ASTI Agricultural Science & Technology Indicators

IFPRI INTERNATIONAL FOOD POLICY RESEARCH INSTITUTE
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Female Participation in African Agricultural Research and Higher Education: New Insights

Nienke Beintema

Head, Agricultural Science &Technology Indicators (ASTI) initiative, IFPRI-Rome office

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International efforts to measure female participation in S&T

- Women are still underrepresented in (agricultural) S&T systems in most countries
- Increased female participation is important for gender-balance; but also to tap substantial additional S&T resources
- Female farmers play an important role in African agriculture (accounting 60-80% of total agricultural workforce); addressing their needs requires increased female participation in S&T
- Women have different insights, so their participation along with men more fully addresses the unique and pressing challenges facing both female and male farmers in Africa

International efforts to measure female participation in S&T (cont'd)

- Gender-disaggregated information on participation in S&T, over time and across countries, is key for national and international decision-makers
- Information remains scare, and when available, they do not always use common data methodologies and collection approaches
- Since mid-1990s more attention to benchmarking gender-disaggregated S&T human resources
- To facilitate cohesion, UNESCO developed a toolkit on gender indicators in science, engineering, and technology (published in 2007)
- Number of international efforts have been ongoing: UNESCO, NSF, European Union/Eurostat (*She Figures* series)

Gender–disaggregated indicators on agricultural R&D capacity

- Benchmarking study conducted by ASTI initiative and AWARD fellowship program
- **Agricultural Science and Technology Indicators (ASTI) initiative** compiles, analyzes, and publishes data on institutional developments, investments, and human resources in agricultural R&D in low- and middle-income countries
- **African Women in African Agricultural Research (AWARD) program** offers competitive two-year fellowships focusing on building capacity in science, mentoring, and leadership are offered to high-performing female African scientists

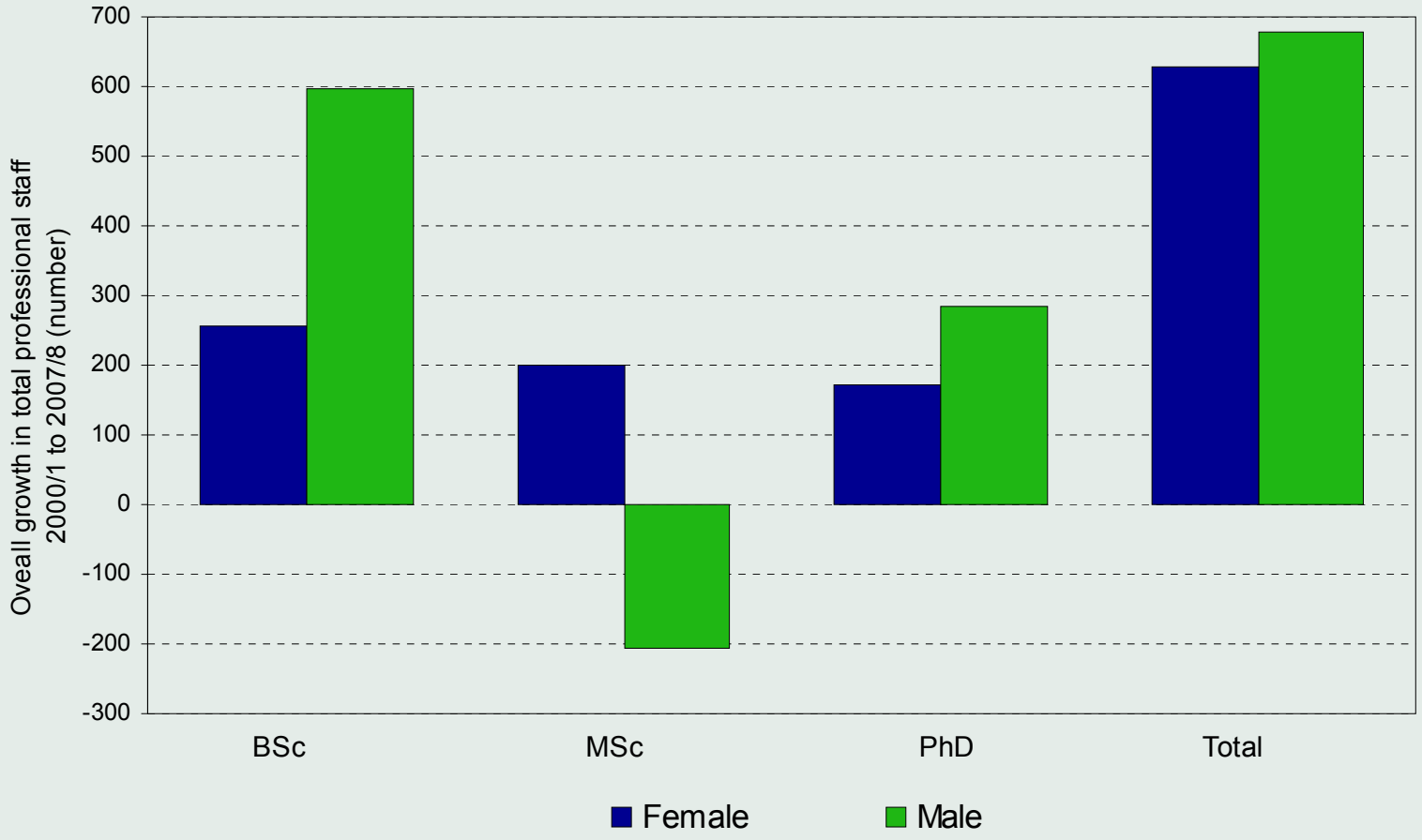
Gender–disaggregated indicators on agricultural R&D capacity (cont'd)

