Africa's New Crisis: A Dearth of Professors

As universities expand too quickly for struggling doctoral programs to keep pace, international partnerships offer help

By MEGAN LINDOW

Cape Town

Rafiki Yohana's transition from student to lecturer was difficult and abrupt. After graduating from the University of Dar es Salaam, in Tanzania, with a degree in linguistics, she was quickly hired as a teaching assistant and soon found herself standing in front of hundreds of students in introductory courses.

Her classes were so large that some of her students had to crowd outside the classroom door to hear her lectures. Opportunities to do graduate work and research were few, although she did eventually get a master's degree.

"You may be a competent teacher, but when you look at your students, and the rooms are so full and they don't even have chairs, you feel this is not worthy," says Ms. Yohana, who is now working on her dissertation at the University of Cape Town, in South Africa, through a program that gives young African academics the chance to earn Ph.D.'s.

Ms. Yohana is part of a generation of African scholars who find themselves overwhelmed and ill equipped. Universities across the continent have expanded rapidly in the past decade to meet growing demands for higher education, but they have not invested enough in training new professors and researchers to keep pace with the growth.

With a raft of professors in their 60s and about to retire — many of whom earned their doctorates abroad when the money to do so was available — the dearth of qualified academics has reached crisis proportions at a number of African universities.

Young scholars who manage to get advanced degrees are increasingly fleeing the poverty and decrepitude of academic life for business, government, and jobs overseas.

"If we don't do something about this in the next 10 years, our capacity to produce new knowledge will suffer tremendously," says Njabulo Ndebele, a former vice chancellor of the University of Cape Town and president of the Association of African Universities.

A number of African universities, many in South Africa, along with a handful of foreign colleges and foundations, are pooling their resources to develop new ways to turn out more Ph.D.'s in Africa. While they have met with some success, the process is by nature long and intensive. One program estimates, for example, that it costs $100,000 to graduate a single doctoral student.

More foreign universities and donors need to step in, they say, because Africa simply cannot solve the problem on its own. Between a quarter and half of all staff positions at African universities are typically
vacant, according to William Saint, a specialist in African higher education who formerly worked for the World Bank. The sheer number of scholars needed is "mind-boggling," he wrote in an e-mail message.

The shortfall is a consequence of decades of neglect of African higher education, as donors and governments concentrated their limited resources on primary and secondary schools. Only recently, ambitious programs like the United Nations' Millennium Development Goals have encouraged those benefactors to view universities as critical to Africa's economic and social development, particularly in such key areas as agriculture and engineering.

Increasingly, educators are looking for ways to tap the continent's thin resources, through regional collaborations and partnerships bolstered by help from overseas. Programs like Ms. Yohana's in Cape Town are a key example.

American foundations have been particularly aggressive. The multimillion-dollar Partnership for Higher Education in Africa, a consortium of seven foundations, has served as a catalyst for the revitalization of African higher education over nearly a decade.

Only now, however, are American universities seeking comprehensive involvement — most notably through the Africa-U.S. Higher Education Initiative, led last year by the National Association of State Universities and Land-Grant Colleges.

'Egregiously Ignored'

African higher education "has been so egregiously ignored, and is so obviously important, that it is now very clear to anyone who looks at the development portfolio that it should be supported," says Montague Demment, associate vice president for international development at the land-grant colleges' association.

American academics say they recognize the extent of Africa's staffing crisis and are prepared to help.

"Our colleagues need our help, and all ships need to rise in the world," says David J. Skorton, president of Cornell University. In 2007, Cornell introduced a master's-degree program in water management at Bahir Dar University, in Ethiopia, which makes use of professors flown in from New York State for three-week teaching stints.

But there is little money available to develop such university partnerships. The U.S. Agency for International Development contributed $1-million to underwrite 20 planning grants of $50,000 each for U.S. and African partners to design long-term projects. Those grants will be awarded in March. The agency has not yet dedicated any money to helping those projects get off the ground.

Foundations, meanwhile, have mostly preferred to engage directly with African institutions.

"We want to ensure that the African university leaders are in the driver's seat," says Suzanne Grant Lewis, coordinator of the Partnership for Higher Education in Africa. American academics say they hope to gain more support for their training programs from other sources, such as the Bill & Melinda Gates Foundation.

In addition to money problems, these projects also face challenges of scale. Even the most ambitious programs turn out only a handful of new Ph.D.'s a year. Yet the World Bank estimates that 58,000 new lecturers will be needed throughout Francophone Africa alone between 2006 and 2015.

