

AVOIDING DEAD PARROTS, DISEASED FORESTS AND ACIDIC OCEANS:  
Developing a New Global Adaptive Architecture for Biodiversity Governance.

Peter Bridgewater Chair, UK Joint Nature Conservation Committee

Ian Cresswell, Wealth from Oceans National Research Flagship, CSIRO, Australia

Abstract

The current global architecture for biodiversity governance is broken. Attempts to repair it have largely failed, including at the recent 2012 Rio+20 meeting. Failure is due largely to conflation of the objectives of the biodiversity-related conventions, resulting *inter alia* in poor implementation of all such conventions. Discussions on biodiversity at the UN General Assembly in 2010, designed to improve matters, provided little new thinking.

In both terrestrial and marine environments this lack of effective governance has led to a more intensive focus on conservation, avoiding or ignoring the other important aspects of sustainable use, management, benefit sharing and importance of new technologies. In turn this has done little to prevent the rapid spread of invasive alien species (including disease organisms), species and genetic diversity loss, and rapid change in ecosystem structure, function, and service delivery. All of these effects derive from lack of effective *architecture*, too many *agents*, poor *adaptiveness* - and ultimately a lack of *accountability*. In particular, lack of an effective global architecture has mitigated against effective implementation of the many ideas and guidelines discussed and adopted by the biodiversity-related conventions.

A solution is to create better architecture and adaptiveness through developing a leaner and more adaptive Convention on Biological Diversity (CBD) as well as reducing the number of agents. This paper explores the value of an invigorated Convention which could act as a framework convention, interacting with the Climate Change and Combatting Desertification Conventions to ensure the vital nexus between biodiversity management, climate change adaptation/mitigation, and land degradation; with the ultimate aim of reducing negative aspects of biodiversity change.

## ABOUT THE TITLE: THE NATURE OF THE PROBLEM

This paper, drawing on an earlier study by Bridgewater et al. (2010) which examined the underlying legal basis of the Biodiversity related conventions, focuses on the consequences of current governance regimes on biodiversity management. Biodiversity is the term used by the Convention on Biological Diversity (CBD, 1992) to describe the variety of life, at all levels from genes through species and to ecosystems. Biodiversity as term, and even a concept did not exist prior to 1986, and OTA (1987) represents the first major attempt to treat the subject. Both on land and sea biodiversity is a critical part of planetary life, so it is also critical it is managed effectively. Even while it is undergoing rapid change, including substantial loss, people everywhere value biodiversity, for reasons ranging from the aesthetic to the economic.

The *Millennium Ecosystem Assessment* (2005a) and *Global Biodiversity Assessment 3* (2010) both associated loss of biodiversity with a loss or reduction in provision of ecosystem services; the benefits people obtain from ecosystems. Conclusions from these global studies lead to the conclusion that biodiversity is integral to sustainable development but as a result of human activities its change and - especially - loss threatens a wide range of ecosystems that are central to the functioning of vital Earth Systems upon which people, as well as other species, depend.

In the title of this paper are three examples of current planetary concerns for biodiversity. Firstly, acidification of the oceans is the “sleeper” issue of climate change. Acidification does appear to be happening, but as with many of the issues concerned with climate change, how fast and how much is still wide open for debate. Yet the consequences of even small changes in the pH of the oceans could have presumed but unknown effects on many marine organisms from the single cell coccoliths, to corals, molluscs and of course vertebrates. All of these organisms rely on a buffered ocean to use calcium carbonate as part of their body structure, so more acidic waters would compromise their ability to use, and to maintain calcium carbonate as part of their body structure. For corals, which form especially important and complex ecosystems, compromised growth and development will lead to reduction in artisanal fisheries which feed over one billion people annually, and reduce natural protection of coasts for some of the most vulnerable countries.

Secondly, diseased forests – it is now apparent from many examples across the world that forests are as much threat from disease as from clearing and logging by people. Again this is

a “sleepers’ issue as it seems to be happening to us while we continue to live our daily lives. Many species of the fungus *Phytophthora* are implicated in decline and destruction of large tracts of forest and shrub systems, across all forest biomes. And Europe is currently suffering an attack on its *Fraxinus* (Ash) forests from the fungus *Hymenoscyphus albidiflorus*. Yet closer examination shows the problem to be most severe in plantations, which tend to be genetically uniform, and less severe or threatening to “natural” or long established forests where genetic variability is higher (*pers. Comm.*).

