Figure 3). In comparison, the 2004 ratio was \$0.55 for every \$100, meaning that agricultural R&D expenditure levels did not keep pace with rising AgGDP. Another ratio, the number of FTE agricultural researchers per million farmers, improved from 21 in 2004 to 32 in 2008 due to the growth in research capacity.

INSTITUTIONAL STRUCTURE AND POLICY ENVIRONMENT

The Ministry of Science and Technology (MCT) oversees all research activities in Mozambique.³ In 2006, the government released the Mozambique Science, Technology, and Innovation Strategy (MOSTIS) to serve as a 10-year framework guiding all science, technology, and innovation efforts at research institutes and universities (Republic of Mozambique Council of Ministers 2006). Agriculture is a main area of focus in the strategy, which also calls for a 40-percent increase in the number of science

Figure 3—Intensity of agricultural research spending and capacity, 2004–08



Sources: Calculated by authors from ASTI-IIAM 2009, World Bank 2009, and FAO 2009.

ASTI Website Interaction

- Underlying datasets can be downloaded using ASTI's data tool at www.asti.cgiar.org/data.
- This brief presents aggregated data; additional graphs with more detailed data are available at asti.cgiar.org/mozambique/datatrends.
- A list of the 2 government and 3 higher education agencies included in this brief is available at asti.cgiar.org/mozambique/agencies.

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and technology (S&T) researchers by 2015 and an increase in research investment from 0.2 percent of GDP in 2006 to 0.8 percent in 2010. MCT also established a National Research Council for Agriculture, along with research councils for other sectors (Mouton 2007).

IIAM has four technical directorates: the Directorate of Agriculture and Natural Resources (DARN), the Directorate of Animal Sciences (DCA), the Directorate of Training, Documentation, and Technology Transfer (DFD TT), and the Directorate of Planning, Administration, and Finance (DPAF). The institute also has four Agricultural Research Zonal Centers: South (based in Chokwé), Central (in Chimoio), Northwest (in Nampula), and Northeast (in Lichinga). Until the formation of IIAM in 2005, the directorates were separate entities previously known as the National Institute of Agronomic Research (INIA), the National Institute of Veterinary Research (INIV), the Institute of Animal Production (IPA), and the Center of Forestry (CEF). In addition to these agencies, commodity-focused agencies included the National Sugar Institute, the National Cashew Institute, and the National Cotton Institute. While the cotton and cashew institutes still exist, they do not conduct research. Given that most of the former state sugar farms were privatized, the National Sugar Institute was abolished; the responsibility for promoting private involvement in sugar production now rests with the Agricultural Promotion Center (CEPAGRI).

The reform of IIAM came in response to new agricultural challenges, such as climate change, and hence the need to adopt an integrated approach to agricultural research. Strategic planning has been one of the management tools used to pursue development-oriented research activities that could be easily transferred and adopted by farmers. The IIAM Strategic Plan, which is not yet finalized, calls for structural changes, including the decentralization of research projects and their implementation to the agricultural research zonal centers. IIAM headquarters would be expected to play a more comprehensive coordination role to support the agricultural research zonal centers.

Mozambique's government has continued to prioritize the reduction of absolute poverty and is currently implementing the second Poverty Reduction Strategy Paper (PARPA II), which was approved in 2006. The strategic plan under preparation for the development of the agricultural sector and the Green Revolution Strategy identify agricultural research as one of the principal pillars for increasing agricultural productivity. Agricultural research has boosted agricultural production and reduced the country's per unit production costs. Ex ante calculations of the impact of investment in agricultural research, based on agricultural survey data of the National Rural Income Survey (TIA) in 2002, show that a 10-percent increase in the adoption of improved technologies by smallholders would lead to a 3–4 percent reduction in the level of national income poverty (IIAM 2006).

While UEM is still the main research provider in the higher education sector, several new public and private universities are beginning to conduct some agricultural research and are likely to grow in size over the next decade. These include the School of Marine and Coastal Sciences (ESCMC), the Faculty of Agriculture of the Catholic University (a private university in Cuamba, Niassa Province), and the Higher School of Rural Development (ESUDER), affiliated with UEM and recently opened in Inhambane Province.

