



The OECD initiative: towards a Global Biological Resource Centre Network (GBRCN)

The Organisation for Economic Cooperation and Development (OECD) has played a central role in the development of the concept of biological resource centres (BRCs) since the outset. Why does an international governmental organisation that brings together 30 mostly highly industrialised countries and that is focused on globalisation and economic growth have an interest in such an area?

The answer, in fact, is simple and is firmly based on the vision and leadership shown by the government of Japan when they first proposed in 1998 the concept of the BRC, networked internationally. Their vision was simple – microbial culture collections potentially could provide the raw materials for the expected biotechnology revolution but were faced with continuing and increasing crises of funding and a constant battle to maintain quality. They needed to be stabilised, rejuvenated and valued for the resources that they could provide. And the duplication of effort amongst the countries at the cutting edge of biotechnology needed to be reduced, while fundamental research resources were shared as transparently as possible.

This, then, was the basis for moving ahead with the BRC concept at the OECD – biological resources, and the BRCs that maintained them, would act as the base platform for economic growth through the

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industrial exploitation of biotechnology; economies of scale would be delivered by networking high quality, well described collections of such resources.

Other member countries of the OECD – as well as non-member countries – came to share this vision and the product of broad ranging discussions was the OECD policy report published in 2001 (hereinafter referred to as the BRC report). This now familiar report set out five points for action by OECD member countries:

- Establish national BRCs.
- Develop an accreditation system for BRCs based on international criteria.
- Create international linkages amongst BRCs.
- Coordinate standards, rules and regulations taking BRCs into account.
- Establish a global BRC network.

In the final stages of the negotiation of the policy document, the scope of what was defined as a BRC was broadened to:

... service providers and repositories of the living cells, genomes of organisms,

and information relating to heredity and the functions of biological systems. BRCs contain collections of culturable organisms (e.g. microorganisms, plant, animal and human cells) replicable parts of these (e.g. genomes, plasmids, viruses, cDNAs), viable but not yet culturable organisms, cells and tissues, as well as databases containing molecular, physiological and structural information relevant to these collections and related bioinformatics¹.

Nevertheless, the focus of most expert discussion in the current OECD taskforce, even 5 years on, continues to be access to and networking of microbial culture collections. Progress against the 2001 conclusions has been somewhat mixed. A number of countries, for example Japan, China and France, have made great strides towards the evolution of culture collections into BRCs whereas others – at least at the government level – have taken fewer, if any, noticeable independent steps towards realising the BRC vision. This is not to say that there has not been progress at the collection level but the national level action originally envisaged (and agreed to by OECD member countries) has been slow to emerge.

Since publication of the BRC report, the OECD effort has been focused on the development of instruments that would allow a Global BRC Network (the GBRCN)



to be brought into being. Efforts to do so were given a significant impetus in the communiqué that emerged from the S&T Ministers of the 30 OECD member countries, as well as from China, Israel, the Russian Federation and South Africa, when they met under the auspices of OECD's Committee on Scientific and Technological Policy in January 2004.

The platform for the creation of a GBRCN is based on three fundamental factors. First, the development of high quality collections that meet clearly defined quality standards. Second, a system for information linkage and exchange that matches access to high quality materials with access to high quality information through multiple, single, points of entry. And third, that access to materials and information is balanced with security. This latter issue has become particularly significant given recent global security concerns.

The means to assure quality are a system of voluntary standards that have to be complied with to gain entry to the GBRCN. An accreditation and/or certification system, guaranteed at governmental level, is planned to judge whether standards are met by aspirant culture collections. In effect, meeting the agreed quality standard qualifies a culture collection to term itself BRC. Achieving BRC status in turn allows membership of the GBRCN.

The concept of establishing a GBRCN is fundamental to delivering economies of scale and minimising duplications amongst culture collections; these goals

in themselves are at the core of the notion of delivering improved economic rents. The GBRCN is not simply limited to these countries that are members of the OECD – the goal is that any country can join (both countries and individual BRCs would join the proposed network – countries providing the guarantee of accreditation and/or certification, BRCs being the substantive members). Currently, experts from 11 non-member or observer countries (including China and Russia) are involved in OECD level negotiations.

Membership of the GBRCN has always been envisaged as a voluntary step – both for countries and for individual culture collections. It would be possible in principle, for example, for a collection to meet the internationally agreed standards for BRC status without becoming a member of the GBRCN though certification or accreditation as such would depend on the availability of a nationally appointed agency that met GBRCN standards.

The S&T Ministers of the OECD countries mandated the Organisation to complete, by the end of 2006, the various instruments (including quality standards, rules on information exchange and security and development of a certification and/or accreditation system) that would allow a GBRCN to be brought into being. This is currently on course, with work being taken forward in an OECD taskforce under the leadership of France.

At the time of writing, four key issues remain to be resolved, however. First, how practical the quality standards and

other rules are both in terms of operability and ability to deliver the sought after quality gains. Second, the scope and means of application of developing rules on risk assessment and management of resources so as to assure biosecurity. Third, clarity over the expected costs and benefits of establishing the GBRCN (which were initially considered in the 2001 report but need to be revisited now that the necessary standards are clearer) and, finally, whether there is the political will amongst countries to take the final steps towards establishing and financing the GBRCN rather than simply agreeing the tools that would allow this to be done at some point in the future.

It is this final issue – the presence or not of political will amongst a sufficient core group of potential members – that will pose the final challenge on the long road from culture collection to BRC. The establishment of a GBRCN is the end point first envisaged some 8 years ago in Paris. It is now up to governments to determine whether a burgeoning bioeconomy needs to rely on a high quality, networked system of biological materials and information. It is a decision that will profoundly affect the future of the culture collection community.

References

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