And finally, dead parrots. This is not a reference (although it is equally an issue) to the zoonotic diseases brought around the world by migratory bird species (e.g. bird flu). It is instead a reference to Fagerstrom et al. (2012) who write colloquially that “ it is time to look at the other side of the equation and gauge the possible benefits of adopting and growing GM (Genetically Modified) crops, risk research on GM crops is *a dead parrot*: it is time to start reaping the benefits of GM’’. This sentence would not be universally agreed, or indeed acclaimed, but it focuses the mind on the issue of synthetic biology, now under discussion at the CBD. Synthetic biology goes beyond GMOs; it concerns our whole approach to land and seascapes with rapidly changing ecosystems (the recombinant ecology of Soule, 1986), as well as the use of GMOs and other techniques of genetic manipulation and engineering.

In sum, these three examples show how we are intentionally or unintentionally causing very sharp shifts in the *status quo* of biodiversity at all of its hierarchical levels, and in all of its environments – and we cannot be certain these changes are good or bad. But they are real, they won’t go away and they require both improvements to the knowledge base, and better governance structures. . In order to manage our planet sustainably into the future in the light of these processes of rapid (and in many cases irreversible) changes, transformation of the scientific and governance tools currently employed is needed.

Increasingly, society is concerned about environmental security (including food, energy, water and health), and the link between secure human environments and the capacity of natural and managed ecosystems to respond to environmental change. Governments have been slow to see earth systems issues as being relevant to national security, and that tends to keep them from being at the top of political and policy concerns. Yet in November 2012 the UK government used on two occasions its COBRA Committee (The Guardian, 2012) to discuss the rapidly spreading tree disease Ash dieback. COBRA is the name given to the

Civil Contingencies Committee, a British cabinet committee chaired by the Home Secretary, typically dealing with major crises such as terrorism or natural disasters. This interesting development suggests governments increasingly may opt to use national security fora to discuss and debate environmental issues, which underlie many security matters.

Biodiversity underpins many key ecosystem functions, including the ability of ecosystems to adapt to change, although the details are often not well understood. The Inter-Academy Panel (2010) produced a clear statement on these issues. Biodiversity changes are occurring all the time, and although most anthropogenic changes seem to promote loss there are countervailing effects (see Hobbs et al. in press). Biodiversity change none-the-less remains a serious issue to be tackled by the global community within the overall context of dealing with climate change, which remains the most intractable environmental issue needing solution.

Since the United Nations Conferences on Environment and Development began in 1972, through the UNCED (1992), to the most recent UNCSD (2012), there have been many discussions about the governance arrangements for biodiversity. The CBD is not the only focus for biodiversity, as it is also discussed in the United Nations Framework Convention on Climate Change (UNFCCC) (*e.g.* the Reducing Emissions from Deforestation and Degradation, or REDD+, process which has the potential for benefits for biodiversity) and United Nations Convention on Combating Desertification (UNCCD), as well as in a multitude of ways in the other biodiversity related Multilateral Environment Agreements (MEAs), detailed later in this paper.

Indeed the UN General Assembly (UNGA) weighed into this debate in 2010. In a special debate for the International Year of Biodiversity, the UNGA offered “Support for REDD & REDD+”. It also agreed that “..... Biodiversity, food security and climate change must be tackled together, and there should be greater cohesion between the activities of the CBD, the UNFF and the UNFCCC.” However, the UNGA also resolved, “...biodiversity loss caused by climate change should be addressed through the UNFCCC....”. Far from helping resolve the issues this further complicated matters by suggesting an MEA set up specially to deal with Climate Change should discuss and resolve on issues for which another MEA had been specially mandated.

In order to slow biodiversity loss and prepare for future changes in biodiversity that have the least impact on human well-being the world needs greatly improved biodiversity policies and

implementation practices, developed and delivered through existing local, national and international systems and structures. There are a number of fundamental principles, developments and concerns that are not incorporated in current policy and management responses; and the need for clear global policy directions, and a concomitant adaptive and accountable governance system for biodiversity, cannot be overemphasised.