- Objective: to fill the information gap on gender-disaggregated capacity levels in African agricultural research
- Surveyed main agricultural government and higher education agencies involved in agricultural research in 15 sub-Saharan African countries
- Data by gender on professional staff by degree, age group, seniority, years of service, discipline mix, departures, promotions; student enrollments and graduations

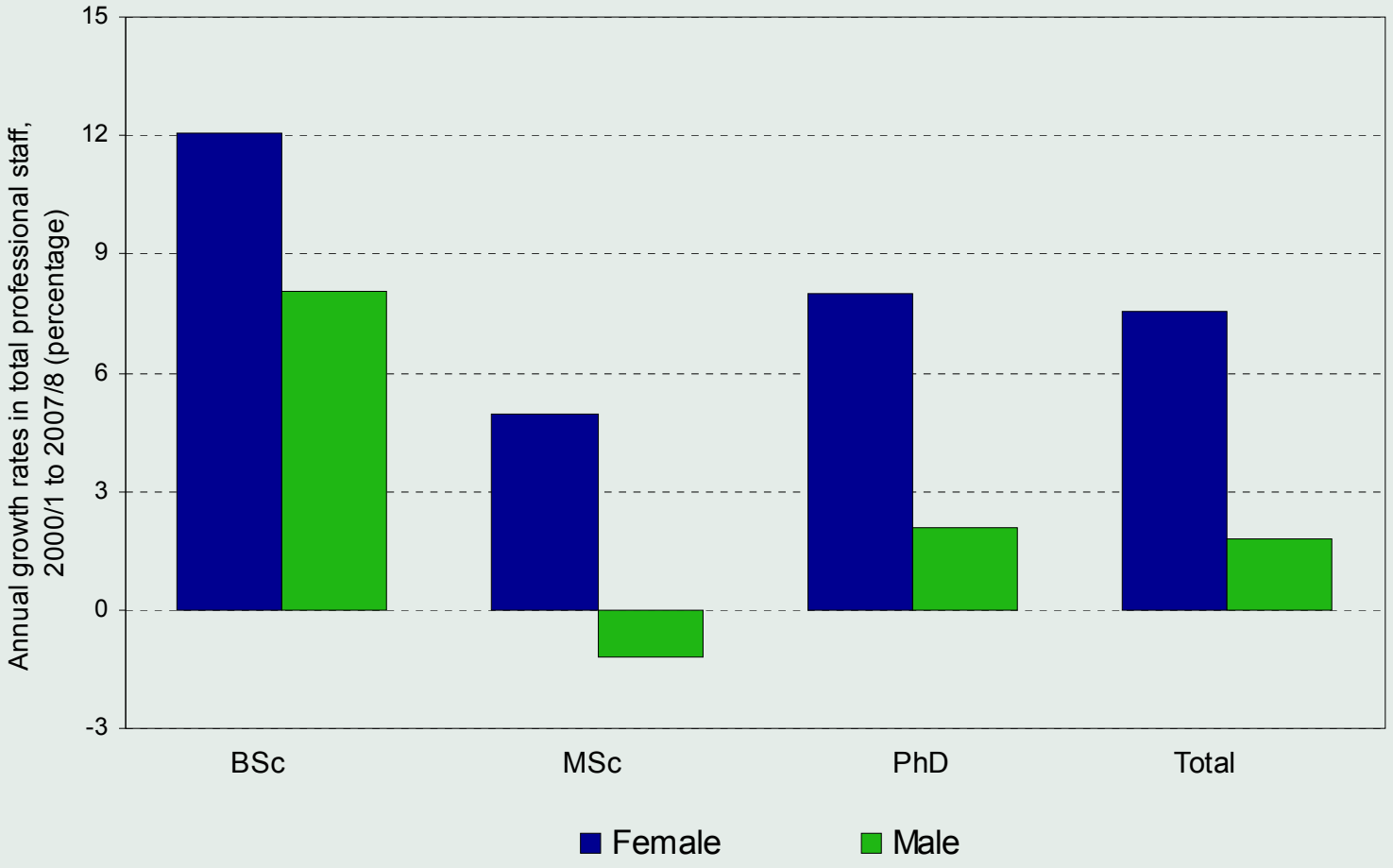
Gender–disaggregated indicators on agricultural R&D capacity (cont'd)

- Staff by degree for 14 countries (excl Mozambique) compared with previous ASTI results for 2000/1 to measure capacity trends in the past 7 years
- Methodology and definitions follow internationally accepted data collection methods developed by OECD and UNESCO (Frascati and Canberra manuals)
- Outputs: series of country fact sheets, summary brief, detailed report, which are (or will be) available on http://www.asti.cgiar.org/gender-capacity

