> It is a great honour for me to be invited by the Sultan Azlan Shah Foundation and the University of Malaya to contribute to this prestigious series of lectures.

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Lord Carnwath of Notting Hill
Environmental Law in a Global Society
28th Sultan Azlan Shah Law Lecture
9 October 2014

The Right Honourable Lord Carnwath of Notting Hill, CVO

Environmental Law in a Global Society

Robert John Anderson Carnwath
(*b.* 15 March 1945)

Lord Robert Carnwath of Notting Hill, CVO was born 15 March 1945. He was educated at Eton College, and read law at Trinity College, Cambridge University, where he was made an honorary fellow in 2013.

Lord Carnwath was called to the Bar by the Honourable Society of the Middle Temple in 1968, and was elected as a bencher in 1991. He was appointed a Queen's Counsel in 1985, and was the Attorney General to the Prince of Wales from 1988 to 1994, for which he was made a Companion of the Victorian Order. During his career at the Bar, Lord Carnwath specialised in planning, local government, environmental and administrative law. He was formerly Chairman of the Administrative Law Bar

Association, and between 1980 and 1985 he was also junior counsel to the Inland Revenue in tax matters.

Lord Carnwath authored the Carnwath Report on Enforcing Planning Control, published by the Department of the Environment in April 1989. Its main recommendations were enacted in the Planning and Compensation Act 1991, paving the way for major reform in the planning enforcement system in the United Kingdom.

Lord Carnwath was appointed to the High Court in 1994 and sat as a justice in the Chancery Division. Between 1999 and 2002, he was also Chairman of the Law Commission of England and Wales. Lord Carnwath was elevated to the Court of Appeal in 2002 and was made a member of the Privy Council.

In November 2007, Lord Carnwath was made the Senior President of Tribunals under the Tribunals, Courts and Enforcement Act 2007, with an express statutory duty to "develop innovative methods of resolving disputes that are of a type that may be brought before tribunals". He was responsible for planning and implementing major reforms of the tribunal system across the United Kingdom following the 2001 Leggatt Report on the review of UK tribunals. Some of Lord Carnwath's key successes in his role as Senior President of the Tribunals between 2007 and 2012 include the integration of the tribunals of England and Wales into the UK court service, as well as forming a specialist environment tribunal with expertise in resolving environmental issues and disputes.

Lord Carnwath was appointed as a Justice of the United Kingdom Supreme Court in April 2012, and was sworn in as a Supreme Court Justice on 15 May 2012.

To this day, Lord Carnwath maintains a significant interest in environment law. Lord Carnwath is the joint founder of the EU Forum of Judges for the Environment, and served as the Forum's Secretary General between 2004 and 2005. He is the President of the UK Environmental Law Association, as well as the UK Planning and Environment Bar Association. He is also a member of the editorial board of the Journal of Environmental Law. From 2002 to 2004, following the 2002 Johannesburg Global Judges' Symposium, Lord Carnwath represented the UK judiciary on a United Nations Environment Programme (UNEP) working group set up with the aim of improving the understanding and practice of environmental issues amongst judges across the world. He also co-chaired the judicial editorial board for the 2004 UNEP Judicial Handbook on Environmental Law.

Lord Carnwath is currently one of nine members of the UNEP International Advisory Council for the Advancement of Justice, Governance and Law for Enforcement Sustainability.

As a judge, Lord Carnwath has made significant contributions to the development of English environmental and planning law, in particular in the field of common law nuisance.

In 2012, Lord Carnwath delivered the judgment in *Barr v Biffa Waste Services Ltd* [2012] EWCA 312, a leading case of great public interest on the law of nuisance and environment. The case raised an important question of principle: whether waste disposal under an environmental license and waste management permit could amount to a defence of statutory authority to a nuisance claim.

In February 2014, Lord Carnwath delivered judgment in the case of *Coventry v Lawrence* [2014] UKSC 13, a landmark Supreme Court decision on common law nuisance dealing with the issue of balancing the rights of private homeowners to reasonable enjoyment of their land, and the right to carry out activities in the public interest under the grant of planning permission, in that case speedway and motocross racing activities carried on since 1984.

In November 2013, Lord Carnwath delivered the UK Constitutional and Administrative Law Bar Association (ALBA) Annual Lecture entitled "From Judicial Outrage to Sliding Scales—Where Next for Wednesbury?", which contained an illuminating discussion of the development of the well-known Wednesbury principle for judicial review.

Lord Carnwath is married to Lady Bambina Carnwath. He plays the piano and is a renowned viola player, and he enjoys both tennis and golf. He is also a member of the Bach Choir, one of the world's leading choruses founded in 1876.

> In relation to his role as a jurist, I can say with confidence that he was among the finest judicial figures of his time.

Lord Woolf
Personal message

quoted by **Lord Carnwath of Notting Hill**
Environmental Law in a Global Society
28th Sultan Azlan Shah Law Lecture, 2014

The courts can do very little on their own. They require committed individuals or organisations or states to bring the cases.

They need access to technical expertise to point the way to practical solutions. And they need to engage all parties and agencies, public or private, with the powers and the resources to put those solutions into practice.

28 Environmental Law in a Global Society

Lord Carnwath
Justice of the Supreme Court of the United Kingdom

Text of the Twenty-Eighth Sultan Azlan Shah Law Lecture delivered on 9 October 2014 in the presence of His Royal Highness Sultan Nazrin Shah.

Your Royal Highnesses, Your Excellencies, Distinguished Guests, Ladies and Gentlemen. It is a great honour for me to be invited by the Sultan Azlan Shah Foundation and the University of Malaya to contribute to this prestigious series of lectures.

It is an occasion of both sadness and celebration. Sadness because it is the first such lecture since the much-mourned death of the Sultan in April this year, but at the same time an opportunity for celebration of his great achievements in so many fields. Since I was not fortunate to know him personally, I thought it appropriate to seek the assistance of someone who has known the Sultan and his family for many years, and has been a strong supporter of these lectures, that is Lord Woolf (our former Chief Justice). I bring this message from him:

> I am very disappointed that I am unable to attend this year's Azlan Shah lecture. The primary reason for my disappointment is that by my presence I could have demonstrated my immense admiration for His Highness

> The best known "continuing mandamus" cases are the cases in the Indian Supreme Court, many initiated by that great environmental advocate MC Mehta. They have made orders, for example, to oversee the cleaning up of industrial pollution threatening the Taj Mahal, and to reduce air pollution in Delhi by conversion of all buses from diesel fuel to CNG (compressed natural gas).

[1] HRH Sultan Azlan Shah, "The New Millennium: Challenges and Responsibilities", lecture in Universiti Kebangsaan Malaysia, Bangi, Selangor (23 August 1997), reproduced in *Constitutional Monarchy, Rule of Law and Good Governance: Selected Essays and Speeches of HRH Sultan Azlan Shah* (Professional Law Books and Sweet & Maxwell Asia, 2004), at page 374.