Despite the rapid development of international and regional legal frameworks for biodiversity; target setting (such as the 2010 and new 2020 biodiversity targets in Decision X.2 (CBD, 2010)); action plans and strategies across all biodiversity related conventions; and new theory, principles and management concepts; the state of biodiversity continues to decline. Since 1992, despite pre-existing conventions at global and regional scale dealing with biodiversity, and notwithstanding the bringing into force of the CBD, the issue of biodiversity has been largely overshadowed by the issue of (human-induced or not) climate change, yet both are equally as important, if not fundamental to the on-going future of human life on this planet. Of course these two issues are intertwined, and this should be reflected politically, strategically and legally.

This paper reviews the success and failure of international architecture for biodiversity governance. It proposes particular changes in conceptual thinking about the role of biodiversity, and how it should be managed and governed at the international level. Specifically it addresses how biodiversity integration with other environmental issues would contribute to better planetary management, on land and in the seas. The analysis builds on existing global regimes on biodiversity relating to terrestrial and marine biodiversity with an emphasis on the CBD.

## **TOO MANY AGENTS: GLOBAL CONVENTIONS ON BIODIVERSITY**

The major shortcomings produced by the current international governance system arise from having too many agents, reluctant to cooperate. While some important global MEAs relating to biodiversity predate 1970 (Lyster, 1985) most were concluded after 1970. Since then, international biodiversity law and governance has expanded considerably, culminating with the CBD in 1992, which marks a particular starting point for a new approach in biodiversity management. Yet because of the soft and open-ended character of CBD's provisions, its weak extraterritorial dimension, and its lack of an explicit commitment to protect biodiversity, some view the CBD as a failure (Guruswamy, 1998). A significant issue that has

dogged the CBD relates to the actual language used, as too often the CBD talks of protection, yet the reality is that the issue is management.

Besides the CBD, the MEAs broadly covered in this paper are: (i) International Convention for the Regulation of Whaling (1946) (and its governance body, International Whaling Commission); (ii) Convention on Wetlands of International Importance Especially as Waterfowl Habitat (1971) (Ramsar Convention); (iii) Convention for the Protection of the World Cultural and Natural Heritage (1972) (World Heritage Convention); (iv) Convention on International Trade in Endangered Species of Wild Fauna and Flora (1973) (CITES); (v) Convention on the Conservation on Migratory Species of Wild Animals (1979) (CMS); (vi) United Nations Convention on the Law of the Sea (1982) (UNCLOS); (vii) United Nations Convention to Combat Desertification in Countries Experiencing Serious Drought and/or Desertification, Particularly in Africa (1994) (UNCCD); (viii) Agreement for the Implementation of the Provisions of the United Nations Convention of the Law of the Sea of 10 December 1982, Relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks (1995) (Straddling Fish Stocks Agreement); (ix) Cartagena Protocol on Biosafety to the Convention on Biological Diversity (2000) (Cartagena Protocol), and (x) International Treaty on Plant Genetic Resources for Food and Agriculture (2001) (ITPGR).

Apart from the UNCLOS and the Straddling Fish Stocks Agreement, the operative texts of the MEAs mandate a similar mechanism to deliver their objectives – the Conference of the Parties (COP) – that undertakes additional actions to refine issues in the texts, ensure all activities are underpinned by good science as well as being able to establish *ad hoc* bodies to work on particular tasks. In most cases, and in line with particular regulatory frameworks, the COPs interpret and develop their respective regimes. Numerous COP decisions provide the principal mechanism by which the MEA can achieve its objectives and be held accountable.

Although with different subject matter, governance and approaches together these MEAs represent a global system for managing terrestrial and marine biodiversity. Yet this system lacks both an inherent hierarchy and an effective centroid (but see Article 22 of the CBD, which explains its relationship to other MEAs). For example, the International Whaling Commission (IWC), has observer status at CITES, while at the same time being widely regarded as dysfunctional (Bridgewater, 2003). However there are signs of reluctant reform in the IWC, although, such reforms are unlikely to improve its long-term functioning. But

the wealth of scientific data that have accumulated over decades of work by its scientific subsidiary body means that it has to be considered seriously as an agent for marine biodiversity governance. It has also moved beyond biodiversity, dealing with effects of climate change and pollution on large and small cetaceans.