Collaboration among national agencies and with regional and international agencies continues to be a significant aspect of agricultural R&D in Mozambique. IIAM and UEM

ASTI Website Interaction

-  Detailed definitions of PPPs, FTEs, and other methodologies employed by ASTI are available at asti.cgiar.org/methodology.
-  The data in this brief are predominantly derived from surveys. Some data were estimated. More information on data coverage is available at asti.cgiar.org/mozambique/datacoverage.
-  More relevant resources on agricultural R&D in Mozambique are available at asti.cgiar.org/mozambique.

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have had a long partnership. Many collaborative projects are implemented jointly with centers of the Consultative Group on International Agricultural Research (CGIAR) and cover research on different commodities and thematic issues. These centers include the International Potato Center (CIP), the International Livestock Research Institute (ILRI), the International Center for Tropical Agriculture (CIAT), the International Maize and Wheat Improvement Center (CIMMYT), the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT), the International Institute of Tropical Agriculture (IITA), the International Center for Agricultural Research in the Dry Areas (ICARDA), and the International Food Policy Research Institute (IFPRI). Other collaborators include the Royal Tropical Institute (KIT) of the Netherlands, the Regional Universities Forum for Capacity Building in Agriculture (RUFORUM), the Southern Africa Root and Tuber Research Network (SARRNET), and the Universities of Michigan (United States) and Bloemfontein (South Africa) (SADC 2008). Mozambique has also signed onto the Southern Indian Ocean Fisheries Agreement (SIOFA), which governs regional fishery resources (Mouton 2007).

RESEARCH STAFF QUALIFICATIONS AND TRAINING

Mozambique's agricultural research staff is relatively young compared with other countries in the region due to the effects of the civil war. In 2007 for example, half the researchers at IIAM were under 40 years old, 43 percent were between 41 years old and 50 years old, and only 7 percent were over 50 years old (ASTI-AWARD 2008). Until 2000 or so, agencies depended substantially on expatriate staff, the universities in particular. BSc-qualified staff accounted for about half Mozambique's total agricultural research capacity in 2008, whereas researchers with MSc degrees comprised 37 percent, and those with PhD degrees

comprised 9 percent (Figure 4). Although absolute numbers of postgraduate staff increased during the 2004–08 period, the number of staff with BSc degrees increased even more. Shares of female researchers at IIAM differed somewhat across the three degree levels. The share was the highest at the BSc level, accounting for 36 percent of total staff numbers in this degree category (ASTI–IIAM 2009). The shares of female researchers with PhD and MSc degrees were lower, however, accounting for 14 and 33 percent of the total number of PhD and MSc-qualified researchers, respectively. Universities worldwide generally have a higher share of agricultural R&D staff with PhD and MSc degrees, and this is true for Mozambique as well. MSc-qualified researchers accounted for more than half of total research capacity, and in 2008 the share of PhD-qualified researchers was 22 percent at the higher education agencies.

Training and capacity shortages are serious issues facing Mozambique’s agricultural R&D agencies. No PhD programs in the agricultural sciences are offered by Mozambique’s universities, and only a few in-country MSc programs are offered. This means that agricultural researchers must leave the country to improve their qualifications. In recent years, a large number of scientists have managed to obtain grants for postgraduate training in South Africa and the United States. For many others, however, insufficient knowledge of the English language is an impediment to studying abroad.⁴ At IIAM, funding for training is limited and has mostly focused on BSc-qualified researchers. At IIP, capacity is also an issue. Most of the staff are hired from universities, and because of shortages at these universities they are sometimes asked to continue teaching. Training is being offered as part of a system of incentives to retain staff. In efforts to improve capacity, from 2008 IIP began investing in technicians in particular. Courses and training have also been offered to encourage MSc- and PhD-qualified staff. Eight to nine staff were expected to complete postgraduate degrees in 2009, and more were due to finish in 2010.

