Biodiversity, biotechnology and indigenous knowledge assignment

Technology

Biodiversity is disappearing at an unprecedented rate. Worse, the trend appears to be accelerating, in spite of international commitments to reduce, or even halt, the rate of loss by 2010. Good systems of science governance capable of using biodiversity sustainably and equitably will be essential if we are to reverse the trend. UNESCO helps governments and policy-makers make informed decisions about biodiversity conservation within international efforts like the Convention on Biological Diversity.

UNESCO does this by collecting, peer-reviewing and ‘ packaging’ scientific information in the form of scientific assessments like the Millennium Ecosystem Assessment. Published in 2005, the latter included 30 sub-regional assessments. That for Southern Africa observed, for example, that at least four of the eight Millennium Development Goals would not be met unless decisive action was taken to stabilize ecosystem services. We use the term ‘ modern biotechnology’ to describe techniques which are not used in traditional breeding or selection, such as the manipulation of genetic material and the fusion of cells.

The more sophisticated forms of modern biotechnology, including genomics and proteomics, present unprecedented opportunities for Africa to address some of its problems and stimulate economic growth, such as by producing high-yielding disease-resistant crops, or developing new vaccines and drugs for killer diseases. To seize these opportunities, Africa will need to build its capacity to develop and apply safely modern biotechnology in agriculture, health, mining and industry.

In the life sciences, UNESCO has considerable experience in setting-up and coordinating international collaborative networks like the global network of Microbial Resource Centres (MIRCEN). Both the MIRCEN and UNESCO’s Biotechnology Action Council (BAC) support and organize advanced courses and workshops, and scientific meetings. They also promote education and training in biotechnology via UNESCO Chairs. To date, UNESCO has catalysed the creation of three Chairs in biotechnology in Africa, in Burkina Faso, Kenya and South Africa.