Similarly the Ramsar Convention deals with many of the matters covered by the CBD in its Inland Waters Programme, and there is explicit recognition of that relationship in many CBD decisions on Inland Waters. But the Ramsar Convention also covers marine and coastal ecosystems, and deals with protected areas, invasive alien species, and many other issues covered by the CBD. So to assume a one-to-one relationship between the Ramsar Convention and the CBD Inland Waters Programme both misses the point, and allows duplication of effort to flourish. There are similar issues with respect to the coverage of issues dealing with migratory species and overlap with the CMS.

The secretariats have variously tried to deal with this in informal ways, or have been coerced by COP decisions to become more integrative. Indeed before CBD COP 10 in 2010, high-level representatives of the Ramsar Convention, CITES, CMS, the World Heritage Convention and the CBD met together and agreed that the Strategic Plan for the period 2011-2020 to be adopted at CBD COP 10, should serve as a common framework for action and financing over the next ten years (CITES, 2010). The representatives together declared: “States are sovereign and determine their own international commitments, and the national activities they wish to prioritize. Equally, each convention’s COP is sovereign and therefore determines its own strategies. Decisions about these matters will properly vary from country to country and convention to convention, but the strategy for biodiversity adopted at (Nagoya) should provide a framework that is relevant to all of them.”

This appears on the surface good, but as yet little detail has emerged on how to implement this strategy, and particularly how to minimize the bureaucracy and maximise the implementation.

Two years on, there is no solid evidence of more effective cooperation and the indication in the statement that while the CBD Strategic Plan was a suitable framework for cooperation, each COP is sovereign, suggests a degree of pusillanimity. This governance structure is a key issue requiring change, to ensure the happenstance of the last forty years of history, where MEAs that have been built bit by bit rather than in a planned way, are made fit-for-purpose for the next forty years.

The MEAs rely upon different regulatory techniques, but still have some things in common, especially:

- they all include an objective to conserve (rather than manage) biodiversity;
- very seldom are clear restrictions visible;
- the various COP decisions, which implement and develop further the operative text of many of the MEAs and introduce important management concepts and approaches, have weak or unclear legal status under international law and generally do not create the necessary obligations for states to act effectively.

In order to strengthen international governance and reduce duplication, a plethora of memoranda of co-operation and understanding have been created between the secretariats of the CBD, the Ramsar Convention, the CMS, CITES, World Heritage Convention and the ITPGR. Also some joint working programmes have been established to reach shared goals for the MEAs. These developing partnerships focus on common goals and mechanisms to avoid duplication. While these arrangements have initiated dialogue at the level of Secretariats, little tangible progress has resulted, and the substantive obligations of the respective MEAs have remained unchanged, and this increased cooperation is simply not translating into reducing biodiversity loss.

As a rule, states are obliged to monitor the national implementation of the respective regimes and as well have reporting obligations. National reports should be important tools for evaluating the current status of biodiversity and provide a framework for further actions. Few Parties use the reports effectively, where the completion of the report is the end product, and no substantial use of the reports in monitoring and evaluation of implementation of all the measures identified. All this despite nearly 20 years of discussion and debate on harmonising reporting across MEAs. The COPs do not have powers to deal with non-reporting, but where implementation at national level is seen to be flawed or ineffective, COPs may be able to effect moral suasion (for example, Article 3.2 of the Ramsar Convention deals with poor management of nominated sites, and is a regular discussion topic at each COP).