> the late Sultan and my sadness at his death. He had many great qualities on which I am not qualified to comment. However in relation to his role as a jurist, as in common with him I am a former Chief Justice, I can say with confidence that he was among the finest judicial figures of his time. This is confirmed by his wisdom in establishing this series of lectures that bear his name which have attracted to Malaysia international legal figures of the highest repute. The legal world is indeed fortunate that His Royal Highness Sultan Nazrin shares his father's recognition of the importance of the rule of law and is continuing his father's tradition of hosting these lectures.

I echo those thoughts. And, on behalf of myself and my wife Bambina, I add our sincere thanks to Sultan Nazrin and Her Royal Highness for the exceptionally warm and generous welcome that they have given to us since our arrival here a few days ago.

The subject of environmental law is new to this series of lectures. This is not, I am sure, because of any lack of interest on the part of the late Sultan. In a lecture to university students in 1997 he spoke of the great challenges facing this country in the next millennium to tackle environmental degradation and achieve sustainable development. He also spoke of the role of the law:

> Legal principles and rules help convert our knowledge of what needs to be done … into binding rules that govern human behaviour. … [L]aw is the bridge between scientific knowledge and political action.[1]

Legal principles and rules
help convert our knowledge
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human behaviour. …

Law is the bridge
between scientific
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political action.

Those words are at the heart of what I want to talk about this evening. I shall be looking at the development of laws to meet these challenges across the world, and particularly the part that courts and judges have played, and must continue to play if those laws are to be given practical effect.

Of the daunting challenges facing this country in particular I am not qualified to speak in any detail. Malaysia it seems is ranked among the dozen most important countries in the world for biological richness but also for illegal wildlife smuggling. According to some commentaries, you have excellent laws for the protection of environment but more problems in enforcing those laws, and problems of division of responsibility between state and federal powers. On the other side I learnt from a recent lecture of your Chief Justice (Tun Arifin Zakaria) that in 2011 he announced a new policy commitment on behalf of the Malaysian judges towards the preservation of the environment. This was followed in September 2012 by a practice direction establishing a new specialised court to improve the handling of environmental criminal cases. I also take this opportunity to pay tribute to the important leadership role he has played in this field, not only at home, but also regionally and internationally. As a fellow member of UNEP's Advisory Council on Environmental Justice, I have been privileged to experience his contribution at first hand.

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In Malaysia he has not allowed the judges to sit back in their courtrooms. Environmental awareness has to be learnt. Here is what he said about some of their outreach programmes:

> In one programme, judges were brought for a night walk in the 130-million-year-old jungle, venture through rapid rivers and walk on a 40-metre high canopy walkway in the Pahang National Park. A special session with the aborigines was arranged for the judges to orientate themselves to the original inhabitants of the forests.

I am sorry that we cannot offer our judges anything quite like that in my own country.

One reason why environmental law has not previously featured in these lectures may be that it is a relatively new arrival on the legal scene, both nationally and internationally. It was not a recognised subject at university or law schools when I or any of my predecessors in this series were studying the law. The growth of modern environmental law dates from the late 1960s and early 1970s. Some have linked its emergence as a subject of global concern with the beginnings of space travel, and the first photographs of our world from outside taken by the Apollo astronauts. It is such a familiar image today, that it is difficult to evoke the impression it made on those of us who saw it then for the first time. Here are the opening words from the report of the highly influential Brundtland Commission in 1987:

> We have seen the rapid development of a new and complex system of laws, giving effect to principles —or common laws of the environment—which are now shared by countries and regions across the world. This "global environmental law", as it has been described, blurs the traditional distinctions: "a field of law that is international, national, and transnational in character all at once".

[2] *Our Common Future* (Oxford University Press, 1987), report of the Commission established by the United Nations General Assembly under the chairmanship of Gro Harlem Brundtland, former Prime Minister of Norway.

[3] See Carnwath, "Judges and the Common Laws of the Environment—At Home and Abroad", (2014) 26(2) JEL 177-87.

[4] Yang and Percival, "The Emergence of Global Environmental Law" (2009) *Ecology Law Quarterly* 615.

> In the middle of the 20th century, we saw our planet from space for the first time. Historians may eventually find that this vision had a greater impact on thought than did the Copernican revolution of the 16th century, which upset the human self-image by revealing that the Earth is not the centre of the universe. From space, we see a small and fragile ball dominated not by human activity and edifice but by a pattern of clouds, oceans, greenery, and soils. Humanity's inability to fit its activities into that pattern is changing planetary systems, fundamentally. Many such changes are accompanied by life-threatening hazards. This new reality, from which there is no escape, must be recognized—and managed.[2]

Since those early days we have seen the rapid development of a new and complex system of laws, giving effect to principles—or common laws of the environment[3]—which are now shared by countries and regions across the world. This "global environmental law", as it has been described, blurs the traditional distinctions: "a field of law that is international, national, and transnational in character all at once".[4]

Of course the seeds of environmental law, though not under that name, can be traced back much further. For the common law world, a good starting point might be the mid-19th century in the United Kingdom, which saw the rapid development of the law, in Parliament and in the courts, to meet the serious challenges of the industrial revolution and the growth of urban populations. For example, in

> The seeds of environmental law can be traced back much further. For the common law world, a good starting point might be the mid-19th century in the United Kingdom, which saw the rapid development of the law to meet the serious challenges of the industrial revolution and the growth of urban populations.

[5] *AG v Birmingham Corporation* (1858) 4 K&J 528, 539.

[6] For a detailed account see Ben Pontin, *Nuisance Law and Environmental Protection: A Study of Nuisance Injunctions in Practice*, (Lawtext Publishing, 2013).

the *Birmingham Corporation* case[5] of 1858 the court granted an injunction to stop the corporation pouring untreated effluent from its sewers into the River Tame. The Corporation was finding it very difficult to cope with the needs of its growing population, by then 250,000. Those problems were described by the judge as "a matter of almost absolute indifference". His function was not to take over the public administration of Birmingham, but to apply the law. In other words, *fiat justitia ruat caelum*.

In fact things were not quite as drastic as those words suggest. The heavens did not fall in. Raw sewage was not left to flow through the streets of Birmingham. The strong line taken by the courts in such cases was in practice mitigated by suspension of the injunctions.[6] This gave the polluters, under supervision of the court, both the incentive and the time needed to come up with effective technical solutions to their problems. Many important developments in the technology of pollution control flowed from that judicial process. As we shall see there are close parallels between that process and the "continuing mandamus" developed by the Indian Supreme Court and other jurisdictions in more recent years.

Such cases also led the way to the development of much stronger regulatory regimes, including the first comprehensive legislation in this field, the great Public Health Act 1875. That was the precursor of many that have followed and remains the foundation of much of modern environmental law, in the UK and elsewhere.

