



Aquaculture Asia

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Editorial Board

Wing-Keong Ng
M.C. Nandeesh

Editor

Simon Wilkinson
simon@enaca.org

Layout

Nongluk Pituktammanat

NACA

An intergovernmental organisation that promotes rural development through sustainable aquaculture. NACA seeks to improve rural income, increase food production and foreign exchange earnings and to diversify farm production. The ultimate beneficiaries of NACA activities are farmers and rural communities.

Contact

The Editor, Aquaculture Asia
PO Box 1040
Kasetsart Post Office
Bangkok 10903, Thailand
Tel +66-2 561 1728
Fax +66-2 561 1727
Website <http://www.enaca.org>

Submit articles to:
magazine@enaca.org

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Access and benefit sharing

I have previously written about how (rare) cases of 'biopiracy' have triggered a reaction by governments, many of which now require 'benefit sharing' for use of genetic resources. To enforce this regime, some have introduced legislation, permits, fees and other regulatory requirements to access genetic resources within their jurisdiction, hence the new hot topic 'access and benefit sharing' (ABS) for genetic resources.

It hasn't always been this way. For most of human history genetic resources were considered the common heritage of mankind: anyone could use them. When people spoke of 'access' it was generally in the context of making sure that everyone *had* access.

Enter intellectual property rights. In 1961 the *Convention for Protection of New Varieties of Plants* was established. This convention provides a framework for giving plant breeders intellectual property rights to new plant varieties they develop. It also sets out reasonable usage rights for farmers, such as the right to replant seed saved from their own crops. Importantly, it also allowed people to use protected varieties as the starting point for developing other unique varieties, thereby facilitating innovation. The convention has been widely used as a model for national legislation on 'plant breeders rights' in many countries. The convention was arguably a good thing, but patent law aside it was also the first major step in the erosion of what may be considered the 'genetic commons'.

In 1992 states asserted sovereign rights over genetic resources with the adoption of the *Convention on Biological Diversity* (CBD). This marked the end of 'open access' to genetic resources, as the convention mandated regulatory processes to ensure informed consent and sharing of benefits (the aforementioned fees and permits, and the inevitable legal agreements and royalties). Put simply, you can't just take genetic resources anymore, you have to ask permission. You have to explain (to the government) what you are going to do with them. And you have to agree to share the benefits, whatever they may be, with the state and/or some of its citizens.

Then the trade people got involved. In 1994 the *WTO Agreement on Trade-related Aspects of Intellectual Property* (TRIPS) was established. TRIPS sets minimum requirements for the property rights in member states, including for plant breeder's rights. Section 23(b) concerns the patentability of genetic resources and access and benefit sharing issues. Discussion regarding this provision is ongoing, but one of the more contentious issues has been whether or not the origin of genetic materials should be declared in patent applications (presumably as a prelude to states demanding compensation for patents generated from genetic materials sourced within their jurisdiction). Efforts are underway to try and make TRIPS complementary to the CBD.

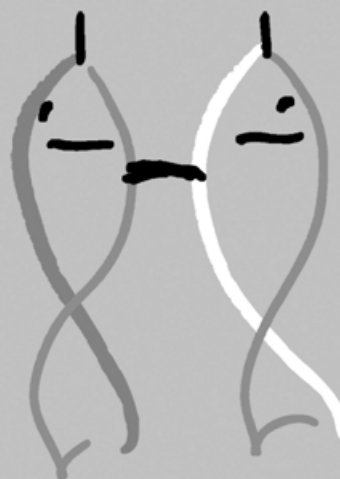
One of the consequences of the CBD was that it also bound the genetic resources used in agriculture. Since the beginning of human civilisation the development of agriculture has been underpinned by the exchange and transfer of plant and animal genetic resources. The free transfer of genetic materials remains a critical component in the development of new varieties to this day. In recognition of the importance of genetic exchange to agricultural development, the *International Treaty on Plant Genetic Resources for Food and Agriculture* was brokered in 2004. This treaty essentially facilitates open access to and exchange of key agricultural

plant species among participating states, i.e. it effectively allows exceptions to the CBD.

While the international framework for the management of plant genetic resources is reasonably well developed, unfortunately no equivalent instruments exist for animal genetic resources, particularly for aquaculture. A second point that may be made is that most of the international instruments relevant to access and benefit sharing of genetic resources to date essentially aim to protect the intellectual property rights of breeders (or in the case of wild resources, the traditional owners and/or the state). In doing so, most ABS arrangements fundamentally *restrict* access to genetic resources. The *International Treaty on Plant Genetic Resources for Food and Agriculture* is a notable exception as the only measure that actually improves access.

So where to from here? Aquaculture is bound by the CBD, like everything else, but there are no instruments for the open exchange of aquatic genetic resources, and this is stifling research. Consider a scientist that wants to do (say) a population genetic study of an economically important fish species. The data may have considerable economic value if the government uses it to implement better fisheries management, but that benefit will accrue to the *fishers* in the first instance. The scientist doesn't 'make money' out of such research personally (and will probably struggle to cover the laboratory costs) but guess who has to pay the fee?

Sadly, some governments also seem to take the view that if the research proposal doesn't demonstrate an immediate economic return (e.g. most conservation research), they aren't interested. However, restricting scientific access to genetic resources is not in anyone's best interest. It does not aid conservation as it denies the scientific studies required to characterise genetic resources and to develop effective plans to manage them. Neither does it improve benefit sharing; it inhibits the extraordinarily intensive research and development required to identify and develop useful pharmaceuticals and other compounds. So if we are really serious about access and benefit sharing, we need to set up a system that *encourages* research to conserve and develop aquatic genetic resources. Otherwise what benefits will there be to share?



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For More Information Contact:

Conference Manager

P.O. Box 2302 • Valley Center, CA 92082 USA

Tel: +1.760.751.5005 • Fax: +1.760.751.5003

Email: worldaqua@aol.com • www.was.org