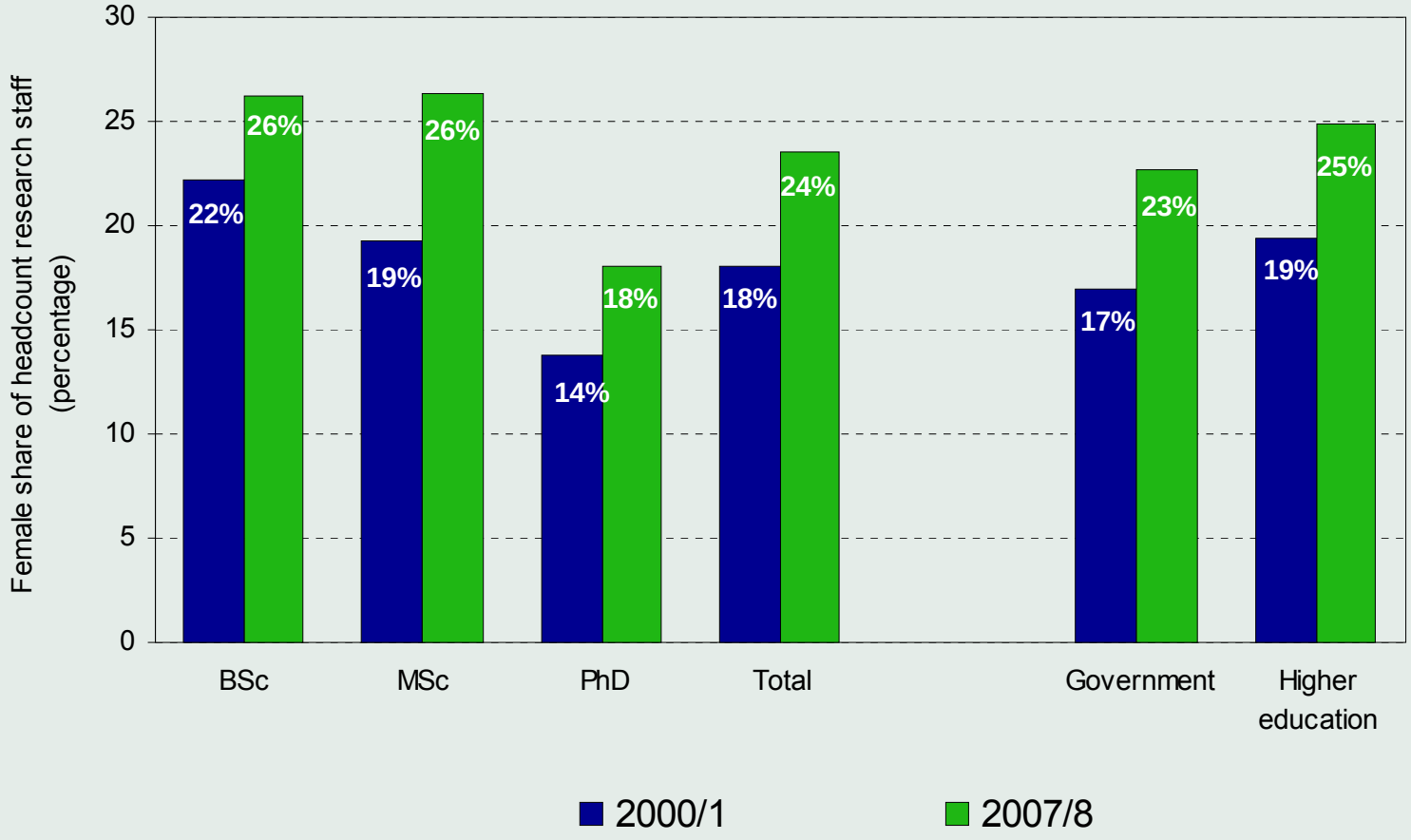
Overall growth in professional staff in headcounts by gender, 2000/1 to 2007/8



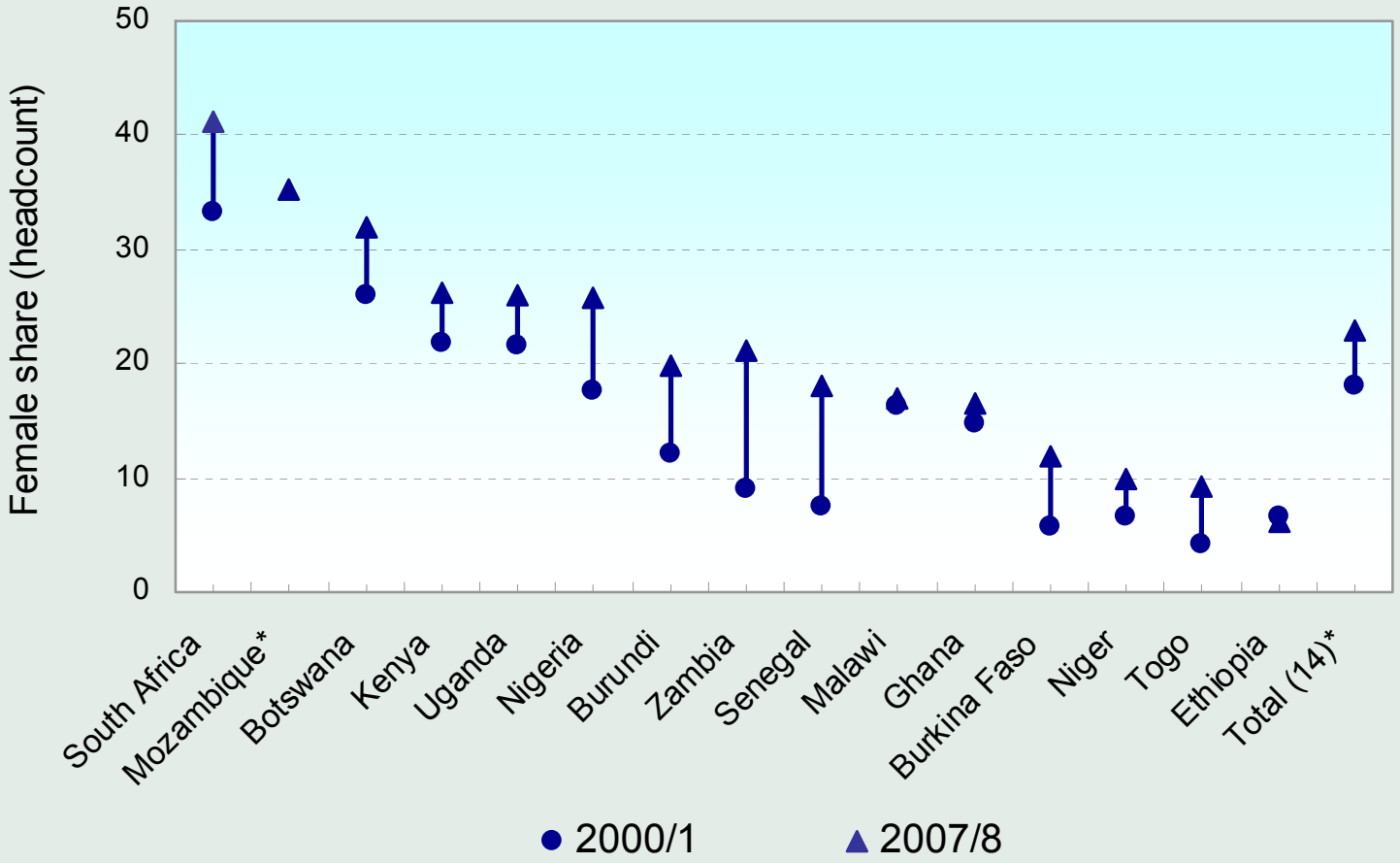
Annual growth rates of professional staff by gender, 2000/1 to 2007/8



