

# Innovation in conservation and the Convention on Biological Diversity

Peter Cochrane

In 2005, Sir George Cox, the chair of the UK Design Council, presented a report to the UK government on the importance of creativity to business success and national prosperity. Cox defined 'creativity' as the generation of new ideas – either new ways of looking at existing problems, or of seeing new opportunities, perhaps by exploiting emerging technologies or changes in markets.

“‘Innovation’,” Cox wrote, “is the successful exploitation of new ideas. It is the process that carries them through to new products, new services, new ways of running the business or even new ways of doing business. ‘Design’ is what links creativity and innovation. It shapes ideas to become practical and attractive propositions for users or customers. Design may be described as creativity deployed to a specific end.” (Cox 2005, p. 2).

Rather than straitjacket these important concepts with definitions however, I will focus on some key sets of attributes of these processes and illustrate them with quotes with a tenuous biodiversity flavour.

Firstly there is **Imagining** – curiosity, wondering, ideas, and dreams. Walt Disney said, “If you can dream it, you can do it. Always remember that this whole thing was started with a dream and a mouse.”

Secondly there are the aspects of **Challenging** – unorthodoxy, fresh eyes and perspectives, crossing boundaries, testing and if necessary jettisoning assumptions and ‘business as usual’ mentality, and flexibility.

A number of quotes illustrate this theme. Albert Einstein said, “If at first the idea is not absurd, then there will be no hope for it.” W.C. Fields said, “Remember, a dead fish can float down a stream, but it takes a live one to swim upstream.” John Steinbeck said, “Ideas are like rabbits. You get a couple and learn how to handle them, and pretty soon you have a dozen.” And from another famous American, George W. Bush, “Our enemies are innovative and resourceful, and so are we. They never stop thinking about new ways to harm our country and our people, and neither do we.”

This highlights both the novelty and the need for caution in thinking innovatively.



Thirdly there is a bundle of concepts around **Doing** – translating ideas into new applications, products, services, approaches, and their delivery. I found many insightful quotes around a common theme that there is no success without failure.

And lastly **Education** and **Research**, together with close relationships with those who have problems and potential applications (e.g. managers) are important elements of innovation. Of course, innovation is clearly not the sole preserve of academia as Eric Hoffer said: “In times of change learners inherit the earth; while the learned find themselves beautifully equipped to deal with a world that no longer exists.”

### **Impetus for innovation**

Let me turn to the impetus for innovation, and in particular for innovation in conservation.

Some key drivers are external factors such as change, intensifying pressures on natural resources, land, water, the atmosphere, habitat loss, resource constraints that lead us into active debates about triage and prioritisation, as well as those internal, human factors that I believe we all share such as a passion for the natural world in which we and others live, and a deep concern and curiosity about the world.

There are myriad opportunities in front of us: an active and intelligent research community, a history and acceptance of innovation in both the public and private sectors, technology, the internet, social media, philanthropy, and a willingness and interest in working in and finding new partnerships. And everywhere where there is a problem to solve, an issue to address, there is an orthodoxy to challenge.

Let me now draw heavily on some great work from a guy called Steven Johnson. Many of you will be familiar with TED talks ([www.ted.com](http://www.ted.com)) and if you aren't, I encourage you to dip into this fascinating resource of ideas and thinkers. Googling 'where good ideas come from' will lead you to a Steven Johnson book, and two talks: one illustrated which is entertaining as well as insightful, and a longer, very thoughtful exploration of the environments in which good ideas emerge.

His key thesis is that good ideas emerge and evolve through connected minds. He argues that the advent of coffee and tea houses in Europe was a significant impetus for the Enlightenment – where the effects of a stimulant, and an environment where people could meet to discuss and test ideas – marked a significant break from an alcohol-dominated social world. Johnson, while admitting that stochasticity is important for idea generation, argues that chance favours the connected mind.

The scientist credited with the world wide web, Tim Berners-Lee, did not have the eventual concept as his goal. It started with a side project to better organize his own data. After a number of dead ends and abandoned attempts, and discussions with colleagues, his ideas evolved and became the underlying framework for the internet.

