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Biopiracy rules should not block biological control

Global regime on benefit-sharing for genetic resources should take account of non-commercial interests, says **Matthew Cock**.

Next month, representatives of national governments will gather in the Japanese city of Nagoya to agree on how companies should share the profits of chemical and drug development with the nations that provided the original biological material.

As part of the Convention on Biological Diversity, the proposed International Regime on Access and Benefit-Sharing aims to tackle so-called biopirates who do not share such proceeds with the source country. To stamp out biopiracy is a laudable ambition, but the new rules seem likely to pose serious problems for the field in which I work: biological control.

Biological control is a relatively cheap and reliable way to control pests through the deliberate introduction of their natural enemies. It offers environmentally friendly and permanent protection against invasive species for agriculture, forestry and biodiversity. There have been problems with biological control in the past, but greater understanding has minimized the risks. There are now more than 7,000 examples of its use against invasive pests in 145 countries. Dozens of these are in the poorest parts of the world.

BENEFITS FOR ALL

One of these is the most successful and high-profile use of biological control so far. The cassava mealybug, *Phenacoccus manihoti*, was accidentally introduced into Africa in the 1970s and surged through the cassava-growing regions of 20 countries, threatening the food supplies of more than 200 million people. Research showed that the mealybug came from South America, where its predators included a parasitic wasp, *Anagyrus lopezi*. These wasps were brought across the Atlantic and introduced to Africa as biological-control agents in the 1980s, and brought the mealybug under control. Millions of livelihoods were saved at comparatively little cost.

Because they involve the movement of genetic resources across national borders, such introductions would in future be covered by the regime agreed in Nagoya. The access and benefit-sharing agreement will lay out how source countries can control the use of their genetic resources, including biological-control agents, and share in the benefits that arise from their exploitation abroad.

Certainly, we must follow the rules, and the days of the unregulated hunter-gatherer of biological specimens are over. But I fear that the attempt to establish a global regime will smother the ability to export and introduce useful species. I am concerned that time-consuming, bureaucratic procedures will impede simple surveys for potential biological-control agents, that taking samples out of host countries for identification will be blocked, and that barriers will be erected to the export and introduction of potential control species.

The problem is that biological control does not sit well with the monetary-based agreement currently under discussion. The species used are not patented, for example. And how could the benefit to 200 million African cassava growers, enormous if converted into monetary terms, be shared with the South American countries that provided the wasp? Once established, biological control agents are self-sustaining and need no further intervention or expenditure. The benefits continue to accrue to all, not to the implementing agency or the government or group that paid for the research.

Biological control fits best under the umbrella of non-commercial research, alongside taxonomy and studies of ecology and biodiversity. It would be naive to think that non-commercial research can never yield a commercial spin-off, but it is not in anyone's interest to prevent such research or burden it with bureaucracy. The free, multilateral exchange of biological-control agents is long established. Frequent users of biological control are usually the most common source of biological-control agents introduced to other countries. The United States, for example, has made more introductions and provided more agents than any other country.

WE MUST NOT SMOTHER THE ABILITY TO EXPORT AND INTRODUCE USEFUL SPECIES.

Any international agreement will need to be implemented by national legislation, and governments could waive rights to genetic resources that are used to improve agriculture or protect the environment. But countries that fail to consider non-commercial aspects could inadvertently block their benefits. Some countries, such as India and several in Latin America, have already introduced laws on access and benefit-sharing, and some of these have been problematic in allowing the export of material.

Before an international system is established, therefore, my plea, reiterating that in a paper in the journal *Biocontrol* earlier this year, is that the many uses of genetic resources that generate non-monetary or public-good benefits should not be made impracticable. We need to introduce appropriate non-monetary ways for source countries and their scientists to share these benefits. The practice of free exchange of biological-control agents should be recognized and built on. Procedures that are introduced to govern administrative issues such as prior informed consent, mutually agreed terms and permissions for access and export should be made straightforward and rapid to implement.

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Work is well under way on a draft text on access and benefit-sharing to be reviewed and agreed in Nagoya. But aspects relating to non-commercial research remain undecided. The working group responsible for the text is tackling a complicated and difficult task, and I do not intend to criticize their substantial achievements. But I hope they will address these concerns. ■

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