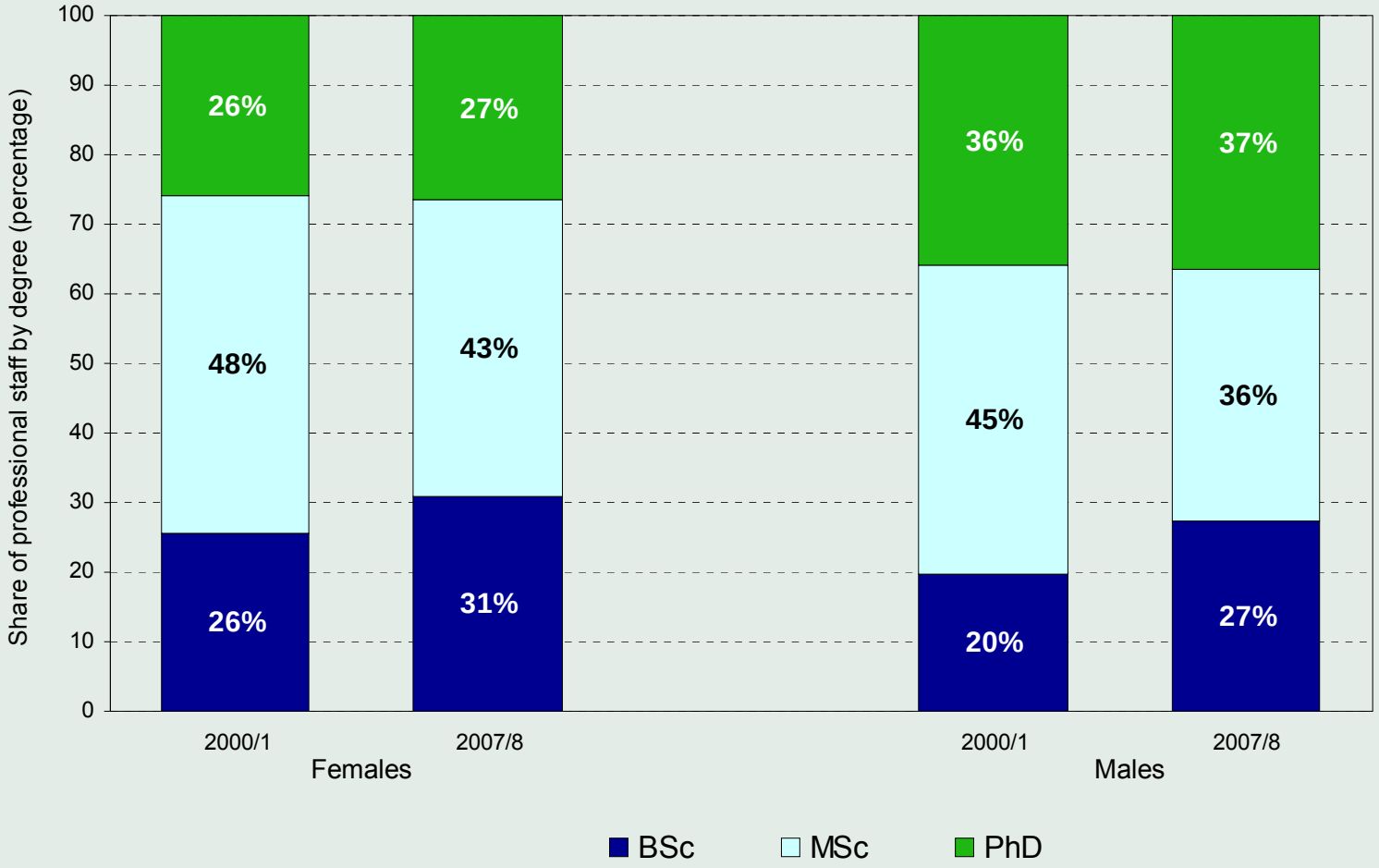
Female shares by degree and institutional category, 2000/1 and 2007/8



