





# THE GAMBIA

Kathleen Flaherty and Faye Manneh

## KEY INDICATORS, 2001–2011

| Total Public Agricultural Research Spending     | 2001  |   | 2008  |   | 2011  |
|---|-------|---|-------|---|-------|
| Dalasis (million constant 2005 prices)          | 37.2  |   | 33.2  |   | 41.6  |
| PPP dollars (million constant 2005 prices)      | 4.9   |  | 4.4   |  | 5.5   |
| <b>Overall Growth</b>                           |       | <b>-11%</b>   |       | <b>25%</b>  |       |
| Total Number of Public Agricultural Researchers |       |   |       |   |       |
| Full-time equivalents (FTEs)                    | 58.2  |  | 50.2  |  | 65.9  |
| <b>Overall Growth</b>                           |       | <b>-14%</b>   |       | <b>31%</b>  |       |
| Agricultural Research Intensity                 |       |   |       |   |       |
| Spending as a share of agricultural GDP         | 0.90% |   | 0.67% |   | 1.03% |
| FTE researchers per 100,000 farmers             | 12.31 |   | 8.77  |   | 10.59 |

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

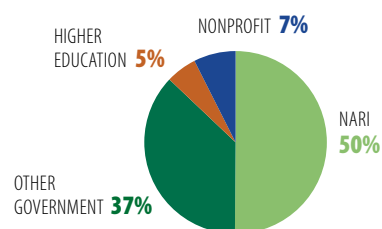
- ▶ Despite substantial fluctuations in yearly spending patterns, agricultural research spending in The Gambia rose by 25 percent during 2008–2011, primarily due to increased donor funding.
- ▶ As of 2011, only 9 percent of the country's agricultural researchers were qualified to the PhD degree level. This share is one of the lowest among African countries and is of concern given that a critical mass of PhD-qualified researchers is necessary to ensure the quality and effectiveness of research.
- ▶ The country's agricultural R&D investment as a share of agricultural GDP increased during 2008–2011 as a result of higher agricultural R&D spending combined with declining agricultural GDP levels.

## FINANCIAL RESOURCES, 2011

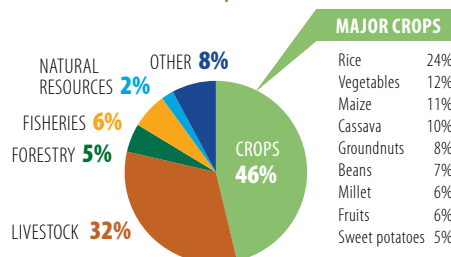
| Spending Allocation         |     |
|-----------------------------|-----|
| Salaries                    | 62% |
| Operating and program costs | 38% |
| Capital investments         | 1%  |
| Funding Sources             |     |
| Government                  | 70% |
| Donors                      | 29% |
| Sales of goods and services | 1%  |

Note: Shares are based on data for NARI only.

## INSTITUTIONAL PROFILE, 2011



## RESEARCH FOCUS, 2011



### MAJOR CROPS

|                |     |
|----------------|-----|
| Rice           | 24% |
| Vegetables     | 12% |
| Maize          | 11% |
| Cassava        | 10% |
| Groundnuts     | 8%  |
| Beans          | 7%  |
| Millet         | 6%  |
| Fruits         | 6%  |
| Sweet potatoes | 5%  |

Notes: Major crops include those that are the focus of at least 5 percent of all crop researchers; 11 percent of total crop researchers focused on a wide variety of other crops.