At the Faculty of Agronomy and Forestry Engineering at UEM, continuing efforts are being made to train staff and attract new staff at the technician level specifically focusing on research and to assist with lectures. Generally, 4 to 5 staff are trained to

the PhD level and 3 to 4 to the MSc level each year. The Swedish International Development Cooperation Agency (Sida) is the faculty’s largest donor in terms of training, with a contribution of about US\$6 million per year. MSc theses are funded by Sida, the Food and Agriculture Organization of the United Nations (FAO), and nongovernmental organizations (NGOs). While hiring new staff is not a problem, they require further training to increase their qualifications. The Faculty of Veterinary Science at UEM used to be connected with Portuguese universities and the University of Utrecht, the Netherlands, but some staff members are now traveling to Spain or South Africa to pursue higher education. Both faculties have recently implemented new curriculums and modified their degree structures. In the Faculty of Agriculture, a BSc degree now takes four years to complete, rather than the former five years and three months. At the Faculty of Veterinary Science, the course had been modified from five years and six months to three years for a BSc degree, with an additional two years for an integrated MSc degree.

A new World Bank loan-funded project began in 2010 and is expected to provide US\$40 million for higher education training and capacity building. This Higher Education Science and Technology (HEST) project will direct funding to both MCT and MEC for three main components: strengthening governance and management for S&T, competitive funding for S&T research, and scholarships for both undergraduate and postgraduate studies in strategic S&T areas (World Bank 2010).

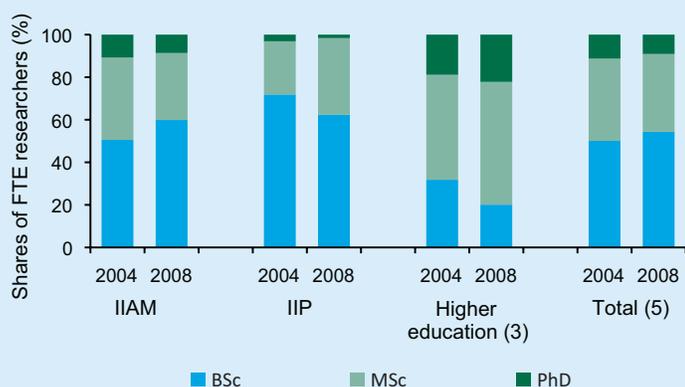
INVESTMENT TRENDS

Expenditures

The allocation of research budgets across salaries, operating costs, and capital investments affects the efficiency of agricultural R&D, so detailed data on cost categories of government agencies were collected as part of this study.

In 2008, salaries accounted for about half of total agricultural R&D spending at IIAM, while operating and program costs accounted for 39 percent, and capital costs for 8 percent (Figure 5). This distribution represents an increase in spending on

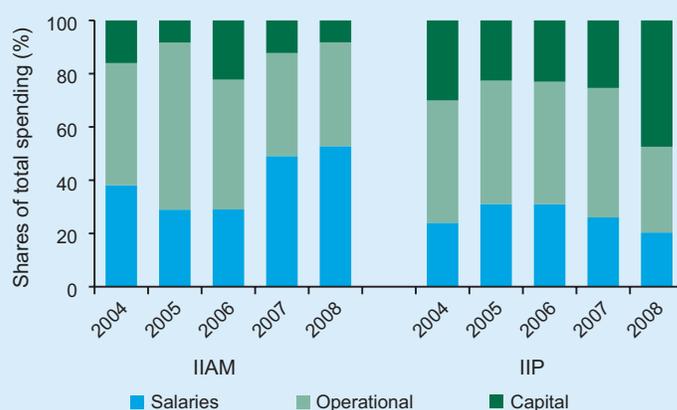
Figure 4—Qualifications of researchers by institutional category, 2004 and 2008



Source: Calculated by authors from ASTI–IIAM 2009.

Notes: Figures in parentheses indicate the number of agencies in each category. Data are for researchers only and therefore exclude 4 technicians holding BSc degrees at IIAM.