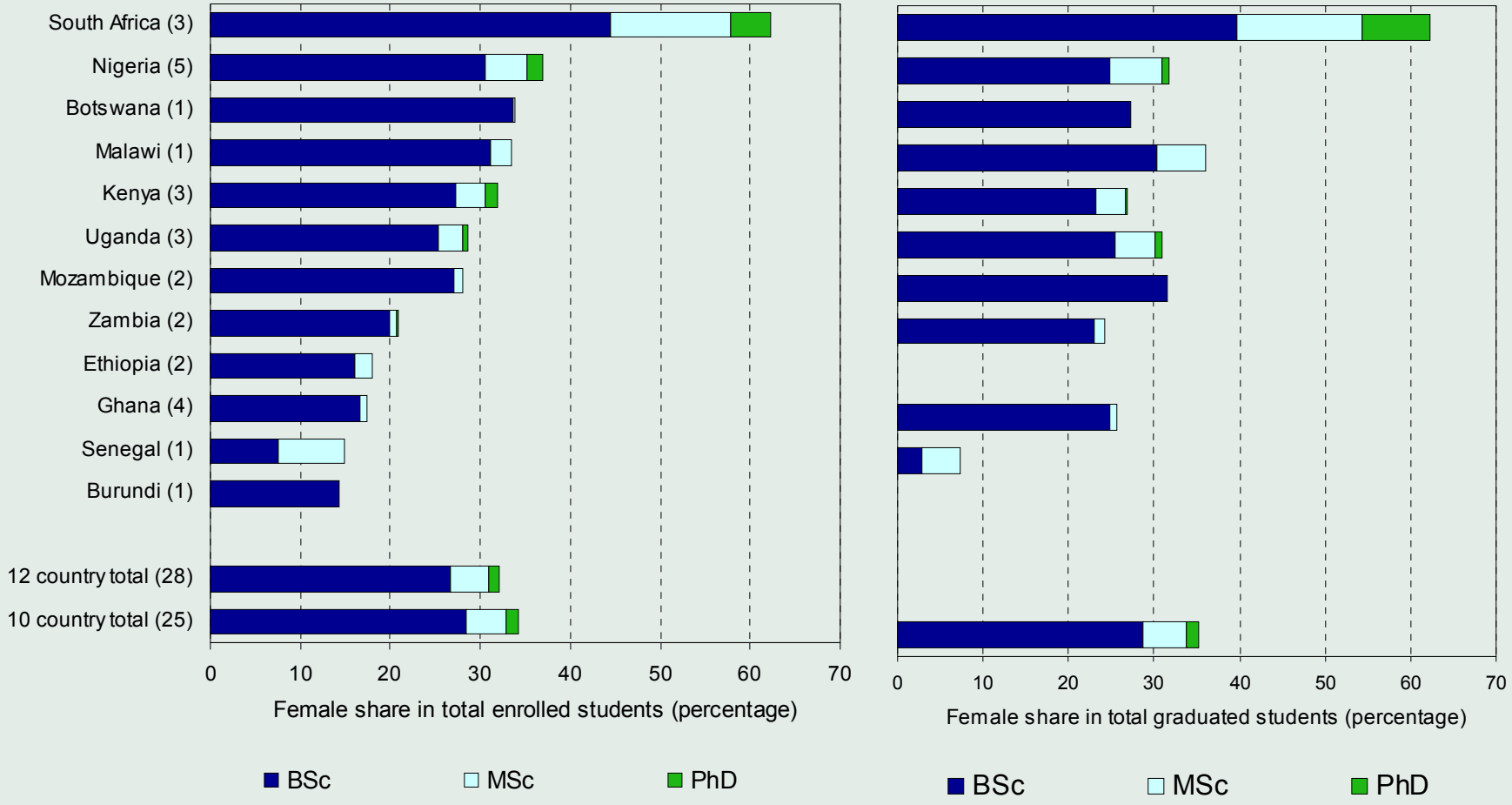
Female shares in professional staff by country, 2000/1 to 2007/8



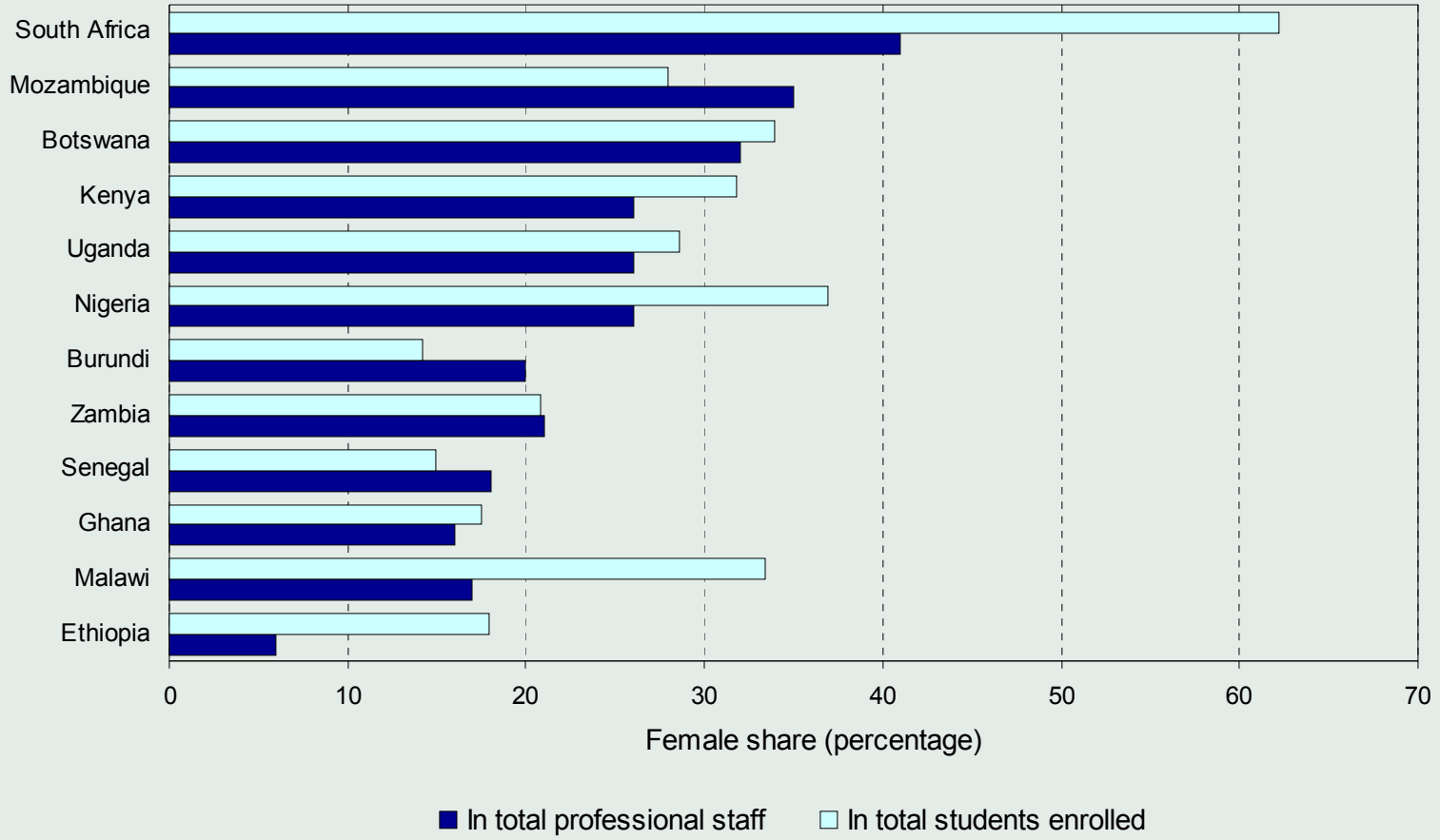
Gender-disaggregated shares by degree level, 2000/1 to 2007/8