South Africa says that it will need to create 6,000 new Ph.D.'s a year. Ethiopia, which is far poorer, recently established 15 new universities, tripling its higher-education system. Other countries have set similarly ambitious goals.
Critics say such targets cannot be met.

"There is really no shortcut to training a Ph.D. student," says Mr. Ndebele, of the Association of African Universities.

**Small but Significant**

Ms. Yohana, the linguistics researcher in Cape Town, is one of a handful of scholars admitted to a collaboration called the University Science, Humanities and Engineering Partnership in Africa (known as Ushepia).

The program was established in 1994, making it one of the oldest doctoral-level collaborative programs on the continent.

It is designed to strengthen teaching and research at eight universities across Africa by giving young faculty members time off to complete their Ph.D.'s. Most divide their time between their home institution and the University of Cape Town, where they are assigned a local supervisor and gain access to resources like up-to-date journals that they would otherwise lack.

Ms. Yohana says her Cape Town doctoral supervisor urged her to focus on social linguistics, an area in which nobody at the University of Dar es Salaam has expertise.

"I am the first academic from the University of Dar es Salaam to learn so much from the theoretical point of view," says Ms. Yohana, who is writing about the social significance of language among the Chasu, a tribe that lives on the southern slopes of Mount Kilimanjaro. "I'm learning how to run data, interpret statistics. I never had information about it before."

South Africa's comparatively well-resourced universities are well-placed to serve as catalysts for institutions elsewhere on the continent, says Nan Warner, director of Ushepia.

"What we're doing is keeping academics on the continent and exposing them to a new environment that can provide them with international credibility," she says.

The program also enables African graduate students to develop international ties that will help them carry on their research when they return home.

Richard Okoth Oduor, a Kenyan graduate student working on the genetic modification of maize for drought tolerance, says he has flourished working under Jennifer Thompson, an internationally renowned researcher, at Cape Town. He also appreciates being able to stay on the same continent as his wife and two small children, who are back in Kenya, while having access to sophisticated equipment.

"In Kenya it takes so much time to do your work because you need reagents from the Netherlands, or you need to send material for sequencing in the U.S. or Germany," he says. "Here almost everything is centralized."

Employed by a new research institute at the Jomo Kenyatta University of Agriculture and Technology, in Nairobi, Mr. Oduor is one of five young researchers getting Ph.D.'s abroad. He says he will finish his dissertation this year so he can graduate and return to Kenya, where his expertise is sorely needed.

"Already I have master's students over there who I am supervising," he says. Another two Ph.D. candidates are waiting for him to return with his doctorate so that he can begin supervising theirs. "No one else back there has the necessary experience," he says.
Since its inception, in 1996, Ushepia, which is financed by the Rockefeller and the Andrew W. Mellon Foundations and the Carnegie Corporation — all members of the Partnership for Higher Education in Africa — has produced just 41 graduates, at a cost of around $100,000 each.

"People say, 'You're joking,' but we need thousands of Ph.D.'s," Ms. Warner says.

But she notes that academics trained through programs like Ushepia return to their universities with new skills and connections that they can use to supervise other rising academics.

**Different Models**

Other programs take somewhat different approaches to training Ph.D.'s. One new model will support young academics at nine institutions in getting their Ph.D.'s in health-related fields.

The idea is to allow universities to pool their resources in a critical area and to build up an emergent network of scholars on different campuses who can collaborate with one another on future papers and research projects.

"We have the capacity, but it is scattered all over," says Alex Ezeh, who directs Carta, a new health-education program based at the Africa Population & Health Research Center, in Nairobi, which is expected to begin with its first students later this year.

Other programs bring students from the region together in one location, where expertise is concentrated and foreign experts can be brought in for short teaching stints. Still others use distance learning to link a graduate student in one location with a supervisor in another, and to share library materials among institutions.

Typically, programs that involve American universities send students to the United States for part of their training but require them to complete their research at home, thus ensuring that projects are relevant and that participants remain in Africa. That approach is known as the "sandwich" degree.

African educators generally prefer programs that keep doctoral students on the continent because they are cheaper, reduce the risk of brain drain, and increase self-sufficiency. But most acknowledge that every approach has its value.

"You can't have a straitjacket approach," says Damtew Teferra, director for Africa and the Middle East at the Ford Foundation International Fellowships Program. "It all depends from country to country, and from program to program."

**Little Money, Little Time**

Mark Erbaugh, interim director of international programs in agriculture at Ohio State University, helped direct a pilot program with Michigan State University to develop postgraduate training within agriculture departments at three East African universities and supported by USAID. (The agency supports other projects in Africa designed to build up graduate education, such as a partnership between the State University of New York at Albany and Makerere University, in Uganda, that offers undergraduate and graduate courses in environmental science and health.)