The 1972 Stockholm Declaration provided a set of general principles, which though not legally binding as such, have provided a framework for the later development of environmental law nationally and internationally. It was based on the shared responsibility of all to protect and improve the environment for present and future generations.

[7] *Trail Smelter case (United States v Canada)* Award 1941 3 UNRIAA 1905.

[8] Sands, *Principles of International Law*, 2nd Ed (CUP, 2003), page 30.

[9] UN Charter, Article 1(3). See Sands, ibid, page 31.

Moving forwards nearly a century and looking to the global picture, the famous *Trail Smelter* case (1938-41)[7] has been described as a "crystallising moment for international environmental law".[8] It related to a complaint by the residents of the state of Washington of sulphur dioxide emissions from a smelter in Trail, British Columbia. The arbitral tribunal enunciated the now well-established principle that no state has the right to permit the use of its territory in such a manner as to cause injury by fumes to the territory of another.

The involvement of the United Nations itself came much later. The United Nations Charter of 1945 made no mention of the environment. Not surprisingly at that time, its primary concern was the maintenance of "international peace and security". But its wider mission extended to problems of "an economic, social, cultural, or humanitarian character". This provided a basis for development of its environmental activities.[9] The first major initiatives at United Nations level were the Stockholm Conference on the Human Environment in 1972, and in the same year the establishment of the United Nations Environment Programme (UNEP).

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> The spirit of Principle 7 had been already seen in action in relation to the protection of the ozone layer. It is a prime example of science, law and political action in harmony. It is also a success story which may offer lessons for the future.

[10] Defined by the Brundtland Commission as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs".

[11] See e.g. Evelyn Swain, *The Montreal Protocol: Marking the 25th Anniversary of the Most Successful Global Environment Agreement* (2012), https://www.thegef.org/gef/greenline/july-2012/montreal-protocol-marking-25th-anniversary-most-successful-global-environment-ag (accessed 1 October 2014).

generations. The following years saw a proliferation of laws and regulatory measures, and environmental organisations at national and international level, including the beginnings of European environmental law.

We had to wait for the Rio Declaration in 1992 for more flesh to be put on the bones of the Stockholm Declaration. Many of the principles there set out are now widely established in law and court practice: "sustainable development",[10] "inter-generational equity", the "precautionary principle", "polluter pays", and so on. Of central importance was Principle 7. It required all states to cooperate "in a spirit of global partnership to conserve and restore the Earth's ecosystem". Their responsibilities were to be "common but differentiated", in recognition of their differing contributions to global environmental degradation, and the differing technologies and resources available to them.

The spirit of Principle 7 had been already seen in action in relation to the protection of the ozone layer. It is worth dwelling on this episode. It is a prime example of science, law and political action in harmony. It is also a success story which may offer lessons for the future.[11]

In the early 1970s scientists warned that chloro-fluorocarbons (CFCs), then used in a wide variety of refrigerants and other industrial processes, had the potential to destroy the stratospheric ozone layer that protects the earth from harmful ultraviolet radiation. In the following

Principle 10:
the right to public participation
has three "pillars":
the right of the public
to relevant information
held by public authorities,
the right to participate in
the decision-making process,
and the right to effective
access to judicial and
administrative proceedings
to enforce those rights.

This simple, tripartite formula
has proved pervasive
and highly effective.

[12] Montreal Protocol, Article 8.

[13] See Ian Rowlands in *The Oxford Handbook of International Environmental Law* (OUP, 2007), pages 324–326.

[14] See Yang and Percival, note 4 above, at page 627: "arguably the most widely adopted environmental management tool across the world".

decade scientists were able to document the build-up and long lifetime of CFCs in the atmosphere, and find proof of their effects. The public and policymakers were motivated to take action. This led to the 1985 Vienna Convention on the Protection of the Ozone Layer, followed by the 1987 Montreal Protocol on Ozone Depleting Substances (ODS). In less than 30 years since then the vast majority of ozone-depleting chemicals have been phased out worldwide; and the stratospheric ozone layer appears to be on its way to recovery.

Critical to success was the respect paid to the differentiated interests and needs of developing countries, particularly to ensure access to resources and alternative technologies. Important also was the non-compliance procedure[12] supervised by an Implementation Committee, whose approach has been described as "non-judicial and non-confrontational … using both sticks and carrots". Commentators have emphasised the importance of "collective supervision and control, through multilateral negotiation and co-operation with the parties, rather than adjudication or arbitration".[13]

Returning to the Rio Declaration itself, other more specific principles have become prominent in the later development of the law. Principle 17 "environmental impact assessment" (EIA) requires a detailed, expert assessment, available to the public, of the impact of projects likely to have a significant adverse effect on the environment.[14] That has been a strong weapon in practice. Lack of an

> Climate change is possibly the most difficult and urgent challenge of all for the global society.

[15] *Kajing Tubek v Ekran Bhd* [1996] 2 MLJ 388; [1996] 2 AMR 2441.

[16] *Bulankulama v Ministry of Industrial Development*, S.C. Application No. 884/99: South Asian Environmental Reporter, vol. 7(2), June 2000.

[17] *The Achiloos case*, Supreme Administrative Court 2759/1994. See Houck, *Taking Back Eden: Eight Environmental Cases that Changed the World* (Island Press, 2010), Chapter 7.

[18] *Berkeley v Secretary of State* [2001] 2 AC 603.

[19] Yang and Percival, note 4 above, at page 629. In those cases it seems the projects were able to proceed after the failures were resolved by submission of assessments, modification of the projects and payment of fines.

[20] The UNECE Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters, adopted in Aarhus, Denmark in 1998. It now has 47 parties as far apart (geographically) as Iceland and Kazakhstan, and including the European Union itself.

[21] Kofi Annan (Secretary General of the United Nations 1997-2006). See http://www.unece.org/env/pp/statements.05.11.html (accessed 1 October 2014). The same principles have also received wider endorsement in the 2010 UNEP Guidelines for the Development of National Legislation.

[22] That used to be the position of the Malaysian courts (see *Ketua Pengarah Jabatan Alam Sekitar & Anor v Kajing Tubeck* [1997] 3 MLJ 23; [1997] 3 AMR 2521) but a more liberal approach seems to be emerging: *Malaysian TUC v Menteri Tenaga, Air dan Komunikasi* [2014] MLJ 145; [2014] 2 AMR 101.

appropriate EIA has proved fatal to developments as diverse as a hydro-electric project in Sarawak,[15] phosphate-mining in Sri Lanka,[16] the diversion of the River Achiloos in Greece,[17] and the redevelopment of the Fulham Football ground in London.[18] In China in 2005, there were reports of an "environmental assessment storm", when the State Environmental Protection Administration issued orders to halt 30 large construction projects because of failures to comply with EIA requirements.[19]

No less important is Principle 10: the right to public participation. That has three "pillars": the right of the public to relevant information held by public authorities, the right to participate in the decision-making process, and the right to effective access to judicial and administrative proceedings to enforce those rights. This simple, tripartite formula has proved pervasive and highly effective. It has been given more elaborate and binding form in Europe in the Aarhus Convention.[20] This Convention was described by a former UN Secretary General as "the most ambitious venture in the area of environmental democracy so far undertaken under the auspices of the United Nations".[21]

An important aspect of Principle 10 is the widening of access to the courts to enforce environmental protection. The traditional view was that judicial review was confined to those with a specific legal interest in the subject matter of the case, distinct from that of the public at large.[22] In many parts of the common law world that has given way (in my view rightly) to a much broader approach. As my

> The traditional view was that judicial review was confined to those with a specific legal interest in the subject matter of the case, distinct from that of the public at large. In many parts of the common law world that has given way (in my view rightly) to a much broader approach.