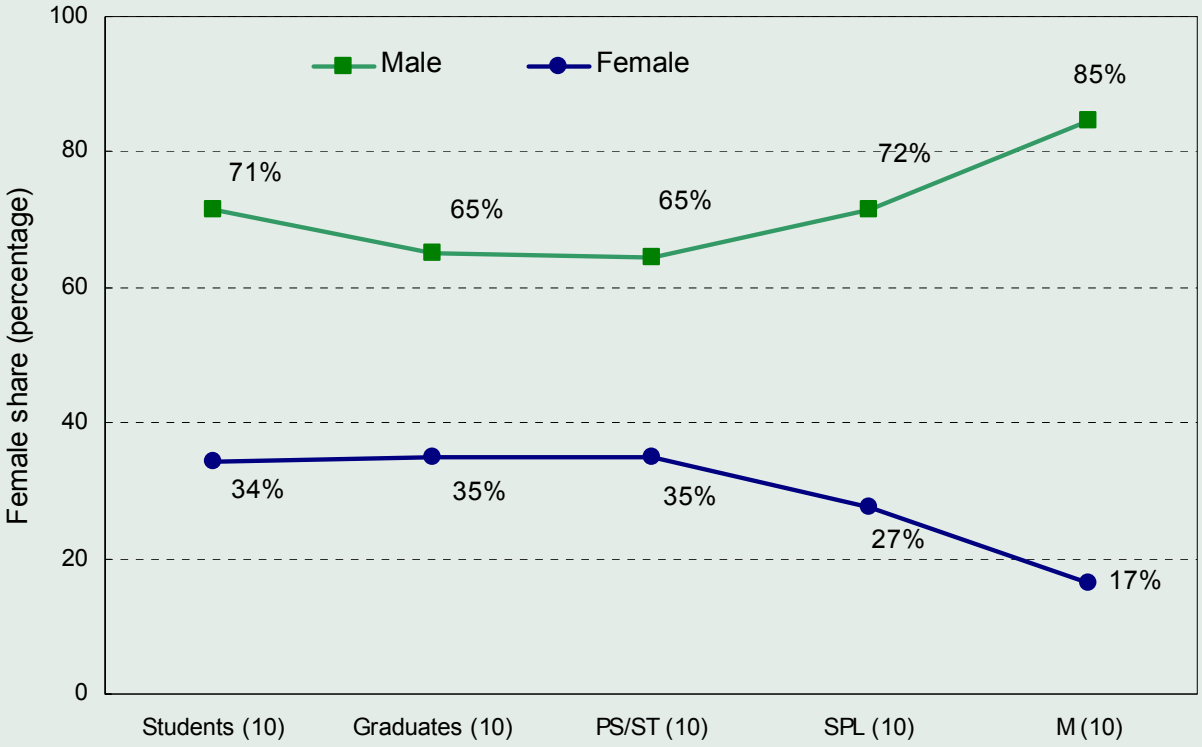
Shares of female students enrolled and graduated, 2007