## TOWARDS BETTER ADAPTIVENESS – THE BIODIVERSITY LIAISON GROUP

In accordance with Decision VII/26 (2004), *Cooperation with other conventions and international organizations and initiatives*, the CBD COP tentatively established a Biodiversity Liaison Group in, while clearly having greater ambition. Decision VII/26 included the following text:

*Requests the Executive Secretary, ... in close collaboration with relevant conventions, organizations and bodies, to examine options for a flexible framework between all relevant actors, such as a global partnership on biodiversity, in order to enhance implementation through improved cooperation, and to report to the Conference of the Parties at its eighth meeting on possible ways forward;”*

Eight years on the global partnership is still merely a concept, but the decision was further elaborated in CBD Decision VIII/16 (2006), with many more proposed cooperative activities between the CBD secretariat and secretariats of other MEAs as well as specialist programmes within the UN agencies, coordinated especially through the UN Environmental management group (EMG). The EMG has struggled for years to achieve some kind of relevance, and has yet to prove its mettle. Despite lack of clear results, the need for a central clearing house for environmental matters in the UN system remains strong, as does the hope it can make a difference. All of the activities flowing from the CBD Decisions mentioned above were confined to action by the *Secretariats*, whereas the important issue is action at national level by the member states that have ratified the Conventions. CBD Decision IX/26 (2008) extended the actions to subsidiary bodies – especially science and technical bodies of the Rio Conventions – and for the first time noted the need for action nationally.

One positive development was the establishment of meetings of the Chairs of the Subsidiary Bodies (CSAB) to the biodiversity-related MEAs. The fifth meeting of CSAB was held in March 2012 (CBD, 2012). Participants were briefed on how the implementation of the strategies (and equivalent objectives) of the biodiversity-related MEAs can contribute to the CBD Aichi Biodiversity Targets. The plans referred to are: the CITES Strategic Vision 2008-2013 (Objectives); the updated CMS Strategic Plan 2012-2014 (Targets); the Global Plan of Action of the International Treaty for Plant Genetic Resources (Priority Activity Areas); the

Ramsar Strategic Plan 2009-2015 (Strategies) and; the World Heritage Convention (Responsibilities of Parties and Criteria for inscription to the World Heritage List).

That meeting also considered the scientific and technical challenges arising from the CBD Strategic Plan for Biodiversity 2011-2020 and the opportunities for the scientific advisory bodies of the biodiversity-related MEAs to coordinate their efforts to address these. In addition, in considering other opportunities for cooperation, the meeting dealt with “harmonization of species nomenclature and options for improving collaboration and synergy on issues of common interest”. As yet no public record of this meeting is available.

## **INTERNATIONAL ENVIRONMENTAL GOVERNANCE**

The United Nations Environment Programme (UNEP) initiated an International Environmental Governance (IEG) process in 2000 (UNEP, 2001) including an examination of clustering of multilateral environmental agreements (MEAs) dealing with biodiversity, and with chemicals and waste. As noted in a report for the Nordic Environment Ministers (Nordic Council of Ministers, 2009) the most striking example of increasing synergies between MEAs comes from those in the chemicals and waste cluster (Basel, Rotterdam and Stockholm Conventions). The process is perceived as an innovative “bottom up” approach in that it is country-driven and engages the parties to the MEAs in the design of and follow-up to synergistic efforts. The biodiversity cluster, (perhaps because it deals with MEAs some of whose origins date to the 1960’s, adopted in a piecemeal fashion and often with lack of effective coordination and engagement at national level) has failed to deliver concrete results.

IEG discussions were refreshed at UNEP Governing Council of 2009. A note from the Executive Director to members of the Governing Council (UNEP, 2009) included the following text on options for incremental reform:

- *Invite the parties of the biodiversity-related conventions to launch a synergies process among the biodiversity-related conventions, taking into account lessons learned from the chemicals and waste process.*
- *Develop a coherent approach to the management of UNEP administered MEAs and facilitate joint activities, including administrative functions of MEA Secretariats, as appropriate and subject to the decisions of the governing bodies involved.*

The issue of IEG was discussed at the United Nations Conference on Sustainable development in 2012. Two items are of interest in the final report of that Conference (UNCSD, 2012):

Firstly, the Conference “*encourage(d) parties to multilateral environmental agreements to consider further measures, in these and other clusters, as appropriate, to promote policy coherence at all relevant levels, improve efficiency, reduce unnecessary overlap and duplication, and enhance coordination and cooperation among the multilateral environmental agreements, including the three Rio conventions, as well as with the United Nations system in the field*”.