[23] *Walton v Scottish Ministers* [2012] UKSC 44.

[24] *Oposa v Factoran* GR No 101083 (SC 30 July 1993).

[25] See *Charan Lal Sahu v Union of India* AIR 1990 SC 1480. In *Vellore Citizens' Welfare Forum v Union of India* AIR 1996 SC 2715 the Supreme Court went still further, incorporating principles of "sustainable development", including the "precautionary principle" and the "polluter pays" principle, into Indian law.

[26] See *Zia v WAPDA pld* 1994 SC 693.

[27] *Bato' Bagi & Ors v Kerajaan Negeri Sarawak* [2011] 6 MLJ 297; [2011] 5 AMR 493 per Richard Malanjum (CJSS).

[28] A 2005 study reported that, of the 250 countries which had written constitutions, about 130 countries had constitutional provisions that expressly addressed environmental norms: James May, "Constituting Fundamental Environmental Rights Worldwide" 23 Pace Env LR 113 (2005-6). See also Dinah Shelton "Human Rights and the Environment: Substantive Rights", Chapter 13 of *Research Handbook on International Environmental Law* (Edward Elgar Publishing Ltd, 2010). In note 3 she provides a list of countries with such constitutional guarantees.

colleague Lord Hope said in a recent case: "environmental law … proceeds on the basis that the quality of the natural environment is of legitimate concern to everyone".[23] Some courts have taken the logic of that proposition a stage further. Thus the Philippines Supreme Court, in the famous *Oposa* case,[24] memorably upheld a challenge to the state's policies for granting consents to fell in the countries' virgin forests, brought by some 43 children from all over the Philippines, on behalf of themselves and "generations yet unborn".

At national level environmental principles have found their way into new or amended constitutions. Constitutions dating from before this period (such as your own Malaysian constitution of 1957), made no explicit reference to the environment. However, from about 1990 some courts, notably in India[25] and Pakistan, began to interpret general guarantees of the right to life as including not just the right to "mere existence from conception to death",[26] but also the right to a healthy environment in which to live. That lead has been followed more recently here in Malaysia. In the *Bato Bagi* case, your own Federal Court held that "life" in Article 5(1) of the Constitution "incorporates all those facets that are an integral part of life itself and those matters which go to form the quality of life".[27]

By contrast with those earlier constitutions, nearly all those adopted since the early 1990s have explicitly recognised in some form the right to a clean and healthy environment.[28] Such constitutional provisions take many

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[29] Sands, note 8 above, pages 741–742.

[30] See eg *Lopez Ostra v Spain*, judgment of 9 December 1994, Series A no. 303-C, pages 54–55. The cases are reviewed in the Grand Chamber decision in *Hatton v United Kingdom* [2003] ECHR 338, para 96ff.

forms. One of the more attractive is Bolivia's 2010 Mother Earth law (*Ley de derechos de la Madre Tierra*). Mother Earth is defined as:

> … the dynamic living system formed by the indivisible community of all life systems and living beings whom are interrelated, interdependent, and complementary, which share a common destiny …

For the purpose of protecting and enforcing her rights, Mother Earth is given "the character of a collective subject of public interest".

We can see the same trend, from the implied to the explicit, in other systems of law. It was only in 1986 that the European Community Treaty was amended to include express provisions on environmental protection. Before then a substantial body of law had been built up by the Commission, with the support of the European Court of Justice, based on the legal premise that harmonisation of national environmental laws was needed to remove non-tariff barriers to trade.[29]

So also in human rights law. The European Convention on Human Rights, dating from the immediate post-war period, said nothing in terms about the environment. But in a series of cases starting in the mid-1990s the European Court of Human Rights held that Article 8, which protects the right to private life and the home, extended also to protection of the home environment.[30]

Nor do I think the framers of the European Convention expected its interpretation to be stuck in the mind-set of the immediate post-war era. I echo the words of the late Sultan:

"Whilst it is true that judges cannot change the letter of the law, they can instil into it the new spirit that a new society demands."

[31] E.g. *Oneryildiz v Turkey* [2004] EHRR 41 (breach of Article 2—right to life).

[32] See Shelton, note 28 above, page 267.

[33] *Social and Economic Rights Action Center v Nigeria*, African Commission on Human and Peoples' Rights, Comm. No. 155/96 (2001) (the "*Ogoniland case*"); Shelton, note 28 above, page 275. The Nigerian Government had been charged with a violation of this right by activities connected with oil production (such as dumping toxic waste) which had contaminated the Ogoni people's environment, leading to numerous health problems.

[34] *The Limits of Law*, 27th Sultan Azlan Shah Law Lecture (2013).

The court has conceded a wide margin of appreciation to national governments on matters of policy. But it has been willing to intervene strongly where national authorities have failed to enforce their own regulatory laws.[31]

By contrast the much later African Charter on Human and Peoples' Rights (1981)[32] provides expressly in Article 24 that "all peoples shall have the right to a general satisfactory environment favourable to their development". This article has been held to impose obligations on governments to tackle environmental degradation, and promote secure ecologically sustainable development and use of natural resources.[33]

Before leaving Article 8 of the European Convention, I should say a word about the lecture in this series last year, given by my colleague Lord Sumption.[34] He criticised the Strasbourg court's expansive approach to interpretation, particularly of Article 8—used as he saw it "to reflect its own view of what rights are required in a modern democracy". The extension of Article 8 to the protection of the home environment was not one of those singled out by him for criticism. Rightly so in my view. It is no big step to extend the protection of the home as such, to protection from noise or pollution, which makes normal home life impossible.

But I feel with respect that his more general criticisms go too far. The Strasbourg court is not perfect, any more than any other court, nor are all its decisions beyond criticism. That said, the Convention, with the court which

In 1996 for the first time
the International Court of Justice
acknowledged the protection
of the environment
as part of international law.

It spoke of the environment
as "not an abstraction but …
the living space,
the quality of life
and the very health
of human beings, including
generations unborn".

A year later for the first time
it gave its express endorsement
to the principle of sustainable
development as part
of international law.

