



# ASTI

## AGRICULTURAL SCIENCE AND TECHNOLOGY INDICATORS

### TREND 1

#### UNDERINVESTMENT AND FUNDING VOLATILITY ARE LIMITING RETURNS TO AGRICULTURAL RESEARCH

Agricultural research investment levels in most low- and middle-income countries still fall well below the minimum target of 1 percent of agricultural gross domestic product recommended by the United Nations. Higher levels of funding are needed to establish and maintain viable agricultural research programs that achieve tangible results. Agricultural research investment can command significant returns, but these returns take time—commonly decades. This inherent lag— from the inception of research to the adoption of a new technology or a new variety calls for sustained and stable research funding. Funding volatility makes it harder to realize long-term returns. Africa’s agricultural research spending has exhibited considerably greater volatility than spending in other developing regions, driven by

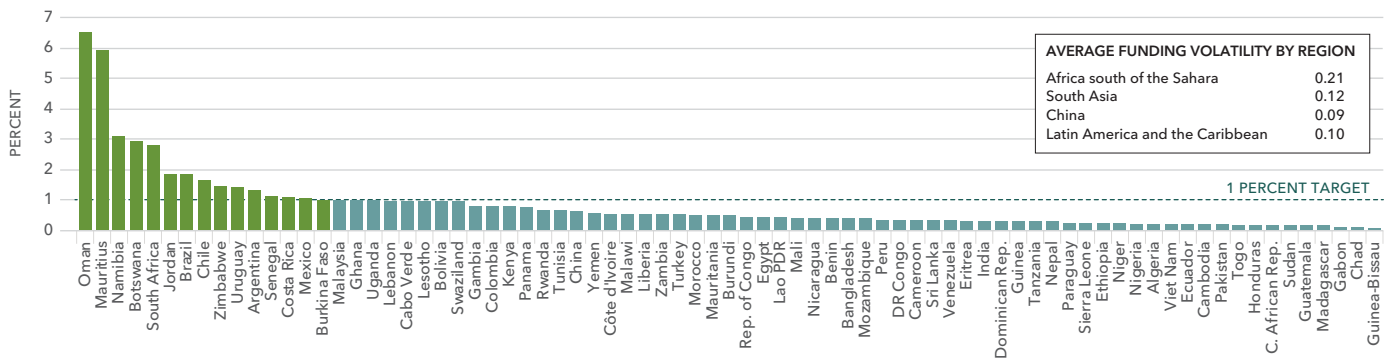
the short-term, project-oriented nature of donor and development bank funding in Africa.

### TREND 2

#### A GENERATION GAP THREATENS FUTURE AGRICULTURAL RESEARCH

Many of the PhD-qualified agricultural researchers in low- and middle-income countries are in their 50s and 60s. This situation is most severe in Africa south of the Sahara. Given that the official retirement age in most countries is 60 or 65, many countries will be left without the critical mass of experienced, PhD-qualified researchers needed to lead research programs. This trend, combined with high shares of more recently recruited junior staff in need of experience and mentoring, has left many countries vulnerable. Without adequate succession strategies and training, significant knowledge gaps will emerge, raising concerns about the quality of future research outputs.

AGRICULTURAL R&D SPENDING AS A SHARE OF AGRICULTURAL GDP



SHARE OF PHD-QUALIFIED RESEARCHERS OVER 50