The genesis of Global Positioning Systems arose from two scientists curious about the first Soviet satellite – a great novelty at the time. In their spare time they discovered they could pick up its radio signals. They detected a pattern and wondered if they could use that to predict and describe its orbit. After a bit of work they discovered they could. A later conversation with a colleague who was grappling with the problem of locating and positioning nuclear submarines so they could launch and target missiles accurately, inverted the problem – could they use a stationary satellite to track a moving object? They figured they could, and we now have the network of fixed satellites that provide the signalling that gives us our location information and an ever-growing array of applications, products and services – like using your iPhone to find the nearest coffee shop.

### **Australia's record of innovation in conservation**

Australia has a great and well-deserved reputation for innovation, particularly in conservation.

Firstly, I restate my standard key messages: we have nearly 10% of global species diversity, 80% of this endemic, and as we are a developed and wealthy nation, we have a responsibility and a capacity to act to safeguard this rich natural heritage.

But we don't have unlimited resources.

However we do have many very smart, dedicated people; good institutions; a preparedness to try new approaches, be flexible, to take risks; and a preparedness to adopt, adapt, and adjust what we and others have done.



There are a number of innovations that we can justly be proud of.

Indigenous Protected Areas – breaking the orthodox mould for protected areas being the preserve of public sector agencies, respecting and supporting Indigenous peoples’ knowledge and responsibilities for looking after country, investing significantly and working in new partnerships, and formally acknowledging the outcomes as significant contributions to the national conservation estate (see chapter by Rose in this publication).

The ‘Healthy Parks Healthy People’ initiative from Parks Victoria – an agency with a well-deserved reputation for breaking out of orthodox thinking, and trying to engage and enlist new constituents and collaborators to help with their mission. Reaching out so effectively to the health and medical profession to articulate the synergies and mutual benefits of working together has been inspirational and attracted world-wide interest and increasing adoption in other countries (see chapter by Walker in this publication).

Indigenous carbon farming – starting in an ambitious way with the West Arnhem Land Fire Abatement project where science, traditional burning, the aspiration to re-establish and support people looking after their country for cultural and ecological reasons, and the opportunity to reduce carbon emissions for a large industrial project created a compelling case for a significant investment by a major resource company. This subsequently formed the basis for two government programs, the first to test the concept, and the second to support the implementation of Indigenous carbon farming more broadly.

Some different Australian innovations include initiatives where investments have been conditional on collaborations across boundaries such as the Cooperative Research Centres program, and more recently the National Environmental Research Program. These approaches create bridges and opportunities for researchers and research users to collaborate and work more closely together.

### The Convention on Biological Diversity

Finally, let me outline, given all of this, how I think the Convention on Biological Diversity (CDB) offers a great framework for innovation in conservation.

The Convention has the following three key objectives:

- Conservation of biological diversity
- Sustainable use of its components
- Fair and equitable sharing of the benefits arising out of the utilization of genetic resources.

To deliver these objectives, seven thematic programmes of work have been established (listed below) which correspond to some of the major biomes on the planet. Each programme establishes a vision for, and basic principles to guide, future work. They also set out key issues for consideration, identify potential outputs, and suggest a timetable and means for achieving these.

- Agricultural Biodiversity
- Dry and Sub-humid Lands Biodiversity
- Forest Biodiversity
- Inland Waters Biodiversity
- Island Biodiversity

- Marine and Coastal Biodiversity
- Mountain Biodiversity.

There are also key matters of relevance to all thematic areas. These 19 cross-cutting issues provide bridges and links between the thematic programmes:

- Aichi Biodiversity Targets
- Access to Genetic Resources and Benefit-sharing
- Biodiversity for Development
- Climate Change and Biodiversity
- Communication, Education and Public Awareness
- Economics, Trade and Incentive Measures
- Ecosystem Approach
- Gender and Biodiversity
- Global Strategy for Plant Conservation
- Global Taxonomy Initiative
- Impact Assessment
- Identification, Monitoring, Indicators and Assessments
- Invasive Alien Species
- Liability and Redress
- Protected Areas
- Sustainable Use of Biodiversity
- Tourism and Biodiversity
- Traditional Knowledge, Innovations and Practices
- Technology Transfer and Cooperation.