[35] Speech in Melbourne, Victoria, August 2014.

[36] HRH Sultan Azlan Shah, "Interpretative Role of Judges" in *Constitutional Monarchy, Rule of Law and Good Governance: Selected Essays and Speeches of HRH Sultan Azlan Shah* (Professional Law Books and Sweet & Maxwell Asia, 2004), at page 303.

administers it, is one of the more remarkable achievements of the post-war world. It has developed into a single system of law supervised by a single international court, voluntarily adopted by 47 independent states. Most of them 70 years ago were tearing each other apart in war, or 35 years ago were still divided by the Iron Curtain of Communism. They brought a wide variety of different legal traditions and perceptions of human rights. The court now disposes of over 50,000 cases a year, and gives more than 2,000 substantive judgments, the vast majority uncontroversial in law. As Lord Neuberger said recently:

> … the development of pan-European law after centuries, indeed millennia, of separate development and frequent wars, and with different political and legal traditions, and different historical experiences and different traditions, was never going to be easy.[35]

Nor do I think the framers of the Convention expected its interpretation to be stuck in the mind-set of the immediate post-war era—any more than we look at Magna Carta through the eyes of the 13th century barons. I echo the words of the late Sultan:

> Whilst it is true that judges cannot change the letter of the law, they can instil into it the new spirit that a new society demands.[36]

None of these developments in environmental laws would have been of much value unless the judges

Crucial to the success of specialist environmental tribunals are expertise, accessibility, and flexible procedures and remedies. In the Amazon region in Brazil, community service orders are directly related to environmental improvement or environmental education. A convicted game poacher of protected Amazonian manatees has been turned into one of the country's leading wildlife advocates.

[37] Reproduced as Chapter 22 of Lord Woolf, *The Pursuit of Justice* (OUP, 2008).

[38] *Advisory Opinion on the Legality of the Threat or Use of Nuclear Weapons*, ICJ Reports (1996) 226, at page 241, para 29.

[39] *Gabcikovo-Nagymaros* Project (Hungary/Slovakia) Judgment, ICJ Reports (1997) 7, at para 140.

[40] *Whaling in the Antarctic (Australia v Japan)* 2014 General List No 148.

were themselves attuned to the same objectives. In 1991 Lord Woolf provocatively entitled his address to the UK Environmental Law Association, "Are the judiciary environmentally myopic?"[37] The title suggested its own answer. But we have come a long way since then.

At a global level, the International Court of Justice has itself moved forward. In 1996 for the first time it acknowledged the protection of the environment as part of international law. It spoke of the environment as "not an abstraction but … the living space, the quality of life and the very health of human beings, including generations unborn".[38] A year later in the *Hungarian Dams* case for the first time it gave its express endorsement to the principle of sustainable development as part of international law.[39] The potential of its role in environmental issues was seen earlier this year in its judgment concerning whaling in the Antarctic.[40] The court held that the scale of Japan's whaling programme could not reasonably be justified within the exception allowed by the treaty for "scientific research". It has been seen as a landmark case, in the court's willingness to examine the scientific issues for itself, and for that purpose to hear expert evidence subject (for the first time) to cross-examination.

The central role of the judiciary received worldwide recognition in 2002 at the Global Judges' Symposium in Johannesburg. It brought together senior judges from around 60 countries at the invitation of the United Nations Environment Programme (UNEP). The "Johannesburg

> Judge Weeramantry, the former Sri Lankan judge of the International Court of Justice spoke of the special role of the judiciary as "one of the most valued and respected institutions in all societies", with power through judicial decisions and attitudes to influence "society's perception of the environmental danger and of the resources available to contain it".

[41] Lal Kurukulasuriya and Kristen Powell, "History of Environmental Courts and UNEP's Role", PACE (2010) 3 J Court Innovation 269.

[42] *Gabcikovo-Nagymaros* case: Separate Opinion of Vice-President Weeramantry http://www.icj-cij.org/docket/files/92/7383.pdf (accessed 1 October 2014). It contains a survey of (in his words) "environmental wisdom … derived from ancient civilisations and traditional legal systems in Asia, the Middle East, Africa, Europe, the Americas, the Pacific and Australia—in fact the whole world".

[43] Dinah Shelton and Alexandre Kiss, *Judicial Handbook on Environmental Law* (UNEP, 2005), page xviii, http://www.unep.org/delc/Portals/119/publications/Judicial-Handbook-Environmenal-Law.pdf (accessed 1 October 2014).

[44] Regional planning meetings were organised by UNEP for judges in Thailand, Argentina, Nairobi, Johannesburg, Auckland, Cairo, Jamaica, Rome and Lviv.

Principles" adopted by the conference affirmed the vital role of an independent judiciary and judicial process, and called for a UNEP-led programme of judicial training and exchange of information on environmental law. I was privileged to represent the UK judiciary on the judicial taskforce set up by UNEP based in Nairobi which oversaw the development of the programme.[41]

One early initiative was the preparation of a Judicial Handbook on Environmental Law, under the supervision of a judicial committee which I co-chaired with Judge Weeramantry. He was the former Sri Lankan judge of the International Court of Justice who had written a powerful concurring opinion in the *Hungarian Dams* case.[42] In his introduction to the UNEP manual he spoke of the special role of the judiciary as "one of the most valued and respected institutions in all societies", with power through judicial decisions and attitudes to influence "society's perception of the environmental danger and of the resources available to contain it".[43] An important part of the UNEP programme was to develop judicial co-operation on a regional basis.[44] The EU Forum of Judges for the Environment, of which I was a founder-member, will celebrate its 10th anniversary in Budapest later this month. More recently, in this part of the world the Asian Judges Network on the Environment (AJNE) was formally launched in Manila in 2013. It provides a means for experience-sharing among senior judges of the Association of Southeast Asian Nations (ASEAN) and the South Asian Association for Regional Cooperation (SAARC). In August this year I attended a conference of

> The famous *Trail Smelter* case has been described as a "crystallising moment for international environmental law". The arbitral tribunal enunciated the now well-established principle that no state has the right to permit the use of its territory in such a manner as to cause injury by fumes to the territory of another.

[45] He mentioned New South Wales and Denmark.

[46] George and Catherine Pring, *Greening Justice: Creating and Improving Environmental Courts and Tribunals* (The Access Initiative, 2009), http://www.accessinitiative.org/resource/greening-justice (accessed 1 October 2014).

[47] http://www.bloomberg.com/news/2014-07-10/china-supreme-court-establishes-special-environmental-tribunal-to-combat-pollution.html (accessed 1 October 2014).

South Asian senior judges in Colombo, hosted by the Chief Justice of Sri Lanka. The judges came from jurisdictions as diverse, socially, legally and geographically, as Afghanistan, Bangladesh, and the Maldive Islands. I was struck however by the sense of shared purpose and values, and willingness to learn from the experiences of each other.