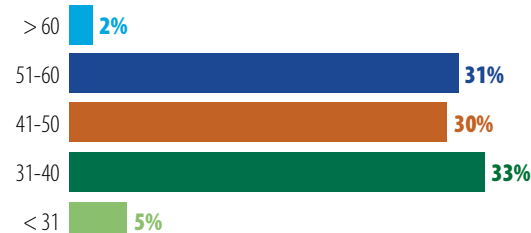
## RESEARCHER PROFILE, 2011



### Number by qualification (FTEs)



### Share by age group (years)



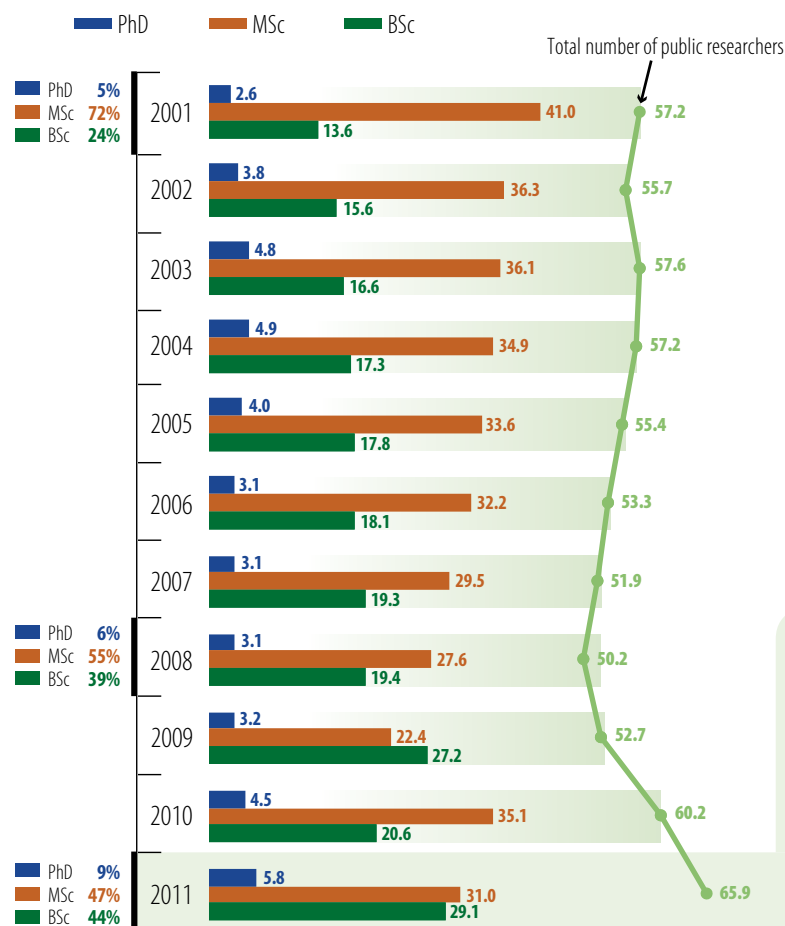
## CHALLENGES

- Gambian agricultural research agencies employ few researchers with PhD degrees, and a significant number of these researchers are approaching retirement age. At the same time, a large number of junior researchers need further degree training and mentoring to ensure the continuity and quality of research into the future.

## POLICY OPTIONS

- Strengthening the capacity of the current pool of junior agricultural researchers should remain an institutional and policy priority in The Gambia. Various donors have funded training on an ad hoc basis, but a coordinated training and mentoring strategy is needed, accompanied by secure and consistent funding.

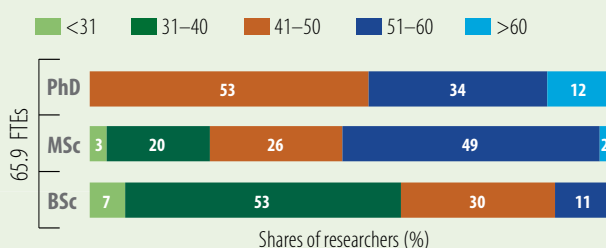
Public agricultural researchers by degree qualification, 2001–2011 (FTEs)



After a slight decline, the number of agricultural researchers increased overall after 2008 despite yearly fluctuations in qualification levels. Nevertheless, the number of researchers with PhD degrees (6 FTEs in 2011) remains very low. From 2009 to 2010, the number of MSc-qualified researchers increased because ten of NARI's researchers completed training across various disciplines in Ghana with funding from the FARA-led SCARDA program.

