Agricultural R&D Indicators Factsheet Update | December 2018

GAMBIA

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Key Trends and Developments

- Agricultural research spending in The Gambia followed a volatile trend during 2000–2016 (in inflation adjusted terms). Levels spiked during 2010–2012 due to WAAPP-related activities to enhance the country's research on rice and other cereals. Thereafter, spending contracted.
- The Gambia invested 0.88 percent of its AgGDP in agricultural research, which is close to the 1 percent minimum level recommended by the United Nations and African Union.
- The Gambia's national agricultural research system is one of the smallest in Africa, and capacity in the higher education sector is extremely limited. Despite spending volatility, the total number of agricultural researchers has remained relatively constant over time, at around 45–60 FTEs. Numbers fell after the 2012 completion of WAAPP but, as of 2016, had rebounded.

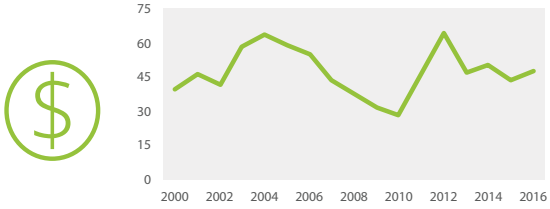
Current Challenges

- As with spending, funding for agricultural research in The Gambia has been volatile and highly donor-dependent. Government allocations to NARI are mainly for salaries, so donor funding is essential to meet operating costs and allow investment in infrastructure. Although WAAPP provided some funding to rehabilitate infrastructure, more is needed—especially for laboratory space and equipment.
- Gambian agricultural research agencies employ few researchers with PhD degrees, and a significant number of these senior researchers are approaching retirement age. As of 2016, only 11 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.

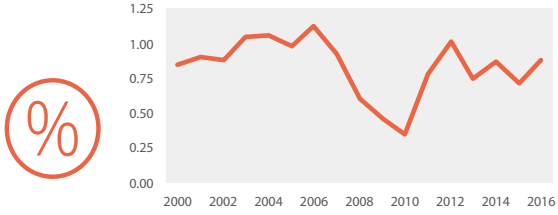
Policy Developments and Options

- NARI needs to take steps to address its human resource constraints. This will involve hiring PhD-qualified researchers capable of leading research programs, as well as developing training and mentoring programs for their younger researchers.
- WAATP—a follow-up to WAAPP, which will be initiated in 2019—is intended to strengthen the region's agricultural innovation system, ultimately facilitating the mass adoption of climate-smart technologies, enhancing job creation for youth, and increasing value chain actors' access to regional markets for targeted products. It remains unclear, however, what share of WAATP funding will flow to The Gambia's national agricultural research system.