Secondly, there was reference to “*Promot(ing) the science-policy interface through inclusive, evidence-based and transparent scientific assessments, as well as access to reliable, relevant and timely data in areas related to the three dimensions of sustainable development, building on existing mechanisms, as appropriate; in this regard, strengthen participation of all countries in international sustainable development processes and capacity-building especially for developing countries, including in conducting their own monitoring and assessments.*”

At the same time the UN Environment Management Group (EMG) (UNEMG, 2012) has also been attempting to promote synergies between relevant MEAs and relevant UN agencies, but again only at the Secretariat level. Finally, and importantly, the UN Joint Inspection Unit (JIU) (UNJIU, 2008) made, *inter alia*, the following recommendation: “*The (UN) Secretary-General should submit to the General Assembly for its consideration through the UNEP Governing Council/Global Ministerial Environmental, a clear understanding on the division of labour among development agencies, UNEP and the MEAs, outlining their respective areas and types of normative and operational capacity-building activities for environmental protection and sustainable development.*” Some 4 years on there is no indication that the main elements of this report have progressed, and the status of this report, whose conclusions remain valid, is unclear. This report and other reports from EMG have consistently fallen on stony ground, increasing the insularity of the Conventions, and leading to a situation where there is little reason to embrace an adaptive and flexible approach to solve the “biodiversity dilemma” i.e. being over-governed and under-managed.

Given the fact that the CBD came into effect in 1993, its implementation at the national level

can only be described as worryingly slow. MEAs dealing with specific aspects of biodiversity have had some better results in specific areas, although this is uneven in each, and at best has provided an operating policy framework based on past practice of what is achievable, rather than fully addressing the fundamental goals of the MEA. For example, the listing of sites under the Ramsar and World Heritage Conventions have caused some parties to take more care over those sites; and the adherence to a CMS range state agreement places a party in a much more visible position regarding the status of particular species. Yet while few would argue these are not positive steps forward, even fewer would argue that they represent a complete fulfilment of all the obligations of the MEAs concerned.

Perhaps the most significant failure of international action on biodiversity is at the national level. This plethora of agents and poor adaptiveness at the international level has led to a plethora of implementation styles, ranging from ignorance to full enactment in national law.

Generally, the necessary legal and social architecture to monitor and police international biodiversity law is missing. Many of the aspirational targets and obligations adopted by MEAs are unworkable in providing measurable outcomes against clearly defined targets, which means that there is little tangible evidence of progress i.e. there is a failure of accountability under a veneer of frenzied activity. Indeed in a recent statement but the Executive Secretary of the CBD (CBD, 2012) he says: “Put plainly half of the Aichi Targets do not yet have indicators which are ready for use at the global level and this will hamper our ability to track progress”. This is not to say targets are lacking. Simply that they are badly focussed and lack effective scientific grounding, largely because their final construction is in pressured late-night sessions as COPs lurch to their inevitably unsatisfactory conclusion.

An analysis of the current set of international biodiversity related conventions shows synergies between them have developed, but weakly, during the last two decades. Little evidence exists that such synergies have been useful for or have led to an improved status for biodiversity. Looking across the entire suite of MEAs it can be concluded that “the sum of the parts is not greater than the whole” which indicates a system that has no one in charge and no functioning checks and balances to achieve an overall agreed vision. Too many agents acting independently within a poorly structured global architecture, and with a lack of good accounting is a recipe for disaster. It can be argued thus that the current collection of international biodiversity governance and management tools is not working for better-managed biodiversity in future; or worse, it is providing a sense of false security.

Such a confused - and confusing - situation leads to a strong perception within states (and more broadly within society) that there is adequate legal protection leading to an improving situation for biodiversity. The general perception of the power and efficacy of international regimes is of a set of mechanisms far more powerful and useful than reality. It is true that targets for biodiversity do provide some moral suasion on parties to comply, which can lead to increased activity in some areas. But the 2020 targets have no definitive legal status, with no penalty imposed for failure, and with ineffectual or absent reporting, so it would seem most likely they will also fail to achieve a reduction in biodiversity loss.

