

WOMEN SCIENTISTS IN SUB-SAHARAN AFRICAN AGRICULTURAL R&D

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Over the past few decades, the number of female scientists and managers working in agricultural research has increased significantly in both industrialized and developing countries, although empirical studies have repeatedly shown a disproportionately low number of women working in senior scientific positions (Sheridan 1998). The science world appears to be greatly affected with gender barriers disadvantaging female scientists in their career development. Throughout the world, female scientists are subjected to more stereotyping and associated negative biases in the work place than their male colleagues; they are less well connected to informal social and professional networks, ultimately leading to lower publication rates; and the cultural stereotypes of men's and women's roles within the household still appear to limit women's opportunities for advancement into senior positions. For this reason, the integration of women into research agencies, which have traditionally been largely staffed by men, poses challenges for those women who want to build a scientific career, as well as for their employers who are responding to demographic shifts (Sheridan 1998 and Brush et al. 1995).

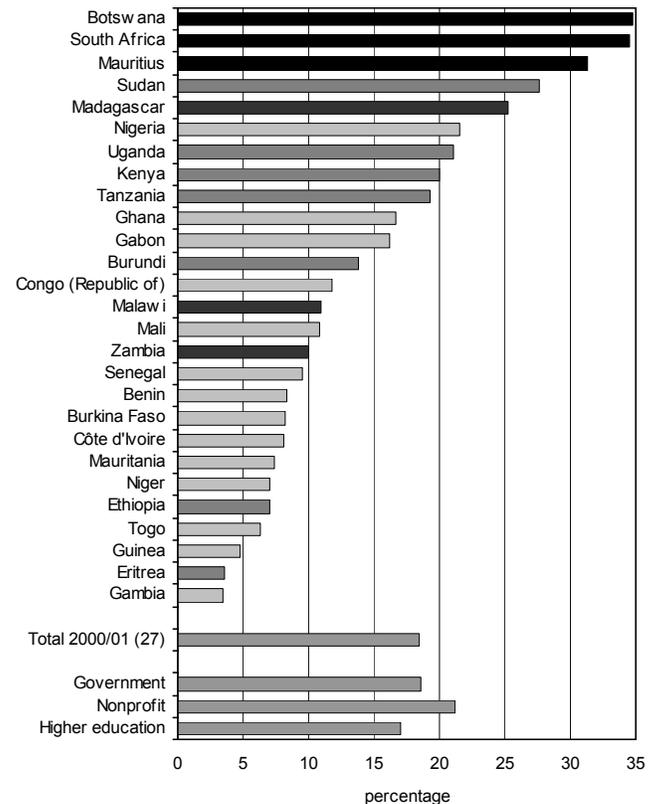
In 2000, based on a 27-country sample, 18 percent of sub-Saharan African (African hereafter) agricultural researchers were women (Table 1 and Figure 1). In 1996, the corresponding average for Latin America was 20 percent. In 2000, close to one third of agricultural researchers in the Southern African states of Botswana, South Africa, and Mauritius was female, while in 9 of the 14 West African countries in our sample, the share of female researchers as a percentage of total research staff was 10 percent or lower. In East Africa, large variations existed from one country to the next. In 2000, female researchers accounted for more than a quarter of Sudan's agricultural research staff and about one-fifth of total Kenyan, Ugandan, and Tanzanian research staff. In contrast, Eritrea and Ethiopia had very low female agricultural researcher ratios of 4 and 7 percent, respectively.

Table 1—Share of females in total research staff by degree, subregion, and institutional category, 2000

	BSc	MSc	PhD	Total
<i>By subregion</i>				
	(percentage)			
East (7)	21.3	17.4	14.6	17.8
Southern (6)	33.8	28.6	21.9	28.1
West (14)	18.0	15.5	9.4	14.2
Total (27)	22.6	18.9	13.6	18.4
Nigeria	29.3	23.5	13.5	21.5
South Africa	45.1	37.6	22.0	34.4
Total minus Nigeria and South Africa (25)	18.5	15.6	12.1	15.4
<i>By institutional category</i>				
Government	14.7	18.3	22.7	18.6
Nonprofit	11.5	22.6	26.4	21.2
Higher education	11.0	21.6	25.7	17.0

Sources: Compiled by authors from datasets underlying the ASTI country briefs. Notes: Figures in parentheses indicate the number of countries. For sample sizes see specific country briefs. Data for West Africa, with the exception of Nigeria, are for 2001.

