
International Law and Global Public Goods in a Legal Pluralist World

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Abstract

The world faces multiple challenges in producing global public goods, such as climate change mitigation, financial stability, security from nuclear terror, knowledge production, and the eradication of infectious diseases. International law scholarship, in the meantime, takes a turn towards celebrating pluralism without sufficiently accounting for institutional variation to address different contexts. Those writing on global public goods challenges, at the same time, tend to come from disciplines other than law. So what is international law's role in the production of global public goods? Where are greater international legal constraints and international institutions needed, and where should international law retain slack? Three analytic frameworks (global constitutionalism, global administrative law, and legal pluralism) have been advanced to address international law's place in global governance, but these frameworks have not explicitly addressed the challenges of producing global public goods. This article breaks down different types of global public goods, and explores how these different frames apply to them. Grounded in pragmatism, the article shows why there is no single best approach. Rather, legal policy should be tailored to the type of global public good at stake in light of comparative, real world, institutional trade-offs.

[O]ne of our major challenges is to devise mechanisms that overcome the bias toward the status quo and the voluntary nature of current international law in life-threatening issues. To someone who is an outsider to international law, the Westphalian system seems an increasingly dangerous vestige of a different world.

– William D. Nordhaus, *Paul Samuelson and Global Public Goods* (2005)

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We face imminent financial collapse with scant collective will to address it. Power fragments and states holding nuclear weapons destabilize, risking nuclear proliferation and eventual terrorist use. Climate change intensifies while states that are the main contributors dither and politicians with veto power trivialize repeated scientific findings as ‘the greatest hoax ever perpetrated’.¹ Fisheries deplete, deserts expand, and aquifers diminish. International law scholarship, in the meantime, takes a turn towards celebrating pluralism without sufficiently accounting for institutional variation to address different contexts. Those writing on global public goods challenges, at the same time, tend to come from disciplines other than law.²

Increased transnational interdependence recasts domestic issues into global ones. To give one mundane example, until 1997, corporate insolvency law in Indonesia was considered a purely local matter. But with the onset of the Asian financial crisis, the World Bank, International Monetary Fund, and Asian Development Bank rethought domestic corporate insolvency law as a global issue in light of the risks of financial contagion, threatening a global public good, financial stability.³ Other examples include domestic banking regulation, tax avoidance (given the impact on state sovereign debt crises), pest control, public health, and civil conflict. In response, states create new international institutions and existing international institutions expand their mandates. The UN Security Council has expanded its mandate for overseeing international peace and security to authorize ‘humanitarian intervention’, and the World Health Organization has done so to address public health in response to the SARS epidemic and similar threats.⁴ States and state institutions sometimes create international club-like institutions with limited membership, such as the Financial Action Task Force and the Basel Committee on Banking Supervision, with the express aim of affecting behaviour in non-members, such as over money laundering and bank capital requirements.⁵

So what is international law’s role in the production of global public goods? Where are greater international legal constraints and international institutions needed, and where should international law retain slack? International law both is required to

¹ Barringer, ‘Environmentalists, Though Winners in the Election, Warn Against Expecting Vast Changes’, *NY Times*, 14 Nov. 2006, at A18 (quoting Senator James Inhofe).

² See, e.g., the authors in the foundational UNDP projects on global public goods, in I. Kaul, I. Grunberg, and M.A. Stern (eds), *Global Public Goods: International Cooperation in the 21st Century* (1999); in I. Kaul, P. Concicao, K. Le Goulven, and R.U. Mendoza (eds), *Providing Global Public Goods: Managing Globalization* (2003). Law was generally missing in the UNDP project. See also the work of economists S. Barrett, *Why Cooperate: The Incentive to Supply Global Public Goods* (2007); T. Sandler, *Global Collective Action* (2004); W.D. Nordhaus, ‘Paul. Samuelson and Global Public Goods’, in *Samuelsonian Economics and the Twenty-first Century* (2006).

³ See T.C. Halliday and B.G. Carruthers, *Bankrupt: Global Lawmaking and Systemic Financial Crisis* (2009).

⁴ Fidler and Gostin, ‘The New International Health Regulations: An Historic Development for International Law and Public Health’, 34 *JL Medicine & Ethics* (2006) 85, at 86 (‘[t]he new IHR transform the international legal context in which states will exercise their public health sovereignty in the future. As examined below, the new IHR expand the scope of the IHR’s application, incorporate international human rights principles, contain more demanding obligations for states parties to conduct surveillance and response, and establish important new powers for WHO’).