In 1991 one of Lord Woolf's proposed remedies for judicial myopia was the development of specialist environmental tribunals with wide powers to oversee and enforce laws for the protection of the environment. He was aware of only two examples at the time.[45] Since then the picture has been transformed. A 2011 study identified a multiplicity of specialist environmental jurisdictions in 42 countries, about half created in the previous five years.[46] The growth has continued. I have already spoken of the new Malaysian environmental court. In Colombo we heard reports of other new recent developments, notably the Green Tribunals in India. In China, the first environmental tribunal was established in 2007, since when more than 130 environmental tribunals have been set up in 16 provincial divisions. In June this year it was announced that the Supreme Peoples' Court of China had set up its own Environment and Resources Tribunal, to hear cases itself, and supervise the work of the lower specialist courts and tribunals.[47]

Crucial to the success of such tribunals are expertise, accessibility, and flexible procedures and remedies. I have time for only one example from the 2011 study. In the

> In less than 30 years since the Montreal Protocol the vast majority of ozone-depleting chemicals have been phased out worldwide; and the stratospheric ozone layer appears to be on its way to recovery.

[48] *MC Mehta v Union of India*, WP 13381/1984 Judgment 30.12.96.

[49] See Michael Jackson and Armin Rosencranz, "The Delhi Pollution Case: Can the Supreme Court Manage the Environment?", *Environmental Policy and Law* 33/2 (2003) 88, for a description of the case and its political and financial consequences.

[50] See Justice Hilario Davide, "The Environment as Life Sources and the Writ of Kalikasan in the Philippines", 29 Pace Envtl. L. Rev. 592 (2012), available at http://digitalcommons.pace.edu/pelr/vol29/iss2/9 (accessed 1 October 2014).

Amazon region in Brazil, an environmental judge seems to have earned the reputation of a modern-day Mikado in his determination to "make the punishment fit the crime". Community service orders are directly related to environmental improvement or environmental education. Thus, we are told, a convicted game poacher of protected Amazonian manatees has been turned into one of the country's leading wildlife advocates. The judge gave him the choice of a prison sentence or a year volunteering at a manatee rehabilitation centre. "Choosing the latter, the defendant emerged a changed person, 'The Man for Manatees'".

It should not be thought that the traditional courts have held back. One has to go back to the 19th century in the UK to find anything comparable to the "continuing mandamus" procedures developed by some courts in the last 25 years. Best known are the cases in the Indian Supreme Court, many initiated by that great environmental advocate MC Mehta. They have made orders, for example, to oversee the cleaning up of industrial pollution threatening the Taj Mahal,[48] and to reduce air pollution in Delhi by conversion of all buses from diesel fuel to CNG (compressed natural gas).[49] So also in the Philippines in 2008, the Supreme Court issued a continuing mandamus against ten government agencies to secure the cleaning up of Manila Bay, requiring them to make quarterly reports to the court. Three years on in 2011 the Chief Justice and other justices were reported as taking a tour of the bay to inspect progress for themselves.[50]

> The European Convention on Human Rights, dating from the immediate post-war period, said nothing in terms about the environment. But in a series of cases starting in the mid-1990s the European Court of Human Rights held that Article 8, which protects the right to private life and the home, extended also to protection of the home environment.

[51] *Syed Mansoor Ali Shah v Govt. of Punjab*, PLD 2007 Lahore 403, available at http://ceej.pk/cms/docs/lhc/PLD2007Lahore403.pdf (accessed 1 October 2014).

[52] Email to author (29 September 2014).

I will take two other more recent cases, which deserve to be better known. The first is from Lahore in 2006. As in the Delhi case it concerned air pollution by traffic. The High Court, relying like the Indian court on the right to life guaranteed by the Constitution, first established a Clean Air Commission to advise it, and then, based on its recommendations, laid down a detailed programme to replace two-stroke by four-stroke engines and rickshaws, and to convert buses from diesel to CNG.[51] Counter-petitions from some rickshaw drivers, claiming that they could not afford to make the change, were disposed of by requiring a government undertaking to offer them preferential loans.

The action had been initiated by a progressive environmental lawyer, Syed Mansoor Ali Shah. He has since become a respected environmental judge. He spoke at the recent Colombo conference. I will read his own account of the case:[52]

> We had filed this petition long years ago (perhaps in 1997). Environment was not really on the judicial agenda at the time and there were no green benches. The judges at that time didn't think much of the case and it kept pending. As environmental awareness grew over the years, the case luckily came up before a more sympathetic justice. He was the first one to ask me if there was a solution to the problem before the court and wanted me to list the solutions … Having been a part of the BAQ (Better Air Quality) network organised by Asian Development Bank (ADB) I wrote to them for help … ADB suggested that

> The 1994 Argentina constitution had guaranteed "the right to a healthy and balanced environment fit for human development". In 2008 in a case brought by a group of local residents, the Supreme Court decided to give effect to that right. It ordered the various government agencies, federal and local, to develop a coordinated plan under court supervision to clean up the river and the surroundings.

[53] Justice Hamid Ali Shah.

[54] By Enrique Cadícamo and Juan Carlos Cobián (1937).

[55] … *torvo cementerio de naves que al morir, sueñan sin embargo que hacia el mar han de partir* (grim cemetery of ships which when they die dream of a return to sea).

> they hold an international conference in Lahore and invite all the stakeholders … ADB flew in 15 international experts. The two-day conference concluded with detailed recommendations on how to restore better air quality in Lahore. These recommendations were placed before the court by us as if the international conference was the amicus curiae appointed by the court. The recommendations were put on the judicial record and objections were invited from the public. As no material objections were filed, the court directed the government to implement the recommendations … [The judge][53] … was awarded best green judgment award in Indonesia …

That is a splendid example of the potential for a committed and resourceful advocate working with a responsive court to achieve real change. It shows also how outside funders such as the Asian Development Bank can be brought in to provide expertise and resources. It has lessons for any aspiring environmental lawyers among you.

The other case is from Argentina. It shows the power of the court to cut through bureaucratic divisions between different public and private agencies and impose a coherent solution. It concerned the heavily polluted Riachuela River in Buenos Aires. Lovers of Latin American music will recall that the mist over the Riachuela had been immortalised by the 1937 tango of that name (*La niebla del Riachuela*).[54] But the mist was not as romantic as it seemed. It was largely due to industrial pollution. More accurately perhaps, the song had spoken of the river as a "grim cemetery of ships" (*torvo cementerio de naves*).[55]

> *Massachusetts v Environmental Protection Agency* has provided the legal base for the new administration to press ahead with an interventionist approach without the need for further legislative backing. It paved the way for a radical change in the approach of the EPA.

[56] *Beatriz Silvia Mendoza and others v National Government* M. 1569 8 July 2008 (Supreme Court of Argentina).

[57] Yang and Percival, note 4 above, pages 634–635.