Figure 5—Cost category shares of IIAM and IIP, 2004–08



Source: Calculated by authors from ASTI–IIAM 2009.

salaries, reflecting the growing number of researchers. Operating costs were comparatively well-funded, exceeding salary expenses during 2004–06. Over the years, the government and donors have provided funding to IIAM to cover both staff salaries and operating costs.

At IIP, salaries accounted for a lower share of total spending compared with operating and capital costs. In 2008, the salary share was 20 percent, whereas operating and capital costs accounted for 32 and nearly 50 percent, respectively.

Generally, salaries at the government agencies and universities are not competitive with NGOs, international organizations, and the private sector. A large number of MSc/PhD-qualified scientists have left IIAM in recent years for better paid positions in the private sector. Efforts have been made to establish a career track for researchers, improve salaries, and establish performance evaluation systems, but government funding to undertake such reforms is limited. Investment in infrastructure and equipment is also needed across all the agricultural R&D agencies in Mozambique. IIP has significant capital needs, particularly because the boats and equipment needed for marine research are expensive. The growth in students at UEM has also increased capacity and infrastructure needs.

Funding Sources

Agricultural research in Mozambique is funded by the national government and a wide variety of donors, but financial support for research activities has undergone a considerable decline in recent years. Allocation of funds to IIAM, for example, decreased from 10 to 7 percent of the budget of the Ministry of Agriculture (MINAG) between 2006 and 2008, placing the institution in an extremely difficult financial situation. Budget restrictions, coupled with late and irregular disbursements of funds which do not follow the agricultural calendar, hinder the implementation of planned activities and affect the performance of public agricultural R&D institutions in Mozambique.

Since 2004, at least half of the national funding for agricultural R&D was derived from donors (Figure 6). Whereas IIAM increasingly relied on government funding from 2004 to 2008, donor funding was much more erratic. Fluctuations in donor funding are common, as allocations vary from year to year,

and disbursements are not as regular as government allocations. In addition, some projects might end in the middle of a year, and new ones might not start until the following year, resulting in funding gaps. A very small share of funding for IIAM comes from the private sector, but data for the exact levels were unavailable.

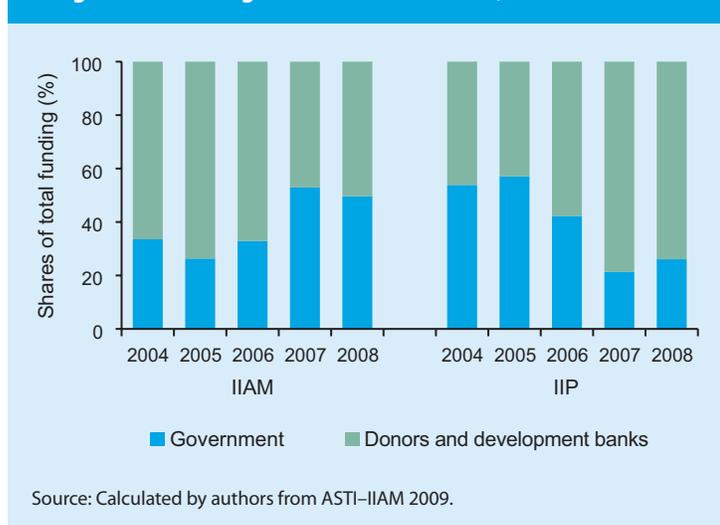
IIAM has a wide variety of donors, including the World Bank, the International Fund for Agricultural Development (IFAD), the Rockefeller Foundation, the Bill and Melinda Gates Foundation (BMGF), the European Union (EU), Austria, Canada, Finland, the Netherlands, the United States Agency for International Development (USAID), the Danish International Development Agency (Danida), and Sida. Many of these donors contributed funds to IIAM through the Agricultural Sector Public Expenditure Program (PROAGRI), which provided US\$202 million to MINAG from 1999 to 2006 (World Bank 2007). As a multi-donor basket-funded program, PROAGRI took a sectorwide approach and was expected to cover all expenditures by MINAG. The government provided cofinancing of US\$22 million. Funding supported three different themes: institutional development, strengthening of agricultural support services, and natural resource management. US\$17 million was allocated to research under the strengthening of agricultural support services theme. Funding was also allocated to institutional reforms, including the merger of the four entities to establish IIAM. The program also emphasized decentralization, as almost half of the funds were managed at the provincial level. After 2006, Phase II of PROAGRI continued along similar themes and was expected to run until 2010. However, the World Bank declined to support PROAGRI II in favor of direct budget support to the government.

