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Climate change, here and now

Poor nations need the data that show what is already happening to their climate, as well as the resources with which to adapt to change.

Critics are always ready to accuse the Intergovernmental Panel on Climate Change (IPCC) of exaggeration. The content of its sobering 6 April report on climate-change impacts, adaptation and vulnerability (see page 706) offers little support to such criticism. But the panel is, from time to time, guilty of almost absurd understatement.

While discussing the encouraging growth in real data applicable to the study of climate change, Working Group II of the IPCC points with regret to a "notable lack of geographic balance in data and literature on observed [climate] changes, with marked scarcity in developing countries". A few pages later, a figure in the report reveals that of 28,671 "significant observed changes in biological systems" from around the globe of which the report made use, 28,115 originated from Europe. Just two were from Africa.

This disparity is all the more alarming because, as the report makes clear, it is in Africa and other parts of the developing world that such data are most sorely needed. They are required not as proof of the global reality of change — that debate is over — but as guidance to policies and interventions that are needed, not in a far-off world of melted ice caps, but right now. The data are needed so that policymakers can know what is happening to crops, to river flow, to soil moisture, and make appropriate use of that information.

In terms of its scope, anthropogenic climate change is unlike any problem previously faced by humanity. Its effects are already felt worldwide and will last for centuries. Solutions to its primary cause — the release of carbon dioxide from the burning of fossil fuels — are measured in terms of trillions of dollars of investment taking place over decades. Yet it also has more immediate, short-term implications. Working Group II predicts with high confidence that, by 2020, between 75 million and 220 million Africans will suffer from increased water stress due to climate change. In the same period, in some African countries, yields from rain-fed agriculture could be halved.

The qualitative sense in which 2020 can be clearly set down as the 'short term' is that predictions made in the report for that date are not conditional. They do not depend on action or inaction on greenhouse-gas emissions between now and then. Rather, they are immune to anything being done about emissions at any point. If the industrial nations were to start slashing their emissions on 1 May of this year, the prognosis would be the same, because the degree of change to be expected through to 2020 is already pretty well fixed by the current state of the climate system.

This is not for a moment to say that there is no point in reducing emissions. That must remain a central objective in attempting to get the planet's climate under control. But Working Group II's report makes clear that this is not enough.

"Developing countries need assistance to help them adapt to effects of climate change that are already on the way."

Developing countries also need assistance that will help them adapt to effects of climate change that are already on the way. Although some of this may be focused on climate-specific approaches (see page 716), most of it can best be achieved through conventional aid programmes aimed at economic development, agricultural robustness and primary health care. Better off, healthier people are people more likely to have the resources needed to adapt.

Both developed and developing countries also need far better data about what is happening in their territories. Entire areas of study, such as the retreat of permafrost (see page 718), remain bereft of appropriate data sets.

And energy sources and patterns of use must shift to lessen the ultimate extent of climate change. But the world also needs to take action right now against the harm that is already being done. The IPCC's latest report provides yet another reason to seek development pathways out of the pitiless poverty in which far too much of humanity is trapped. ■

Science without borders

Researchers should push for rule changes to make Europe work as one.

If European science is to prosper, the barriers that prevent seamless interactions between scientists in different nations need to come down. Last week, the European Commission published a 'green paper' on the future of the European Research Area, the entity it created to improve such interactions. Scientists must now engage in the consultation process that will follow from this document and so help resolve the problems that currently constrain 'cross-border' science.

The European Research Area is a somewhat nebulous concept, most readily described as the highly fragmented arena within which European Union scientists work, in both public and private sectors. But it is a concept that matters, in determining how easily a European researcher can operate across national borders.

Current deficiencies in the way the area works are most apparent when they are personal. One German biology professor, for example, was recently courted by a university in the Netherlands. Aware of the advantages the prestigious post held for his research ambitions, the professor was sufficiently enthusiastic to accept a small salary cut. But negotiations collapsed because Dutch regulations made it impossible for him to bring his German pension to the new position.

On a broader level, those seeking to create expensive items of