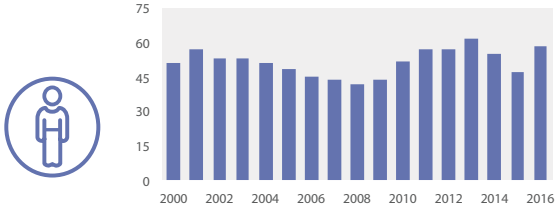
AGRICULTURAL RESEARCH SPENDING



SPENDING INTENSITY



AGRICULTURAL RESEARCHERS

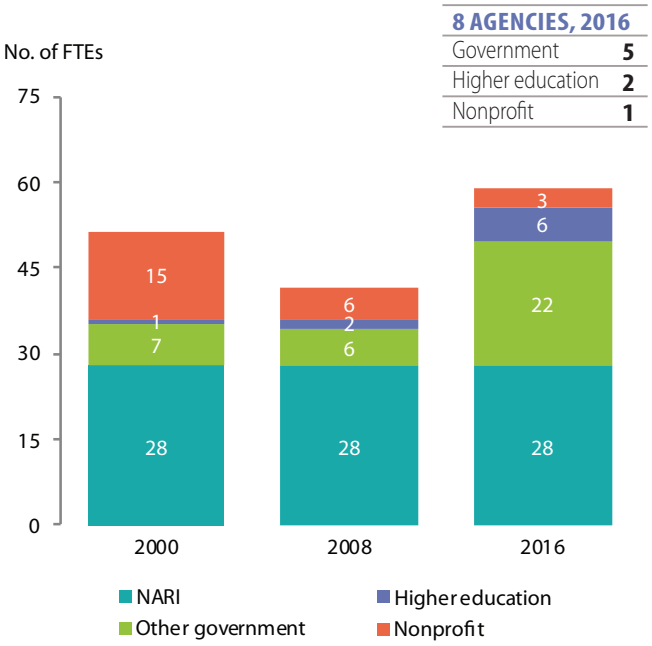


	GAMBIA	GHANA	MAURITANIA	SENEGAL
Million LCUs (2011 constant prices)	47.5			
Million PPP dollars (2011 constant prices)	4.8	178.6	18.5	51.5
Agricultural research spending as a share of AgGDP	0.88%	0.91%	0.49%	0.89%
Full-time equivalents	58.8	598.9	102.0	144.7
Share of researchers with MSc and PhD degrees	60%	94%	67%	100%

Notes: Data in the table above are for 2016. 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/thegambia/directory** for an overview of Gambia's agricultural R&D agencies.

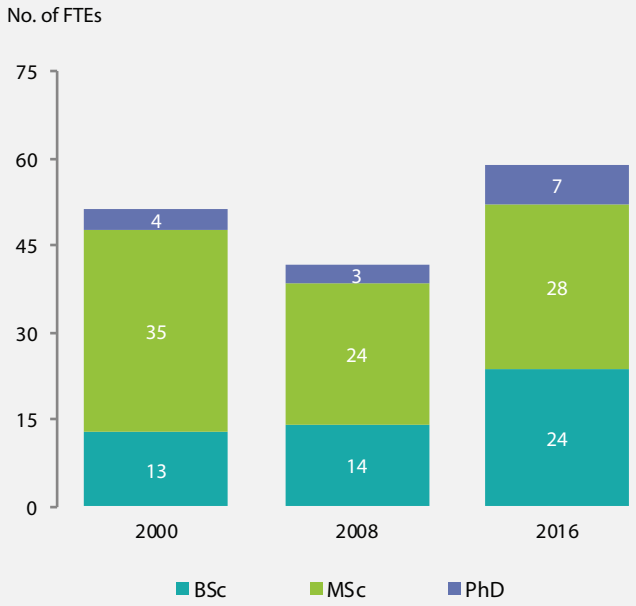
Institutional composition of agricultural research

The overall institutional composition of the country's research has changed little since 2000. The majority of FTE researchers are employed at the country's main agricultural research agency, NARI, and at four other government agencies, as well as the West Africa Livestock Innovation Center, a nonprofit institution. The higher education sector in The Gambia is very small.



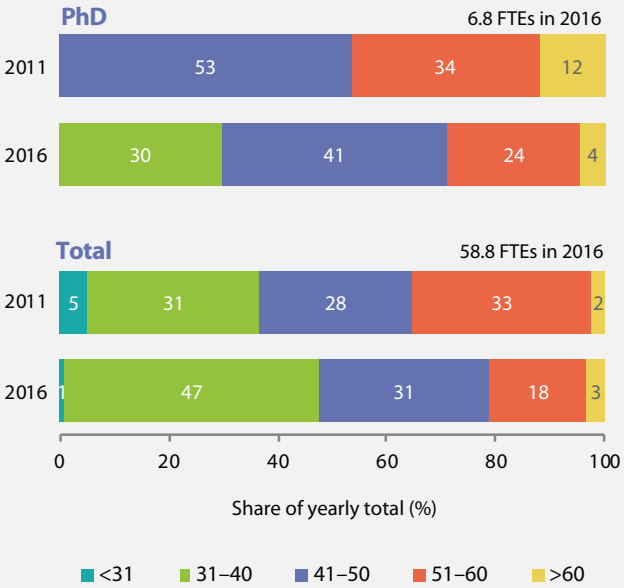
Agricultural researchers by qualification level

The Gambia's total number of agricultural researchers (in FTEs) fluctuated from 45 to 60 researchers during 2000–2016. With only 7 PhD-qualified researchers as of 2016, the country lacks a critical mass of senior researchers to lead projects.