Shares of female students enrolled and female in professional staff, 2007/8

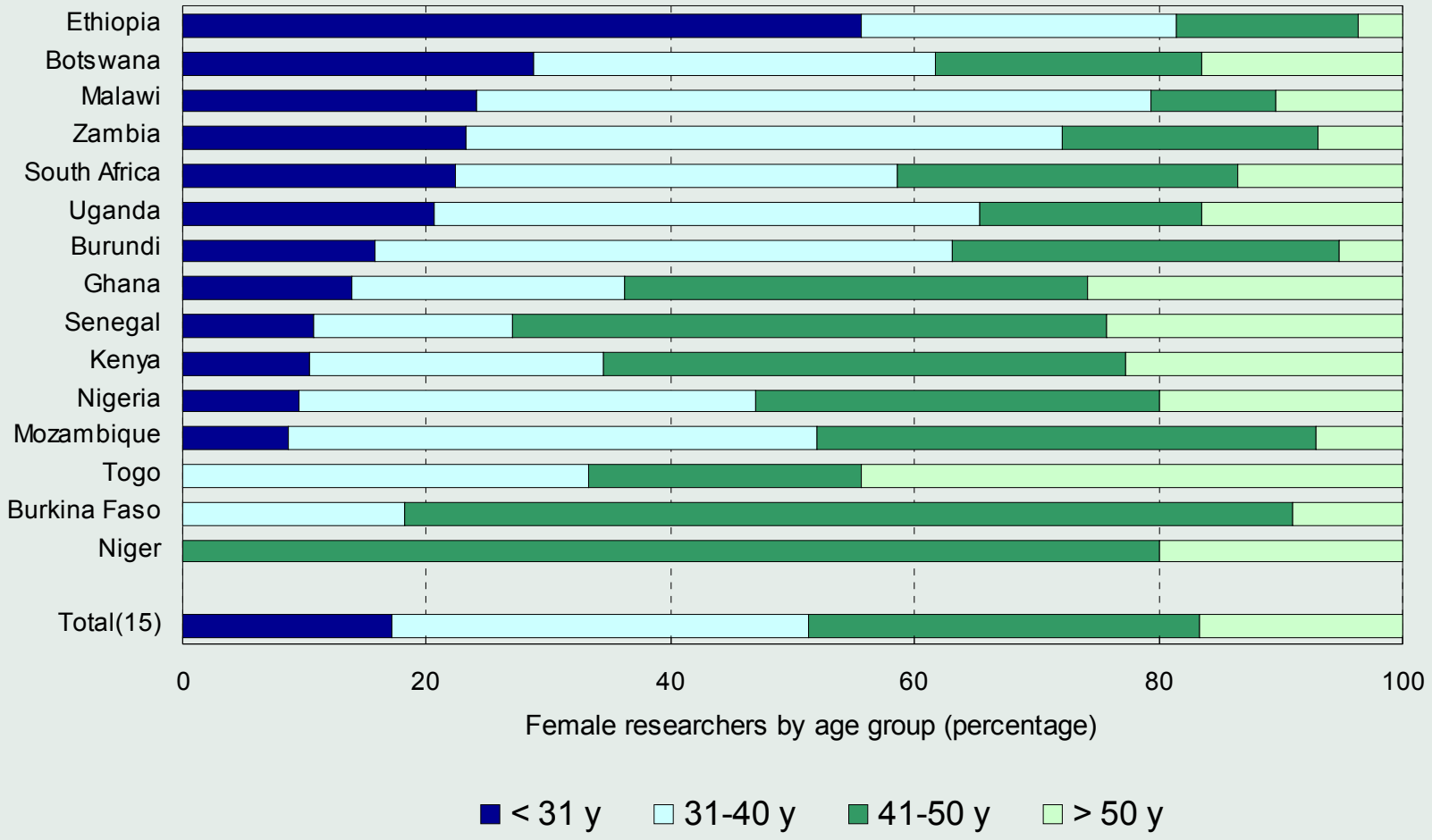


Shift in gender gap with career advancement (10 countries), 2007/8

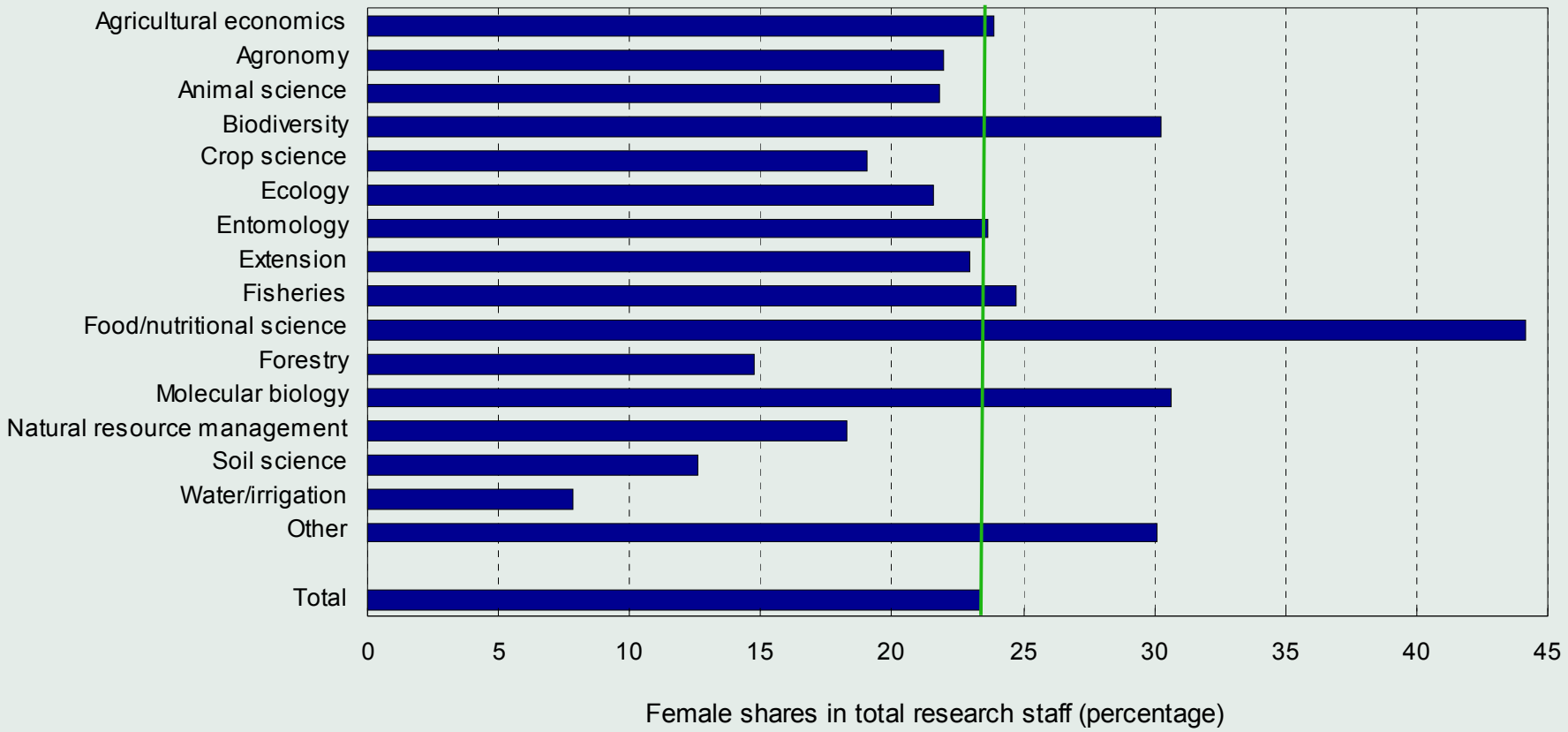


PS/TS indicates professional and technical support staff; SPL includes scientists, (assistant) professors, and (senior) lecturers not in management positions; and M indicates management and includes directors, deans, and department heads. When including all 15 countries, the female share in management positions is lower at 14 percent