Figure 1—Share of females in total research staff by country, 2000

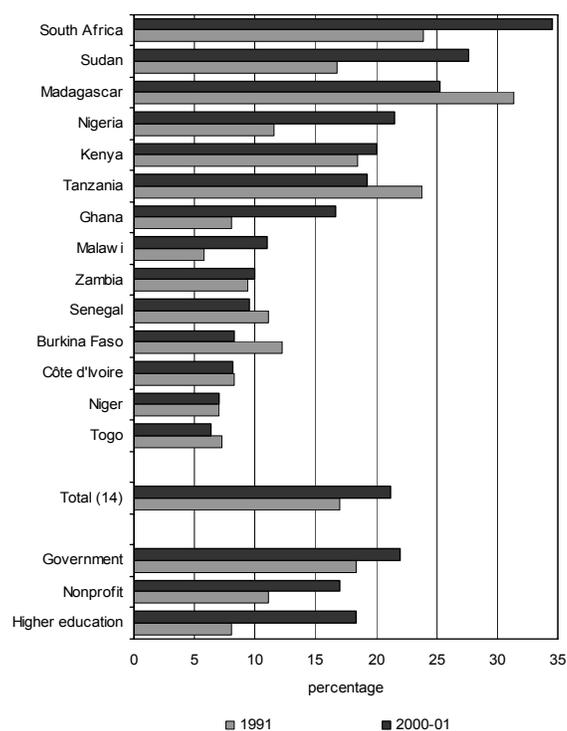


Sources and notes: See Table 1.

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The share of female agricultural researchers in Africa increased distinctly during the 1990s. In 1991, women accounted for 17 percent of Africa's total agricultural research staff in a 14-country sample, for which historical information was available (Roseboom and Beintema 1996). By 2000, the average for these 14 countries had increased to 21 percent (Figure 2). South Africa, Sudan, and Nigeria saw an increase in their share of female agricultural researchers by 10 percentage points or more. The share rose by 8 percentage points in Ghana and 5 percentage points in Malawi. Madagascar, Tanzania, and Burkina Faso, on the other hand, experienced a fall in their female researcher ratio between 4 and 6 percentage points. The shares in the remaining countries remained relatively unchanged.

Figure 2—Trends in female shares for 14 countries, 1991 and 2000



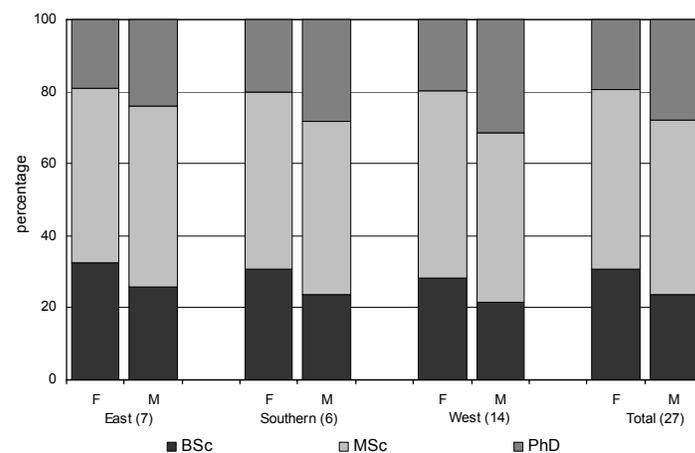
Sources and notes: See Table 1.

African researchers (male and female) at higher education agencies are on average much more highly qualified than their counterparts at government and nonprofit agencies. Gender data confirms this, with 32 percent of the female agricultural researchers at African higher education agencies holding PhD degrees, far higher than the corresponding shares recorded at Africa's government (18 percent) and nonprofit agencies (13 percent). The rapid increase of the share of female researchers at African higher education agencies during 1991-2000 as shown in Figure 2 may therefore suggest that female researchers in Africa are becoming more and more highly qualified. However,

we do not dispose of degree level data for female researchers for the early 1990s to validate this statement.

Female researchers in all three African subregions were less highly qualified than their male counterparts. In 2000, 20 percent of all African female researchers held a PhD degree (compared to 28 percent of all African male researchers), while 31 percent of all African female researchers held a MSc degree (compared to 24 percent of all male researchers) (Figure 3). Although the share of females in total tertiary students in Africa enrolled in agricultural sciences increased from 14 to 20 percent during 1991-2000, it was still substantially lower than the share of female students across all fields of study. Study areas that have traditionally drawn more female students (education, humanities and arts, and social sciences) still remain more popular among African female students. But the rapidly increasing share of female students in agricultural sciences during the 1990s gives us reason to anticipate a rising number of females employed at agricultural research agencies in the years to come (UNESCO 2004).

Figure 3—Degree levels of female and male research staff, 2000



Sources and notes: See Table 1.

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