In contrast to the trend at IIAM, donor funding at IIP doubled from 2004 to 2008, while government funding decreased. IIP's major donors include the EU, Sida, the Norwegian Agency for Development Cooperation (NORAD), the South West Indian Ocean Fisheries Project (SWIOFP), and the Icelandic International Development Agency (ICEIDA). Also, the United Kingdom has donated laboratory equipment and advanced technology to detect water salinity and the movement of fish.

Several competitive funds for research operate in Mozambique. Managed by MCT, the National Research Fund was established in 2005 to provide independent funding for (agricultural and nonagricultural) S&T research (Mouton 2007). Competitive funds for higher education research include the UEM Research Fund and the Quality and Innovation Fund of the Ministry of Education and Culture (SADC 2008).

A Competitive Grants Program for Agrarian Research in Mozambique (MARGP), later renamed COMPETE, operated with support from USAID and IIAM from 2007 until 2010. This program aimed to strengthen Mozambique's agricultural research system capacity to develop and promote the adoption of improved agricultural technologies, thereby increasing agricultural productivity and sustainable use of natural resources. COMPETE operated with a budget of US\$2.4 million, and the majority of the funding was provided in the form of direct agricultural research grants in close collaboration with IIAM and USAID (USAID–IIAM 2010).

Figure 6—Funding sources of IIAM and IIP, 2004–08



ALLOCATION OF RESEARCH

Given that the allocation of resources across various lines of research is a significant policy decision, detailed information was collected on the number of researchers working in specific commodity and thematic areas (in FTEs).

In 2008, the predominant focus of agricultural research in Mozambique was crops and fisheries. In 2008, 31 percent of researchers were involved in crop research, 24 percent focused on fisheries research, 16 percent focused on livestock, 9 percent on forestry, and 7 percent on natural resources (Figure 7).

Commodity Focus

Taking a closer look at crop and livestock research, commodities such as cassava, maize, and groundnuts were the most heavily researched, with shares of 9 to 12 percent of total FTE crop and livestock researchers across agencies (Table 2). Rice, soybeans, and cotton followed, with shares of 5 to 7 percent. Within livestock research, beef was the most researched commodity, at 14 percent, followed by poultry, at 10 percent, and sheep and goats, at 5 percent.

Thematic Focus

The predominant focus of crop research in Mozambique in 2008 was agronomy. Crop genetic improvement accounted for less than 1 percent of all FTE researchers at IIAM and 2 percent at the higher education agencies (Table 3). Six percent of all FTE researchers focused on crop pest and disease control at both IIAM and the higher education agencies. Livestock management was the main focus for livestock researchers. Livestock genetic improvement accounted for less than 1 percent of researchers at IIAM, while 17 percent focused on livestock pest and disease control. The research focus for the remaining researchers included natural resources, socioeconomics, food safety, farming systems, and postharvest issues.

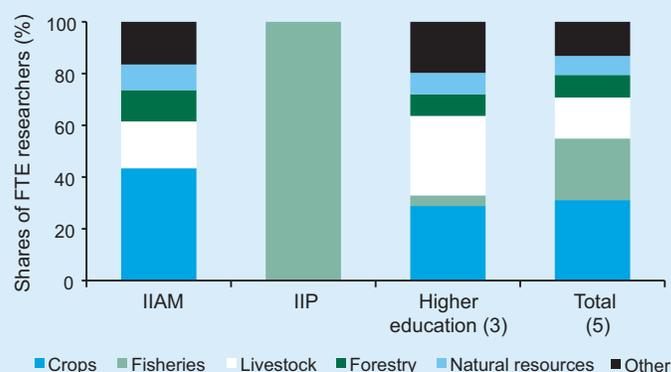
Table 2—Crop and livestock research focus by major item, 2008