Distribution of female professional staff by age group, 2007/8



Distribution of female professional staff by discipline, 2007/8



Other outcomes of the study

- Female shares in agricultural research in Africa are, on average, slightly higher than in Asia and Middle East/North Africa, but lower than in Latin America. In all region there are large differences across countries
- Unsurprisingly, almost all countries with young female staff also have comparatively more women employed for less than 2 years at their respective institutes
- The share of women obtaining university degrees during 2005-07 is high compared to their male colleagues
- Fewer women than men were promoted during 2005-07, (no information was available on the level of employment hierarchy at which these promotions took place
- Relatively more men than women departed during 2005-07 (except for Botswana, Burundi, and Ethiopia)

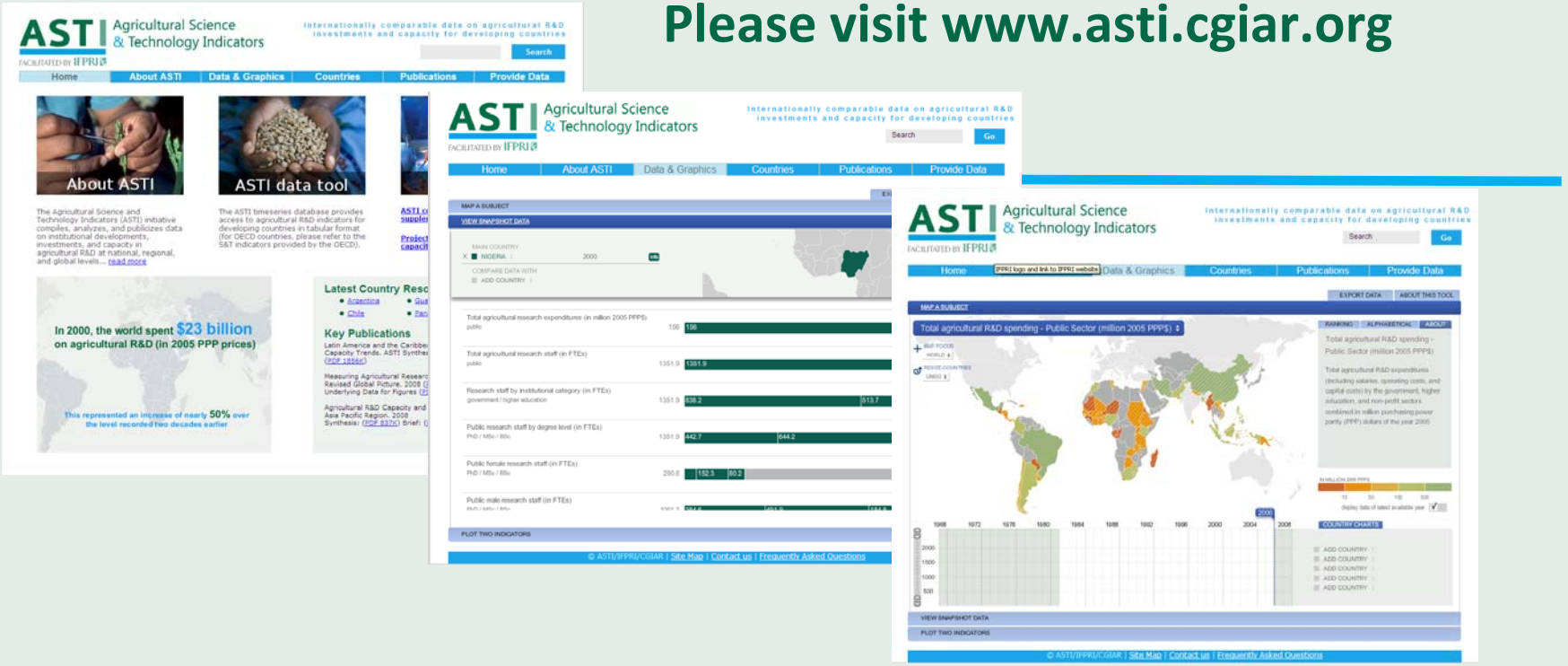
Main conclusions

- Women are coming into entry level positions in R&D agencies at a much higher rate than men - the rate of growth of women is 4 times higher than that of men
- This indicates that the gender gap may well be narrowing, especially in southern Africa. This trend is not reflected, however, in a number of West African countries or in certain others, such as Ethiopia
- Because a growing share of entry level professionals are women, it would be expected that they would be younger, currently have lower degrees, and by definition be over-represented at lower professional levels than men

Main conclusions (cont'd)

- Total capacity of professional agricultural staff employed at the research and higher education agencies included in this study increased by 20 percent between 2000/01 and 2007/08
- Of concern, about two-thirds of the total (that is, female and male) capacity increase comprised staff holding only BSc degrees, indicating a decline in the overall quality in capacity
- The study results reveal interesting and new information but more research is needed to fully understand the underlying factors influencing capacity levels and trends

Please visit www.asti.cgiar.org



Thank you

Leaking pipeline of women

- Women's participation declines as they progress along the career path – difficult to measure
- Instead: measure segregation levels in a certain point in time
  - horizontal: higher concentration of women in "softer" fields of science (e.g., biology, life and social sciences) rather than "harder" fields (e,g, engineering, physics)
  - vertical: overrepresentation of women in lower levels of professional hierarchy and less presented in high-level research and management