

EDITORIALS

S&T has vital role in sustainable farming

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A recent report is a welcome analysis of modern agriculture's future, but it fails to adequately recognise the role of science and technology.

There are areas in which science and progressive politics make comfortable bedfellows. Climate change is one such example. The direction in which the scientific consensus on the dangers of



Flickr/World Bank

global warming points — towards a world based on reduced carbon emissions — is compatible with a broader commitment to both environmental sustainability and social equity.

Food production tends to be the reverse. Most agricultural research, at least until recently, has been directed at increasing food productivity. But the success of science-based agriculture has frequently been at the expense of other social goals, such as conserving biodiversity or reducing the gap between rich and poor farmers.

A three-year international effort to resolve this conundrum ended this week with publication of the 2,500-page report of the International Assessment of Agricultural Science and Technology for Development (IAASTD).

Modelled on the highly influential work of the Intergovernmental Panel on Climate Change (IPCC), the report seeks to forge an international consensus on a new path for global agriculture that learns from the errors of the past and meets the needs of a hungry world in an environmentally and equity-conscious manner.

But where the IPCC reports have been organised around — and take their power from — a clear set of scientific conclusions, this is not true in the case of food production. The result has been a well-meaning but diffuse set of messages that, however powerful in themselves, lack a collective punch strong enough to make a significant impact on decision-making in corridors of power across the world.

Single-minded focus

There are, admittedly, many important conclusions in the report's findings, produced by panels involving more than 400 individuals from governments and civil society and broadly endorsed by 60 nations at a meeting in South Africa earlier this month.

The central message — that food production is an activity with a wide range of impacts, some of which are potentially damaging to the natural environment — is certainly worth repeating. This is particularly the case when political focus on the need to meet food shortages is in danger of encouraging a single-minded focus on boosting production.

Equally important is the demand for more public investment in agricultural research. International donors have tended to reduce emphasis on this area in recent years, often arguing that the task of meeting demand for food can be safely left to the private sector.

The price of this policy is now being felt in rapidly rising food prices. Furthermore, agribusiness has focused its efforts on the main food crops, where the largest profits are to be made. Relatively little research — as a SciDev.Net opinion article by Monty Jones points out (see *Food crop diversity is key to sustainability*) — has been carried out in less profitable areas, such as so-called "orphan crops", or those suitable for desert or saline conditions.

Ambivalent conclusions

But in throwing doubt on the way agriculture has been practised in the past — and in particular laying the blame, if subconsciously, on science for the current ills in global agriculture — the IAASTD report falls into the trap of throwing out the baby with the bathwater.

This is most evident in one of the report's most controversial sections, on biotechnology and transgenic — or genetically modified (GM) — crops. While not ruling out the use of such crops in sustainable agriculture, the report's conclusions are, at best, ambivalent.

No one denies the existence of potential risks to biodiversity from such crops, particularly if their widespread adoption leads to a decline in crop diversity. Nor should fears about potential health damage from consuming such crops be dismissed out of hand; a lack of caution on science-based innovation has caused widespread problems in the past (for example, with the excessive use of chemical fertilisers) and is likely to do so again in the future.

But here the contrast with climate change is striking. In that case, the IPCC endorsed and built on the scientific consensus — the high likelihood that recent global warming is potentially dangerous and the result of human activity. With IAASTD, it is the reverse; the final report avoids the mainstream scientific consensus that, overall, GM crops pose a relatively low threat to either the environment or to human health.

Not borne out by evidence

There are many legitimate reasons to be concerned about the way in which GM technology is being introduced in global agriculture. The IAASTD report itself, for example, points out that current intellectual property legislation may restrict access by poor farmers to technological innovations (for example, by inhibiting the saving, exchange and sale of seeds originating from proprietary crops).

But appropriate control of innovation is a political issue, not a scientific one. Indeed, there is a certain disingenuousness about the claim by environment and development groups that the IAASTD report represents "the current consensus within the scientific community" — suggesting a parity with the IPCC report that is not borne out by the evidence.

The report is a welcome overview of the challenges facing modern agriculture, caught between the pressures of producing more, affordable food on the one hand, and meeting these demands in a way that is environmentally sustainable and socially equitable on the other. It can best be read as a call to arms for bolder efforts by governments to adopt policies that embrace both sets of needs.

The dilemma is that there are even fewer simple solutions to this quandary than to the issue of making economic growth compatible with global warming.

Modern agricultural science and technology do not in themselves hold the whole answer; but they have a substantial

contribution to make, and should not be tarred with the same brush as the ways in which they are often applied.

David Dickson
Director, SciDev.Net

COMMENTS

Nagib Nassar (Brazil)

28 April 2008

Dear Editor

ref World food crisis:I wish to comment:

It is not capitalism which should be blamed for the so called (silent tsumani). The crisis has much to deal with U.S. and allied policy of Agricultural reasearch. Research on staple crops which feed poor people in South America, Asia and Africa were left to International Agriculrure centers, spending 500 hundred millions dollars yearly but improving nothing. For example,poductivity of cassava which supplies more than 70 per cent of calories for more than 300 million people in Latin America and Africa did not improve during the last 30 years . More over it dropped from 14 ton /hectar in the decade 1960s to 12 t/hectar in S. America. In Africa it dropped from 11 ton/ha to 9.9 ton/ha last years!!! Our research shows it could be increased to more than 100 ton/ha if... more rational , if more seriousness and efficienct research exist. kindly see www.geneconserve.pro.br [<http://www.geneconserve.pro.br/>]

One of the most striking examples of wasted money is the so called International Center of Biodiversity responsible to conserve crop genetic resources. Its annual budget is 25 millions dollars; 60 percent of it goes to travel of directors , subdirectors and so many officers. Crop genetic resources itself for which the center was created receive nothing. Many of them have come to extinction.

Sincerely

Nagib Nassar

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Sancheevi Sivakumar (Sri Lanka)

1 May 2008

Nowadays most people talk about how to improve the food production. But in my opinion, food production is not the only reason for the scarcity of food items. The usage pattern of food by rich people makes the poor compete for food. Total world food production is enough to cater for the whole world population. But the distribution of food is not in an even manner. Richer people enjoy luxury food items that waste calories and nutrients during the processing stage. For example: Alcohol. This is the time to think about the efficient usage of food, considering in terms of calories and nutrients. Thank You
Sancheevi Sivakumar Assistant Registrar, Faculty of Health care sciences Eastern University, Sri Lanka

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