

Training scientists in Africa's own universities

Print

Published: November 21 2008 02:00 | Last updated: November 21 2008 02:00

From Dr Phillip A. Griffiths and

Mrs Arlen K. Hastings.

Sir, Heather Ferguson ("Scientists from poor countries need the west's help," November 19) observes that talented researchers in Africa lack access to postgraduate training, and she argues for affordable opportunities in the west for researchers from poor countries.

RISE, the Regional Initiative in Science and Education, goes one step further by providing postgraduate training at universities in sub-Saharan Africa. By combining the resources of multiple universities, RISE offers high quality PhD programmes in the sciences in the researchers' home countries. Managed by the Science Initiative Group at the Institute for Advanced Study, Princeton, NJ, US, in partnership with the African Academy of Sciences in Nairobi, Kenya, RISE comprises five research and training networks in selected areas including materials science and natural products chemistry. The initiative, new this year, is supported by a grant from Carnegie Corporation of New York.

Dr Ferguson is absolutely right that African researchers are the most qualified and motivated to address Africa's problems, and we strongly support her call for mutually beneficial collaboration among researchers in the developed and developing worlds. Funding from wealthy countries for Africa's universities, in the form of direct aid and research partnerships, is also of critical importance. But ultimately the African governments themselves must take responsibility. Unless governments recognise that providing adequate resources for training scientists in their own universities is a key factor in their countries' long-term economic development, Africa will be eternally dependent on foreign aid.

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Scientists from poor countries need the west's help

Print

By Heather Ferguson

Published: November 18 2008 19:49 | Last updated: November 18 2008 19:49

Immediately after completing my postgraduate degree in a UK laboratory, I headed off to Africa like many other young western scientists, with the naive expectation that my education would provide a unique understanding of an African problem (in this case, malaria) that I could help tackle. A few days later, at a rural research institute in east Africa, I was quickly humbled to find myself surrounded by scores of enthusiastic, talented African researchers who clearly had a much more sophisticated understanding of the problem. In addition to my relative ignorance, there was one other crucial difference between me and my tolerant colleagues: I had a PhD degree; almost none of them did.

Many of the world's most serious problems have a disproportionate impact on those who live in poor countries, such as those in sub-Saharan Africa. But most of the scientists who study these problems – mitigating climate change, improving agriculture, controlling disease or preserving rare ecosystems – come from the rich world. While the underlying cause of this imbalance is linked to political and economic inequality, its consequences are more egalitarian: everyone suffers from the absence of the innovative solutions that only scientists with direct experience of these problems can provide.

The reason there are few senior scientists from poor countries is not want of talent. One British university recently launched a PhD scholarship programme for students from the United Nation's list of least developed countries. More than 430 people applied, of whom half were deemed outstanding and worthy of unconditional offers. (Unfortunately, the number of available places meant most of them had to be turned down.) Ironically, situations like this arise at the same time that filling studentships designated for British residents is increasingly hard partly owing to decreased interest in pursuing a career with uncertain prospects. Talent and enthusiasm for research remain in abundant supply in poor countries; access to the training required for senior career development, however, is not.

The passport to scientific leadership is the PhD: without one, it is almost impossible to participate at a high level in the scientific enterprise. It does not matter if you have been working in research for one year or 30: without a PhD you are not even eligible to apply for funding to most research councils, and thus have no chance of building an independent research group and reaping the professional and humanitarian rewards it brings.

Most PhD holders are concentrated in rich countries, because that is where most of the PhD-awarding institutions and career prospects are. Many universities in the developing world offer excellent masters-level training, but not PhD programmes: they have neither the staff nor the infrastructure. An aspiring scientist in, say, Tanzania, must look to the rich world for PhD training but the cost is often prohibitive. Universities in Britain, for example, make no distinction between domestic and international students; all are charged a flat fee of about £11,000 (\$16,500, €13,000) a year. However, if you are a UK resident your fees will almost always be fully paid for. Overseas students must pay the full £11,000 fees and support themselves. For rich students from rich countries this may be possible; for those from the poorest it is utterly out of reach.

UK research councils and the main charities commendably support UK scientists to head research programmes based in developing countries that could lead to improvements in health, the environment and socioeconomic status. However, such programmes rarely pay for PhD training for local students. Just as emergency famine relief fails to tackle the underlying difficulties of local agriculture, a rich-world monopoly on scientific enterprise leads to the scientific impoverishment of poor countries. In the past 50 years there have been huge improvements in fighting diseases of affluence but little in diseases of poverty, showing that the responsibility for tackling these problems cannot be left to the rich world.

If the rich world is serious about finding solutions to the most pressing health problems, it must increase the accessibility and affordability of postgraduate training. This is no mere act of charity. The wide-ranging reciprocal educational benefits that would result from real partnerships with researchers

and institutes in the developing world are evident. We cannot tackle current and looming global challenges without the experience and commitment of those most affected.

The writer is a research fellow at the University of Glasgow

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In-country training is best option for African scientists

Print

Published: November 24 2008 02:00 | Last updated: November 24 2008 02:00

From Prof Lorna Casselton.

Sir, It is a deplorable legacy that most of the research on diseases in sub-Saharan Africa, is still carried out in non-endemic countries in the west. The Royal Society entirely agrees with Heather Ferguson's comments ("**Scientists from poor countries need the west's help**", November 19), that there is an urgent need to build sustainable research and training capacity in Africa to turn this inverse relationship around. The west has the resources and expertise to assist the African nations in increasing the number of well trained scientists obtaining PhDs, enabling them to participate at "a high level in the scientific enterprise".

The question remains, however, whether this should be resolved by offering better access to PhD training programmes in the west, or by primarily supporting the higher education institutions in Africa to provide a stronger capacity for high quality training for their next generation of experts. The Royal Society certainly favours the latter option, and has launched the Leverhulme - Royal Society Africa Award, aimed at assisting in-country training for African scientists in Ghana and Tanzania. To help scientists from poorer countries successfully requires scientists working across borders to meet the specific needs of the research communities in those poorer countries.

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