[58] See for example: http://www.cij.gov.ar/nota-11409-Riachuelo--se-realiz--una-audiencia-p-blica-convocada-por-el-juez-Torres.html (accessed 1 October 2014).

[59] TierrAmérica (13 August 2014), *It Takes More than Two to Tango—or to Clean up Argentina's Riachuela River*, http://www.ipsnews.net/2014/08/it-takes-more-than-two-to-tango-or-to-clean-up-argentinas-riachuelo-river/ (accessed 1 October 2014).

The 1994 constitution had guaranteed "the right to a healthy and balanced environment fit for human development". In 2008 in a case brought by a group of local residents, the Supreme Court under Chief Justice Lorenzetti decided to give effect to that right. It ordered the various government agencies, federal and local, to develop a coordinated plan under court supervision to clean up the river and the surroundings.[56] To assist this task the court involved a variety of different agencies, including the Ombudsman, NGOs and the National Audit Office. In practical terms it led to the approval in 2011 of an Integral Environmental Clean-up Plan with a 15-year, $1.8b programme for improving the river, the local industries, and the conditions of the residents of the 13 slums along its banks.[57] The court also accepted the need for continuing supervision, with annual public hearings in the court for officials to report on progress.[58]

According to the environmental journal TierrAmérica,[59] work is now well under way supported by an $840m fund from the World Bank. Problems remain resulting from "two centuries of neglect and a complex web of political and economic interests". But much has been done. The wide towpaths along the river have been reopened and paved to provide access to and control over the river. Of the 15,000 factories registered in the river basin, nearly 500 have been converted to stop pollution, and another 1,300—including the biggest polluters—are in the process of conversion. 1.5 million people have been linked to the water supply network, health assessments are

“In 2014 the Obama administration launched new EPA rules to limit emissions of carbon-gases from power plants by 30% by 2030. This initiative was described by Al Gore as “the most important step taken to combat the climate crisis in our country’s history”.”

[60] Houck, *Taking Back Eden: Eight Environmental Cases that Changed the World* (Island Press, 2010).

being carried out in high-risk areas, and 14 health centres are under construction. A start has been made on the "grim cemetery of ships", with the removal from the river of some 60 sunken hulks. And the mist over the Riachuela has at last begun to dissipate.

There are plenty of other examples from round the world. For those who like a colourful version of their legal history, I commend Oliver Houck's *Taking Back Eden: Eight Environmental Cases that Changed the World*.[60] His eight cases are from USA, Japan, Philippines, Quebec, India, Russia, Greece and Patagonia. The title may claim a little too much. But they provide vivid illustrations of judicial activism in practice in a wide variety of legal systems.

These of course are national courts dealing with national problems. What of the wider picture? That brings me finally to what is possibly the most difficult and urgent challenge of all for the global society—that of climate change. I have spoken of the success of the international efforts to save the ozone layer. Unfortunately our efforts in relation to greenhouse gases have not fared so well. They started well with the 1992 UN Framework Convention on Climate Change (UNFCC) followed by the 1997 Kyoto Protocol. The highly authoritative Intergovernmental Panel on Climate Change has taken an important leadership role in achieving widespread scientific consensus and advancing public awareness. But the 2009 Copenhagen conference failed to build on those foundations in the way many had hoped. The recent New York Summit on Climate Change

> The courts cannot dictate policy. That is for government. But the courts can ensure that the policy is rational and coherent, and consistent with the scientific evidence, and that firm policy commitments are honoured.

[61] http://www.pmo.gov.my/home.php?menu=speech&page=1676&news_id=736&speech_cat=2 (accessed 20 April 2015).

[62] Section 1(2): "The 1990 baseline" means the aggregate amount of (a) net UK emissions of carbon dioxide for that year, and (b) net UK emissions of each of the other targeted greenhouse gases for the year that is the base year for that gas.

[63] See *R (London Borough of Hillingdon) v Secretary of State for Transport* [2010] EWHC 626. The actual decision was overtaken by the change of government and the establishment of a new Airport Commission to consider future airport capacity for London.

has focussed the attention of the world's leaders once again. The scene now shifts to the negotiations in Paris next year.

Both of our countries have good stories to tell. Your Prime Minister was able to announce at the New York summit that Malaysia was on track to meet its Copenhagen target of reducing greenhouse emissions by 40% by 2020, without outside financial assistance. Malaysia, he said, was ready to work with other fast-developing nations "to argue for greater ambition in 2015; and to show that economic development and climate action are not competing goals, but common ambitions".[61]

The UK is also on target to meet its commitments. Our Climate Change Act 2008 was a world leader in putting those commitments into binding legal form. Section 1(1) is clear and simple:

> It is the duty of the Secretary of State to ensure that the net UK carbon account for the year 2050 is at least 80% lower than the 1990 baseline.[62]

The Secretary of State is required to report regularly to Parliament on staged budgets and the extent to which they are met. Expert advice is given by an independent, statutory climate change committee. That has already laid the base for court action. In a case in 2010 about a proposed third runway at Heathrow airport, the court required the government to review its plans to comply with its commitments under the Act.[63]

The Supreme Court's remarkable 2007 judgment in *Massachusetts v Environmental Protection Agency* has provided a basis for stronger action by a more sympathetic administration.

It may well prove to have been a pivotal moment in the battle for effective legal action on climate change, not only in the USA.

In simple terms, the court told the Agency to get off the fence and start doing something about global-warming.

[64] *Massachusetts v EPA* 549 US 497 (2007).

But we are small players on the international stage. One of the most important players, no doubt, is the USA—both in its global influence and economic power, and (until recently overtaken by China) in its levels of greenhouse emissions. There we can look to the Supreme Court's remarkable 2007 judgment in *Massachusetts v Environmental Protection Agency*.[64] It was given at a time when the political mood was deeply sceptical, but has provided a basis for stronger action by a more sympathetic administration. It may well prove to have been a pivotal moment in the battle for effective legal action on climate change, not only in the USA.

In simple terms, the court (by a 5-4 majority) told the Agency to get off the fence and start doing something about global-warming. On one view it was a narrow decision on the meaning of the word "pollutant" in the EPA statute, specifically in relation to traffic emissions, on the EPA's statutory duties in respect of so-called "endangerment findings", and on the standing of the State of Massachusetts to bring the action.

But its significance to my mind goes much further. The language of the majority judgment (given by Justice Stevens) was uncompromising. He recorded without dissent the claimants' assertion that global warming was "the most pressing environmental challenge of our time". He charted the development over 40 years of a strong international consensus that global warming threatens "a precipitate rise in sea levels by the end of the century" and "severe

> Principle 7 of the Rio Declaration required all states to cooperate "in a spirit of global partnership to conserve and restore the Earth's ecosystem".

[65] At pages 524–526. The dangers so found from greenhouse gases included coastal inundation and erosion caused by melting icecaps and rising sea levels; more frequent and intense hurricanes, floods, and "other extreme weather events that cause death and destroy infra-structure … and potentially significant disruptions of food production".