Mr. Erbaugh says one of the biggest challenges he faced was a short financing cycle. The USAID grants that many colleges tap into, for example, run for only three years. Successful programs take time to bear fruit, he says.
During the 33-month project, 12 African faculty members completed course work at Ohio State or Michigan State before returning home to complete their research. Some returned to America to defend their dissertations, while others did theirs by video conferencing. The program was completed successfully last year, he says, but it was a scramble.

"They called it a long-term degree-training program," he says. "That is one of the challenges right there."

**Lobbying for Support**

American academics who work in Africa are eager to see what a new U.S. Congress and a new president may bring.

Congress is seen to be supportive of development aid to African higher education, recognizing its importance in producing the cadres of educators and researchers needed to propel the continent forward, says Mr. Demment, of the land-grant colleges’ association.

Officials at the association have pushed hard to raise support for legislation to provide $100-million for science and technology development in Africa, which would include major support for African universities through partnerships.

Such partnerships would also benefit from new global food-security legislation being introduced this year by Sen. Richard G. Lugar, Republican of Indiana, and Sen. Robert P. Casey Jr., Democrat of Pennsylvania, which would authorize financing for collaborations between universities in agricultural technology and research.

But in an era of recession, some worry that African interests will be swept aside.

"African institutions are challenged to repair so much damage that occurred over so many years," says Mora McLean, president and chief executive of the Africa-America Institute, which has overseen education projects in Africa for the past 55 years. "They really do have to change the tires while the car is moving ahead."

**SOME COLLABORATIVE PH.D. TRAINING PROGRAMS IN AFRICA**

**Collaborative Research Support Programs**

Established in 1978, financed by the U.S. Agency for International Development

Involves U.S. land-grant universities in efforts to eradicate hunger in the developing world by focusing on international research in agriculture. There are eight specialty areas, each of which supports projects with universities in the developing world. The program enables young African scholars to conduct research in Africa and earn their doctorates at American universities. Participants work with American academics and help their home institutions build the capacity to produce research and train advanced-degree holders locally, says Mark Erbaugh, interim director of international programs in agriculture at Ohio State University.

**African Economic Research Consortium**
Established 1988, headquartered in Nairobi, Kenya

Supported by the Carnegie Corporation

The consortium supports master's and doctoral-level studies in economics. The program, designed to replicate the best international practices in economics on the continent, includes eight African universities in seven countries. Students spend their first year taking classes at one of those institutions. They spend four months of their second year in Nairobi taking courses from international experts and participate in workshops on developing and presenting their Ph.D. research. The remainder of the program is spent completing the dissertation, often under joint supervision with international faculty members. The program seeks to foster relationships among the students to encourage future collaborations, says William Lyakurwa, its executive director. "This is an African-based program based on African realities," he says.

Regional Universities Forum for Capacity Building in Agriculture

Established in 2004, headquartered at Makerere University in Kampala, Uganda

Financed by the Bill & Melinda Gates Foundation, the Center for Agriculture and Research Innovation, the European Union, and the Rockefeller Foundation

Ruforum seeks to strengthen departments of agriculture in 12 institutions across East and Southern Africa, with a particular emphasis on producing research that assists small-scale farmers. The program trains master's-degree students to fill immediate needs and builds up the capabilities of member universities to offer Ph.D.'s. The doctoral training is based on the American model, involving research that students must get published in international journals. "To get quality training, that requires that you have a pool of very well-trained scholars that are up to date and that are linked to scholars in the U.S," says Adipala Ekwamu, a professor of agriculture at Makerere who coordinates Ruforum.

University of South Africa (Unisa) in Ethiopia

Financed by the University of South Africa and the Ethiopian government

South Africa's distance-learning university, Unisa, offers advanced training to master's and Ph.D. students in other African countries. It opened a learning center a year ago in Addis Ababa, Ethiopia, as part of an agreement with the Ethiopian government to assist with the training of new Ph.D.'s. Ethiopia needs thousands of new professors to staff some 15 new universities. The number of Ph.D. students enrolled through Unisa is small, with 15 students in 2008 and seven in 2007. Yet there are relatively few students who meet entry-level requirements, says Barend Naijanth, vice president of planning, strategy, and partnerships at Unisa. "We don't have the economies of scale that you have with undergar students where we can register 20,000 students in a course," he says. "If you go for numbers, it's going to come at the cost of quality."