Work under the Convention on communication and education recognises seven major stakeholder groups:

- Business
- Local Authorities
- Parliamentarians
- Universities and the Scientific Community
- Children and Youth
- The Green Wave for Schools
- Non-Governmental Organisations.

This is a complex framework – but it is global and provides an opportunity for (virtually) all countries of the world to participate. Importantly much of the practical implementation of the Convention is transacted and framed in meetings, workshops and networks, that are focussed on training, capacity building and experience sharing. Ideas that are tested in one place or context are considered and tested in other places and contexts. The Convention Secretariat acts as a clearing house for ideas, tools and learning that can be adopted, adapted and used in different ways. The thematic programmes, the cross-cutting issues and the stakeholder groups, provide important ways of linking across disciplines and interests to foster new collaborations and ideas.

### Nagoya Protocol

The most recent elaboration of the CBD is the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits, which sets out the international agreement on how to approach the third objective of the Convention. At its heart lie two key principles: prior informed consent and mutually agreed terms.

The Protocol establishes that a person or institution seeking access to genetic resources in a foreign country should seek the prior informed consent of the country in which the resource is located. Moreover, the person or institution must also negotiate and agree on the terms and conditions of access and use of this resource with the resource owner. This includes the sharing of benefits arising from the use of this resource with the provider as a prerequisite for access to the genetic resource and its use.

Conversely, countries, when acting as providers of genetic resources, should create conditions to facilitate access to their genetic resources for environmentally sound uses and not impose restrictions that run counter to the objectives of the CBD.

Genetic resources, whether from plants, animals or micro-organisms, are used for purposes ranging from basic research to the development of products. Users of genetic resources include research and academic institutions, and private companies operating in various sectors such as pharmaceuticals, agriculture, horticulture, cosmetics, and biotechnology.

In some cases, traditional knowledge associated with genetic resources that comes from Indigenous and local communities (ILCs) provides valuable information to researchers regarding the particular properties and value of these resources and their potential use for the development of, for example, new medicines or cosmetics. According to Article 8(j) of the CBD: “Parties shall respect, preserve and promote the knowledge, innovations and practices of ILCs relevant to biological diversity, with the approval and involvement of the holders of such knowledge and encourage the equitable sharing of benefits arising from its use.”

So the Nagoya Protocol is setting a framework within which diverse interests must cooperate – including research institutions, pharmaceutical and biomedical companies, governments, land owners, and Indigenous and local communities where they own natural resources or contribute their knowledge.

Australia has recently initiated a series of Biodiscovery Forums in the South Pacific, jointly funded by AusAID and the German overseas aid delivery agency. The first one of these forums is underway in Nadi, Fiji. The aim of these forums is to share ideas and experiences on the Nagoya Protocol from countries such as Australia that have a lengthy experience in making these arrangements work. A key area of interest is exploring the potential for local conservation and economic outcomes from investigations and studies into the economic potential of biodiversity.

The CBD therefore provides a framework for meeting, sharing, exchanging and growing ideas, connecting people from diverse cultures, capacities, and political, economic and social contexts. It creates a valuable framework for people to cooperate and learn.

The history of ideas suggests that innovation can be particularly fruitful in circumstances where people with ideas meet others with problems to solve, in an environment where new ideas are invited and respected, assumptions tested, and the constraints of past thinking do not limit future possibilities.

Much like the opportunities provided by IUCN, and more particularly the Australian Committee for IUCN.



Nantawarrina Indigenous Protected Area in South Australia.  
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## References

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## Biography

Peter Cochrane was first appointed Director of National Parks in 1999. His priorities include building relationships with Traditional Owners of jointly managed parks, the tourism industry and other stakeholders. He has also focussed on improving agency performance and reporting, corporate governance, risk management and working with partners at a broad landscape scale. He is a member of the IUCN World Commission on Protected Areas and an inaugural member of the World Protected Areas Leadership Forum. Peter has worked for the oil and gas industry and as a Ministerial adviser on environment and natural resources issues.