One-third of the researchers are in their fifties and sixties, and half of those with MSc and PhD degrees are nearing retirement age. In contrast, 60 percent of researchers with BSc degrees are younger than 41 years old.

Distribution of researchers by age bracket and degree, 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>The Gambia</b> | <b>65.9</b>                              | <b>31%</b>                                 | <b>9%</b>                             |
| Liberia           | 45.1                                     | 139% <sup>a</sup>                          | 11%                                   |
| Senegal           | 112.2                                    | –16%                                       | 70%                                   |
| Sierra Leone      | 81.7                                     | 39%  | 17%                                   |

<sup>a</sup> Growth rates for Liberia are for 2009–2011.

## CHALLENGE

- ▶ NARI's funding is primarily provided by the government, and most of those funds are allocated to the cost of salaries. The institute depends on donor funding through collaborative research programs to cover essential operating costs and capital investments, but spending in these areas has fluctuated over time. In particular, capital investment levels were very low during 2009–2011, causing a deterioration of infrastructure and equipment.

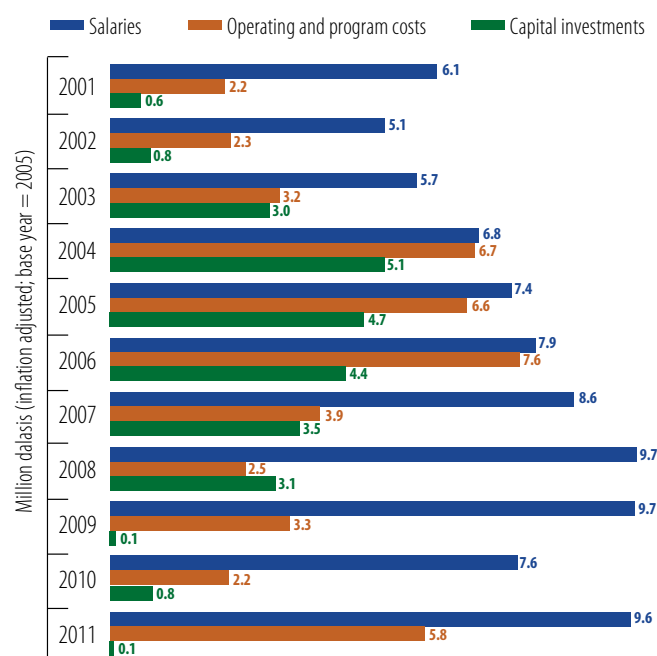
## OBSERVATION

- ▶ Properly supplied and functioning laboratories are crucial to the conduct of effective research. While WAAPP has begun to provide some funds for the refurbishment of laboratories and facilities, infrastructure needs are still significant, in particular laboratory equipment and space.

### ▶ RECENT EFFORTS TO STRENGTHEN HUMAN AND INSTITUTIONAL CAPACITY

- In 2010, NARI established a biotechnology program focusing on identifying diseases, shortening the response time required for identification and characterizing hotspots. Unfortunately, the new equipment acquired for the program is still under-utilized because staff have yet to be adequately trained and the institute lacks the necessary reagents to conduct analyses.
- Since 2012 researchers have become more directly involved in management and decisionmaking processes, and have greater autonomy in writing research proposals and seeking funding. The institute has also established a Scientific Research Committee to enhance the quality of its research.
- The World Bank–funded WAAPP was initiated in The Gambia in 2012 with the objective of enhancing food security and reducing poverty by improving the productivity of the rice, maize, groundnuts, small ruminants, and poultry value chains. As an implementing partner, NARI is receiving support to the value of US\$8 million for an initial five-year period (with a possible second five-year term depending on performance) to fund facility rehabilitation, equipment provision, capacity building, and operating costs relating to research programs on these priority commodities. In 2013 WAAPP funding enabled two of NARI's researchers to begin PhD training and a further six to begin MSc training in Ghana. Six more researchers from NARI were set to commence PhD (5) and MSc (1) training in 2014.
- Also in 2013, WASCAL committed to sponsoring PhD training for another researcher, and the German government began sponsoring a further two researchers in undertaking MSc and PhD training, respectively.