[66] See *American Electric Power v Connecticut* (2011); *Utility Air Regulatory Group v EPA* (2014). In the former, the majority opinion (given by Justice Ginsburg) referred in detail to the EPA's endangerment finding, but added a cryptic footnote: "For views opposing EPA's, see, e.g., Dawidoff, *The Civil Heretic*, N. Y. Times Magazine 32 (March 29, 2009). The Court, we caution, endorses no particular view of the complicated issues related to carbon-dioxide emissions and climate change".

Interested observers may be intrigued to find that the reference is not to some independent body of scientific authority, comparable to that of the EPA, but to a journalistic article on the thoughts of Freeman Dyson, a respected British-born physicist, described as an "undeterred octogenarian futurist" with a "withering aversion to scientific consensus", who believes among other things that any emergency could be temporarily thwarted with a carbon bank of a trillion fast-growing trees, genetically-modified if necessary.

An alternative view is that "no court of law could possibly deviate from the IPCC findings, since any expertise put before the court would never be as inclusive as that inherent in the IPCC": Roger Cox, *Revolution Justified—why only the law can save us now,* (Planet Prosperity Foundation, 2012), page 164, quoting Roda Verheyen.

[67] Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act: Federal Register / Vol. 74, No. 239 / Tuesday, 15 December 2009.

[68] "Obama unveils historic rules to reduce coal pollution by 30%", Guardian-online (2 June 2014), http://www.theguardian.com/environment/2014/jun/02/obama-rules-coal-climate-change (accessed 20 April 2015). The following day the same source recorded: "China to limit carbon emissions for first time, climate adviser claims … on the day after US announces ambitious carbon plan", http://www.theguardian.com/environment/2014/jun/03/china-pledges-limit-carbon-emissions (accessed 20 April 2015).

and irreversible changes to the natural ecosystem". He swept aside EPA's arguments that emissions from American traffic made a relatively insignificant contribution to the global problem, or that developing countries such as China and India were posed to increase greenhouse gas emissions substantially:

> Agencies, like legislatures, do not generally resolve massive problems in one fell regulatory swoop … They instead whittle away at them over time, refining their preferred approach as circumstances change and as they develop a more nuanced understanding of how best to proceed … A reduction in domestic emissions would slow the pace of global emissions increases, no matter what happens elsewhere …[65]

Arguably there has been some pulling back by the court in more recent cases.[66] But the judgment has stood. It has provided the legal base for the new administration to press ahead with an interventionist approach without the need for further legislative backing. It paved the way for a radical change in the approach of the EPA. In December 2009 it issued an unequivocal endangerment finding highlighting the severe risks of climate change as a basis for stronger regulatory action.[67] Earlier this summer the Obama administration launched new EPA rules to limit emissions of carbon-gases from power plants by 30% by 2030. This initiative was described by Al Gore as "the most important step taken to combat the climate crisis in our country's history".[68] In the words of an American judicial

> One cause for hope is that we have the understanding or the means of understanding what is happening, and what we could do about it. On the science there is a remarkable degree of consensus. The problem is to translate that understanding into political action. Here above all we may find ourselves looking to the law to provide a bridge, and to the judges to offer at least some of the building blocks.

[69] E-mail dated 3 September 2014 from Scott Fulton (former EPA General Counsel and Environmental Appeals Judge).

[70] Roger Cox, "The Liability of European States for Climate Change" [2014] JPEL 961. See also Roger Cox, *Revolution Justified—why only the law can save us now*, (Planet Prosperity Foundation, 2012).

colleague,[69] the judgment "helped create a political dynamic in which the Executive Branch could purport not to be going it alone but rather acting in fulfilment of a Judicial Branch pronouncement …" The judgment is also providing a precedent for legal action against governments in other countries. For example, in November 2013 the Dutch Urgenda foundation and 886 individual citizens served a summons on the Dutch state in an action to hold the state liable for failure to meet its climate change targets.[70]

I hope this brief survey has helped to show how far environmental law has come in a few decades, nationally and internationally. I have also tried to show how the courts are making an important and practical contribution to that process. Of course the courts can do very little on their own. They require committed individuals or organisations or states to bring the cases. They need access to technical expertise to point the way to practical solutions. And they need to engage all parties and agencies, public or private, with the powers and the resources to put those solutions into practice. Given those tools the courts are uniquely placed to create the stable and legally enforceable structures necessary to ensure proper planning and supervision and enforcement. The courts cannot dictate policy. That is for government. But the courts can ensure that the policy is rational and coherent, and consistent with the scientific evidence, and that firm policy commitments are honoured.

So what lies ahead? Some of you may have read Clive Ponting's almost apocalyptic vision of our future in his

> Lack of an appropriate EIA has proved fatal to developments as diverse as a hydro-electric project in Sarawak, phosphate-mining in Sri Lanka, the diversion of the River Achiloos in Greece, and the redevelopment of the Fulham Football ground in London.

[71] Clive Ponting, *A New Green History of the World—The Environment and the Collapse of Great Civilisations* (Vintage Books, 2007).

[72] The Preface records that Ponting himself has retired to a small Greek island to create a Mediterranean garden and cultivate olive trees—a small sign perhaps of his continuing faith in the future? *Serit arbores quae alteri seculo prosint.*

book, *A New Green History of the World—The Environment and the Collapse of Great Civilisations*.[71] There is not much in the book to lift the gloom. Ponting shows how many of the great civilisations over the last 5,000 years have been destroyed by over-exploitation of their environment, and how we risk suffering the same fate. They range from the Sumerians 3,000 years before the Christian era, to the Mayas in South America in the early centuries of our own era, and more recently the ill-fated inhabitants of Easter Island. Their massive monuments still gaze into the future. They seem perhaps to symbolise the uncertainties of our own age. But they conceal their own destructive power. It is now thought that, to provide rollers and scaffolds necessary to move and erect them, the islanders destroyed most of the trees which were essential to the island's ecology. Ponting sees lessons for us today:

> Like Easter Island the earth has only limited resources to support society. Like the islanders, the human population of the earth has no practical means of escape.[72]

In the same period of 5,000 years, on one view, humanity has been astonishingly successful. World population has grown from a mere 15 million in 3000 BC to over 7 billion today, the vast majority in the last two centuries. But at the same time we have built up for ourselves and our fellow creatures environmental problems of an unprecedented scale and complexity. One cause for hope is that unlike those other civilisations we have the understanding or the means of understanding what is

"The "Johannesburg Principles" adopted by the conference affirmed the vital role of an independent judiciary and judicial process, and called for a UNEP-led programme of judicial training and exchange of information on environmental law."

happening, and what we could do about it. On the science there is a remarkable degree of consensus. The problem is to translate that understanding into political action. Here above all we may find ourselves looking to the law to provide a bridge, and to the judges to offer at least some of the building blocks.