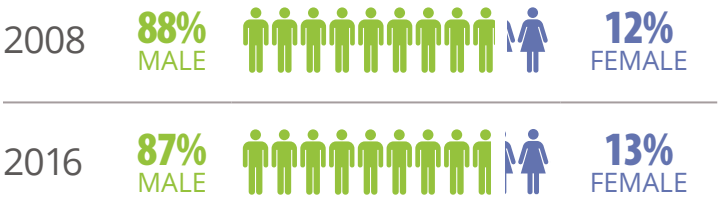
Distribution of agricultural researchers by age bracket

As of 2016, the distribution of agricultural researchers by age bracket was fairly even, with about one-third under 41 years of age, one-third in their 40s, and one-third over 50 years old. Overall, the pool of researchers has become younger over time. In 2016, 21 percent of researchers were in their 50s and 60s, compared with 35 percent in 2011.



Agricultural researchers by gender

At only 13 percent, the Gambia's share of female researchers is one of the lowest in the region, and it increased only marginally during 2008–2016. In 2016, none of the country's 7 PhD-qualified agricultural researchers were female (in FTEs).



Share of women within each qualification level, 2016

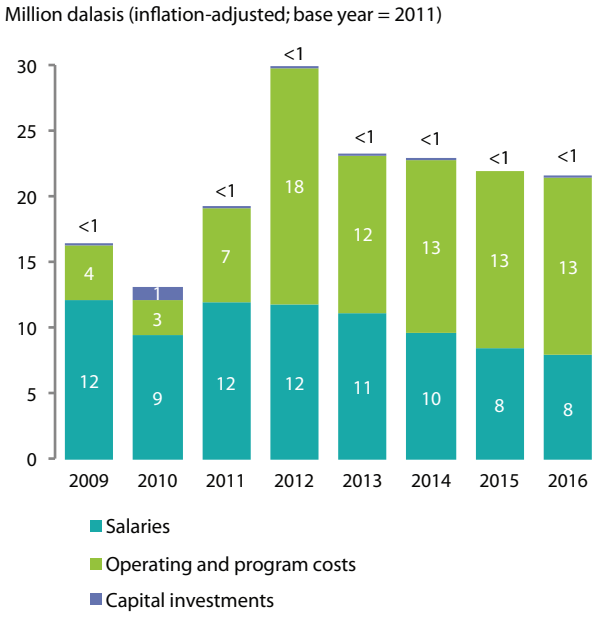
BSc **18%**	MSc **12%**	PhD **0%**

Share of women by age bracket, 2016

< 41 **64%**	41–50 **55%**	> 50 **46%**

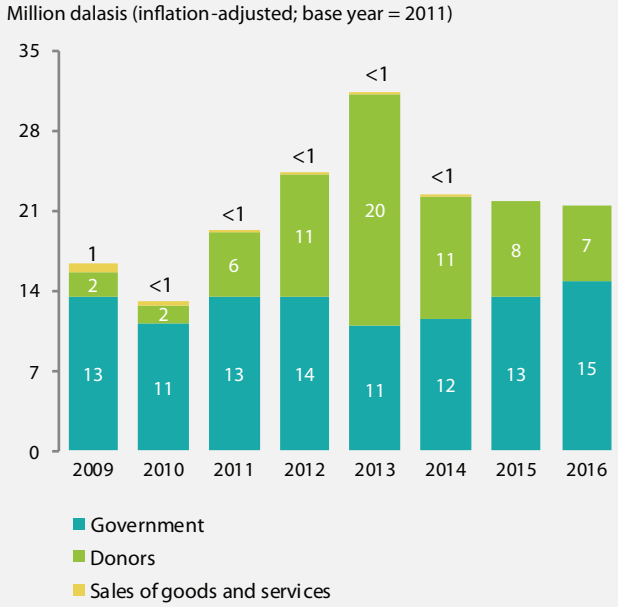
NARI's spending by cost category

NARI's operating and program costs rose substantially during 2009–2016, largely due to a World Bank grant for research activities under WAAPP. Capital investments were negligible during this timeframe.