	IIAM	Higher education (3)	Total (4)
Crop items	Shares of FTE researchers (%)		
Cassava	12.5	9.3	11.9
Maize	10.7	4.7	9.6
Groundnuts	8.8	9.3	8.9
Rice	8.9	—	7.2
Soybeans	7.3	3.5	6.6
Cotton	3.6	10.5	4.9
Other crops	18.7	11.1	17.2
Livestock items			
Beef	14.3	10.3	13.5
Poultry	7.2	24.1	10.4
Sheep and goats	4.4	6.9	4.9
Other livestock	3.6	10.3	4.9
Total crop and livestock	100	100	100

Source: Calculated by authors from ASTI-IIAM 2009.

Notes: Figures in parentheses indicate the number of agencies in each category. IIP did not conduct any crop or livestock research.

Figure 7—Research focus by major commodity area, 2008



Source: Calculated by authors from ASTI-IIAM 2009.

Note: Figures in parentheses indicate the number of agencies in each category.

CONCLUSION

Mozambique's agricultural R&D capacity levels increased between 2004 and 2008, particularly at the government agencies; however, human resource capacity and training are still major needs across all agencies. As a group, researchers in Mozambique are younger than in many other African countries, and shares of staff with postgraduate degrees are much lower. BSc-qualified researchers accounted for half of the country's agricultural research capacity in 2008. Despite agency and donor training efforts, much greater investment is needed in this area to increase staff qualifications to the levels necessary. The HEST project, beginning in 2010, will contribute to capacity improvement, but it is focused on S&T in general and not

Table 3—Research focus by major theme, 2008

	IIAM	Higher education (3)
	Shares of FTE researchers (%)	
Crop genetic improvement	0.7	2.1
Crop pest and disease control	6.4	6.3
Other crop	35.3	9.0
Livestock genetic improvement	—	2.0
Livestock pest and disease control	17.1	6.1
Other livestock	3.5	30.7
Soil	7.1	2.1
Other natural resources	12.1	4.2
Postharvest	1.4	6.3
Farming systems	1.4	8.0
Socioeconomics	9.3	9.0
Other	5.7	14.2
Total	100	100

Source: Calculated by authors from ASTI-IIAM 2009.

Note: Figures in parentheses indicate the number of agencies in each category.

agricultural S&T in particular. The lack of national PhD programs in the agricultural sciences is also a significant constraint to improving qualification levels.

Mozambique's government has taken steps to support national S&T research, with efforts including the creation of MCT and IIAM, competitive research financing vehicles, reform of the university degree structure, and the initiation of the HEST project. However, such a high degree of dependence on donors for research funding leaves agricultural R&D vulnerable to shifts in donor priorities and processes. In addition, budget restrictions and unpredictable disbursements by the government make the effective management of research funds a challenge for the agencies. The research intensity ratio indicates that investment in agricultural R&D is still quite low in Mozambique in relation to its overall importance to the economy.

NOTES

¹ Financial data are presented in "old" Mozambican metical, the national currency in 2005, which is the base year of the inflation-adjusted time series. In July 2006 the "new" metical was introduced at a value equal to 1,000 "old" meticals.

² Financial data are also available in current local currencies or constant 2005 U.S. dollars via ASTI's Data Tool, accessible at www.asti.cgiar.org/data.

³ The Ministry of Higher Education, Science and Technology was established in 2000 and divided into MCT and the Ministry of Education and Culture (MEC) in 2005.

⁴ Many scientists first need to pass a Test of English as a Foreign Language (TOEFL) course so that they can apply for grants at foreign universities.

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IFPRI-ROME

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IFPRI is one of 15 agricultural research centers that receive their principal funding from governments, private foundations, and international and regional organizations, most of which are members of the Consultative Group on International Agricultural Research (www.cgiar.org).

IIAM is the principal agricultural research agency in Mozambique. The institute was established in 2005 and holds a broad mandate covering crop, livestock, forestry, and natural resources research. To learn more about IIAM visit <http://www.iiam.gov.mz/>.

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