to change. The situation is now more urgent, with Japan's industry in retreat and its population of young scientists shrinking. Japan's economy is stagnant, and even its high-tech manufacturing base is being edged out by countries such as China and South Korea. Its population is greying. Its youngsters are hiding, sometimes literally, as hikikomori (who shut themselves away in their homes), with graduate and postdoctoral scientists increasingly less likely to venture abroad for training.

Japan has been tiptoeing towards an academic environment that foreigners could call home for decades. The RIKEN institutes, with relatively sizeable populations of foreigners, have made some headway. But despite a university reorganization in 2004, no universities have been able to overhaul themselves enough to have the freedom, flexibility and cross-cultural atmosphere that the OIST has already achieved in its short lifetime.

It was an ambitious idea — to create a completely new kind of university where foreigners comprise at least half the staff and students, and all exchanges take place in English. The idea was pushed by Akito Arima, now president of the HFSP, who had tried in vain to overhaul the University of Tokyo during his presidency of the institution in the early 1990s, and ruling party parliamentarian Koji Omi. Thanks to the chance vagaries of Japanese cabinet politics, Omi had been saddled with two seemingly unrelated ministerial posts — Okinawan affairs and science and technology.

Put those together, get Tokyo to throw Okinawa a billion-dollar bone for putting up with a US military base, and … *voila*! The OIST seemed a whimsy based on circumstance. Even some of the scientists who signed up in the early days were sceptical. So was Wiesel. So was Kenneth Kornberg, the architect recruited to build the campus. And so, too, was *Nature* (D. Cyranoski *Nature* **429,** 220–221; 2004).

But the government went ahead, as governments do, and now has a resort-like campus, built by Kornberg, that straddles the coastal mountains and offers senior scientists offices carefully arranged to provide outstanding views of ocean and forest. The facility is crammed full of equipment. And now, largely thanks to the efforts of the OIST's president-elect Jonathan Dorfan, there is a new batch of impressive recruits.

There is still room for doubt. It could still fail to have an impact if it cannot get good postdocs or graduate students, or if scientists find that the OIST brand doesn't look good on a CV. However, judging by Dorfan's recruitment success over the past year, these obstacles look to be surmountable.

"The Okinawa Institute of Science and Technology needs Japan's traditional universities to accept it as an example."

A loss of its sizeable government support could also block the OIST's progress. Having taken its vision so far, the government should not allow that to happen. With fewer than 50 faculty members, the OIST is still far short of the critical mass it needs. Now that it has momentum, it should move forward in a hurry. Its third research wing, for example, should be built without delay, and funding needs to be maintained.

The other thing that the OIST needs if it is to succeed in its larger goal — forming a model of a modern Japanese university — is for Japan's traditional universities to accept it as an example. They can do this by making way for OIST researchers who might want to continue a career elsewhere in Japanese academia and seeking opportunities to collaborate. The OIST was once a long shot. It's now starting to look like a very good bet. ■ SEE NEWS P.553

A helping hand

What can individual researchers do for colleagues in Africa?

It is easy to be fatalistic about science in sub-Saharan Africa. Researchers there face so many systemic problems — poor facilities, lack of funding, corruption and government instability — that it seems impossible for any single willing scientist in the developed world to make a difference for their African counterparts.

But as the stories and commentaries in this issue make clear, success can emerge from individual efforts, both from researchers in Africa and from those on other continents. Physicist Neil Turok, while working in the United States eight years ago, established the African Institute for Mathematical Sciences (AIMS) in Cape Town, in his homeland of South Africa. The institute is now expanding, with centres in other nations (see page 567). Wole Soboyejo, a engineer at Princeton University in New Jersey who grew up in Nigeria, is helping to run the African Institute of Science and Technology in Abuja (see page 556). And Romain Murenzi, executive director of TWAS, the academy of sciences for the developing world in Trieste, Italy, is building up science in Africa and elsewhere; the academy gives out more than 300 fellowships each year to young scientists from the developing world (see page 543).

Scientists in wealthy nations can also make an impact with smaller contributions. For as little as US$4,000, a university department in Europe or the United States could host an academic from Africa for two weeks. The scientist could attend a major conference, spend time in labs and build collaborations. Bringing the same researcher back every year for five or ten years would lead to a lasting alliance, without contributing to the brain drain that siphons so many African scientists away from the continent. For $10,000, a department or university could pay a scientist's tuition fees at AIMS in South Africa or at its new institute in Senegal for one year.

Researchers can also make regular visits to peers in the developing world to give lectures, mentor students and develop joint projects. And when they return home, they can help out materially by sending used equipment to developing nations through organizations such as Seeding Labs, based in Cambridge, Massachusetts.

Scientific societies and publishers can do their part by providing free or reduced-cost access to journals, as Nature Publishing Group does through its partnership in the Research4Life programme. (The Africa-related content of this issue is free to all readers for the next month.)

In the long term, help provided to the continent must be sustained and scientists in Africa must be treated as real collaborators, rather than just recipients of aid. The Swiss Centre for Scientific Research in Côte d'Ivoire provides a good model. It began as a Swiss field station, but has evolved over 60 years to become a research centre led by local scientists (see page 569).

None of this outside aid can truly help without sustained support for science from nations within sub-Saharan Africa. There have been far too many promises and not enough real action. For five years, Nigeria's government has been promising to establish a $5-billion endowment to set up a National Science Foundation for funding peer-reviewed research, but the oil-rich nation has yet to come up with the money. In 2006, Uganda won $30 million in low-interest loans through the World Bank's Millennium Science Initiative, and has used that windfall to fund research grants. With the money running out, the country declined an opportunity to seek more loans, and promised to support the research projects on its own. But Uganda's latest budget did not include such funding. Rwandan President Paul Kagame has repeatedly pledged to increase funding for science and technology to levels far above those of other African countries, but his latest budget announcement does not seem to match those goals.

If African nations fail to recognize science and technology as core parts of their future development, and continue to deny long-term funding for research, outside efforts to help will flounder, and Africa's brightest students will keep heading for distant lands. ■

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