NARI's sources of funding

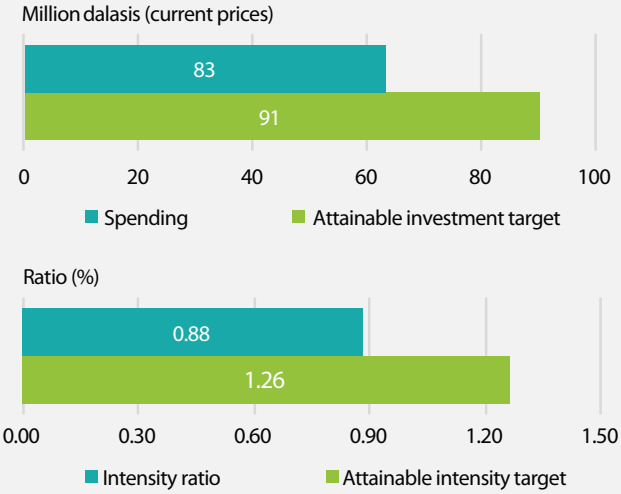
Government funding to NARI, in inflation-adjusted terms, remained relatively stable over time, while donor funding exhibits considerable fluctuation from one year to the next. The 2011 initiation of WAAPP—a US$12 million World Bank grant in support of the country's agricultural sector—prompted a large influx of funds to NARI. The institute also received grants from various other donors such as Aid Cananda, CORAF/WECARD, and AfricaRice. Grant funding for NARI, however, is in a steady decline.



Investment levels needed to close the intensity gap

The Gambia is close in reaching the 1 percent agricultural research investment target set by the United Nations and African Union. Analyses indicate that a higher target of 1.26 would be attainable. In order to have met this higher target in 2016, the country would need to have invested 91 million dalasis, or an additional 27 million (both in current prices).

Actual and attainable spending, 2016

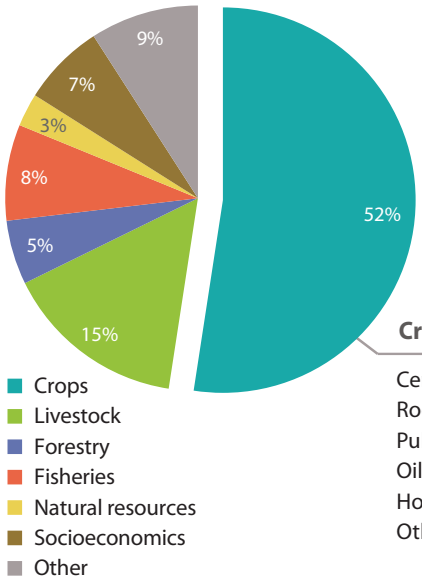


Notes: Traditionally, agricultural research intensity ratios compare investment and AgGDP levels to determine whether countries may be underinvesting. ASTI's Intensity Index incorporates additional factors that account for the size and nature of a nation's economy and hence facilitate more accurate cross-country comparisons. For more information, see https://astinews.ifpri.info/2017/07/01/a-new-look-at-research-investment-goals-for-ssa/.

Agricultural researchers by area of focus

In 2016, 52 percent of the country's agricultural FTE researchers conducted crop research, whereas 15 percent undertook livestock research. Major crops under investigation were rice, maize, cassava, vegetables, sweet potatoes, and cowpeas.

Share of researchers, 2016



Crop categories

Cereals	28 %
Roots and tubers	8 %
Pulses	4 %
Oil-bearing crops	2 %
Horticultural crops	8 %
Other crops	2 %

Resources for The Gambia

This factsheet presents recent data on the performance of agricultural research in The Gambia, 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 The Gambia 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 The Gambia and many other countries.

ASTI's **agency directory** provides a view of agencies that conduct agricultural research in The Gambia, 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 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**.

Acronyms

AgGDP	agricultural gross domestic product
CORAF/ WECARD	West and Central Africa Council for Agricultural Research and Development
FTE(s)	full-time equivalent(s)
NARI	National Agricultural Research Institute
PPP(s)	purchasing power parity (exchange rates)
R&D	research and experimental development
WAAPP	West Africa Agricultural Productivity Program
WAATP	West African Agricultural Transformation Program

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 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 NARI.