## A WAY FORWARD

Fragmented international biodiversity governance is reality, as is the need to ensure adequate scientific information is available to support decisions by the COPs, and for there to be a workable science-policy interface. There have been exhaustive discussions on this over many years, many focussing on the fact that Subsidiary Body for Science, Technical and Technological Advice (SBSTTA) for CBD “doesn’t work”, compared to the technical advisory bodies of other MEAs. In fact, it does work, but maybe not as intended (Koetz et al. 2008). Discussions since 2007 have focussed on a new mechanism, an Intergovernmental Panel on Biodiversity and Ecosystem Services (IPBES, 2012), which was agreed at an intergovernmental plenary in April 2012, and is effectively the science-policy agent referred to in the UNCSD report mentioned above. Much of the driving force for this panel may, however, be from the wrong cause, including institutional mis-matches (Koetz et al, 2011), and a false belief that this will improve the flow of science to underpin CBD and other MEAs policy development (Hulme et al, 2011)

So is there an architecture that would work? To achieve that, the number of agents needs to be drastically reduced, the overall accountability strengthened, and the adaptiveness of the system considerably improved. Existing international MEAs relating to biodiversity could be developed as particular protocols of the CBD, making it a more effective framework convention. This could ensure better-focused scientific work by reducing duplication in information gathering and processing, and increase the adaptiveness and flexibility of international biodiversity governance as a whole. Importantly, this will improve the global status of biodiversity, presently and in the future.

Practically, the CMS would be easiest to treat by this process, since its function as a framework convention has been taken over in terms of national implementation by the daughter range-state agreements, such as Agreement on the Conservation of African-Eurasian-Migratory Waterbirds (1995) (AEWA), Agreement on the Conservation of Small Cetaceans of the Baltic and North Seas (1992) (ASCOBANS), etc. The CBD text contains clear reference to migratory species.

The Ramsar Convention is not currently part of the UN system, and its COP in 2012 rejected the idea after 6 years of debate (Ramsar, 2012) – an indication of the malaise that can take hold of MEA's when they try to initiate obvious and desirable changes. Wherever it sits, however, bringing it as a wetland ecosystem protocol under the CBD could rationalise considerable effort, and help change the scenario where the only Convention devoted to an ecosystem, is the one with greatest planetary decline (MA, 2005b).

Albeit set in an apparent framework of conservation, CITES deals largely with trade issues and its logical place is as part of the WTO system. Set within WTO, CITES could help green the WTO in a more effective way than trying to establish a World Environment Organisation (WEO) in opposition – an initiative also running for several years, and which failed again to gain traction at the UN Summit on Sustainable Development in 2012, which was simply “committed to strengthening the role of the United Nations Environment Programme (UNEP) as the leading global environmental authority that sets the global environmental agenda (UNCSD, 2012; para. 88).

Natural World Heritage sites, while designed by the creators of the World Heritage Convention to be seamless with cultural sites, none-the-less have greater affinity with activities under the CBD (especially since the latter's adoption of the Programme of Work on Protected Areas) and the nomination of natural sites and cultural landscapes could also become a protocol. It is true that this would mean negotiating an arrangement for the governance *vis-à-vis* the World Heritage Committee, a creature of UNESCO, but this calls simply calls for a reshuffling of organisational responsibilities within the UN system. And while the ITPGR arose from, and sits within, the FAO again it could be a CBD protocol, while retaining links with FAO.

## WAYS AND MEANS

How could this happen? As each Convention has its own governing body, meeting asynchronously, this could take at least a decade for even initial consideration and response. Solving the problems of loss and change of biodiversity cannot wait that long for the international community to get its biodiversity governance fit for Twenty-first century purpose! Building on the UN Joint Inspection report, and recognising the prominent role of UNEP as *the* environment programme within the UN, the most effective scenario for making change would be through a meeting of UNEPs Global Environment Ministerial Council, with ministers representing their governments as Plenipotentiaries. Such a meeting could agree a way forward, clearly instructing their home-based delegations how to act within the governing bodies of the various MEA's. This process could be assisted by consolidated pre-work by the secretariats and the UN system through the EMG, and by decisive and clear action through an UNGA Resolution.

Unless there is a change in paradigm by reducing the number of interacting agents, settling a better and more adaptive architecture and refocusing accountability through development of targets which respond to real environmental pressures there is little likelihood the rate of biodiversity loss will be reduced, or its status improved in any way. But with an improved and consolidated governance framework we may just be able to manage the diseased forests, dodge the dead parrots and sail through the acidic oceans in a more effective way.

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