NARI's expenditures by cost category, 2001–2011



Levels of operating and program costs almost equaled spending on salaries from 2004 to 2006. Thereafter, spending on these types of costs was much lower, until 2011 when donor funding boosted such spending once again. From 2009 to 2011, capital investments accounted for an average of 3 percent of total expenditures, compared with 21 percent, on average, from 2001 to 2008.

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


|                   | Total spending, 2011<br>(million 2005 PPP dollars) | Overall spending growth,<br>2008–2011 | Spending as a share<br>of AgGDP, 2011 |
|-------------------|--|---------------------------------------|---------------------------------------|
| <b>The Gambia</b> | <b>5.5</b>   | <b>25%</b>                            | <b>1.03</b>                           |
| Liberia           | 4.8  | 21% <sup>b</sup>                      | 0.42                                  |
| Senegal           | 24.8   | 4%                                    | 0.83                                  |
| Sierra Leone      | 6.9  | 5%                                    | 0.21                                  |

<sup>b</sup>. Growth rates for Liberia are for 2009–2011.

## OVERVIEW OF THE GAMBIA'S AGRICULTURAL RESEARCH AGENCIES

Ten agencies conduct agricultural R&D in The Gambia. The main government agency, NARI (employing 33 FTEs in 2011), accounts for half of the country's agricultural researchers and holds a broad mandate covering crop, livestock, forestry, fisheries, and natural resources research. NARI comprises two main research stations and is administered by the Ministry of Agriculture. The Sapu station focuses its activities in the east of the country, whereas the Brikama station focuses its activities in the west. An additional five satellite sites operate in various parts of the country. The next largest of the government agencies are the Department of Livestock Services (12 FTEs) and National Nutrition Agency (6 FTEs). The remaining four government agencies are small in terms of researcher capacity (less than 3 FTEs). Two higher education agencies conduct agricultural research: the Faculty of Science and Agriculture at University of The Gambia (2 FTEs) and the Gambia College School of Agriculture (2 FTEs). The country also has one nonprofit agency that conducts agricultural R&D: the International Trypanotolerance Center (5 FTEs). Research conducted by the private-for-profit sector in The Gambia is minimal.



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

## 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 The Gambia, visit [www.asti.cgiar.org/thegambia](http://www.asti.cgiar.org/thegambia).

## ACRONYMS USED IN THIS FACTSHEET

|                |  |
|----------------|--|
| <b>AgGDP</b>   | Agricultural gross domestic product  |
| <b>FARA</b>    | Forum for Agricultural Research in Africa                                  |
| <b>FTE(s)</b>  | Full-time equivalent (researchers)   |
| <b>NARI</b>    | National Agricultural Research Institute                                   |
| <b>PPP(s)</b>  | Purchasing power parity (exchange rates)                                   |
| <b>R&amp;D</b> | Research and development   |
| <b>SCARDA</b>  | Strengthening Capacity for Agricultural Research & Development in Africa   |
| <b>WAAPP</b>   | West Africa Agricultural Productivity Programme                            |
| <b>WASCAL</b>  | West African Science Service Center on Climate Change and Adapted Land Use |

## ABOUT ASTI, IFPRI, AND NARI

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 **National Agricultural Research Institute (NARI)** is The Gambia's main agricultural R&D agency; the institute falls under the Ministry of Agriculture and conducts crop, livestock, forestry, fisheries, and natural resources research.

ASTI/IFPRI and NARI 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 or NARI.

Copyright © 2014 International Food Policy Research Institute and National Agricultural Research Institute. Sections of this document may be reproduced without the express permission of, but with acknowledgment to, IFPRI and NARI. For permission to republish, contact [ifpri-copyright@cgiar.org](mailto:ifpri-copyright@cgiar.org).