⁵ See, e.g., Sandler, *supra* note 2, at 9.

produce global public goods and can potentially impede dynamic processes that are needed to address global public goods challenges. This article provides a framework for addressing these issues in light of variation in the properties of global public goods (section 3), their distributive implications (section 4), and alternative institutional choices for confronting them, as reflected in different theoretical visions for global governance advanced within international law scholarship (section 5). But first we address the rise of the legal pluralist vision (section 1) and the tensions between it and the concept of global public goods (section 2).

1 The Rise of the Legal Pluralist Vision

Legal pluralism seems a bit of a fad in international law scholarship today, just as dialectical federalism may be a bit of a fad in the United States, and constitutional pluralism in the European Union.⁶ Legal pluralism is a construct, a way of understanding and envisaging the world, both positively (the way the world is) and normatively (the way it should be). The challenge with the legal pluralist construct is how it takes account of the global public goods challenges confronting us.

What has led to the rise of this academic construct, its proliferation, its catching on, its enticement of our imaginations? In part, the concept resonates with our experience of multiple overlapping orders in tension with each other, with no clear centre. In part, the concept provides a normative vision of restructuring *plural* orders into *pluralist* ones – that is, re-envisaging them from fragmented, closed, sovereign legal orders into an open, interacting, interlinked, interdependent, multi-level structure of legal ordering. In part, it particularly resonates with those writing in Europe, reflecting the European experience with supranational law. The European experience, encompassing both economic regulation and human rights protection, is viewed as an experimental model and ‘laboratory’ for the ordering of a global legal pluralism, one which provides order without centralized hierarchy, hegemony, or the abandonment of public law principles to transnational market forces.⁷

Yet the turn to a pluralist vision also has something to do with our disenchantments, our disenchantment with international law, the limits of the European experiment where a constitutional order exists but has been formally rejected by its citizens, and the failure of progressive politics in the US at the national level, spurring a strategic retreat out of political necessity to bottom up progressive initiatives from small

⁶ The legal pluralist perspective certainly resonates, and I have been a part of that trend, both in the positive assessment of how international law works and in its normative evaluation. See, e.g., Nicolaidis and Shaffer, ‘Transnational Mutual Recognition Regimes: Governance without Global Government’, 68 *Law & Contemporary Problems* (2005) 263; and Shaffer, ‘Transnational Legal Process and State Change’, *Law and Social Inquiry* (2012).

⁷ M. Delmas-Marty, *Ordering Pluralism: A Conceptual Framework for Understanding the Transnational Legal World* (2008), at 110 (while noting that Europe ‘holds no monopoly’ as a ‘laboratory’). See also at 125–129 (noting the development of the human rights regime in Europe and its impact on the EU trade regime, constituting a ‘school of democracies’).

municipal activist havens like Berkeley, California, and Madison, Wisconsin. There are good reasons for such disenchantment within the US, with the populist lure of the Tea Party's destructive rhetoric of any sense of collective purpose, its members cheering at Republican debates at the prospect of Americans dying because they do not have health insurance. There are good reasons for this disenchantment in Europe with little sense of solidarity in facing a crisis threatening the Euro, the Union itself, and the world, with the biggest sovereign defaults in history, ones that would dwarf earlier defaults in South America and Asia. It is a crisis which – to play with Hobbes' famous phrase – could be nasty and brutish, but not short. And there are good reasons for such disenchantment globally, with the cynicism of the Bush administration's despising of international law in invading Iraq, its trivializing of torture, and its ordering the freeze of individual assets through Security Council resolutions with no concern for due process. International law failed to constrain power when power chose to belittle and ignore it, and it served to legitimize power when power deigned to deploy it.

The concept of pluralism certainly captures much going on in the world better than its occasional foil, the concept of constitutionalism.⁸ There is rarely any central hierarchy in international law. And even where there is a glimpse of a shadow of hierarchy, such as decisions by the UN Security Council or of the WTO Appellate Body, there always follows the challenge of implementation. International law depends on national systems and private actors to implement its dictates, and it has little authority to ensure that they do so.

We have a fragmented plurality of legal orders spatially in at least three senses.⁹ First, as international functional organizations proliferate, we have a plurality at the international level – constituting a horizontal plurality. Different semi-autonomous international institutions address common issue areas in different ways. At times actors may strategically create overlap among international institutions to reorient international legal norms when they are unable to trigger such change within an existing institution. The tensions between the rules of the WTO and the Convention on Biodiversity and its Biosafety Protocol are a salient example.¹⁰ Institutions with overlapping mandates may also compete for leadership on a legal issue, as the World Bank, International Monetary Fund, and Asian Development Bank did during the Asian financial crisis.¹¹

Secondly, we have a plurality of legal orders between levels of governance – constituting a vertical plurality. Since considerable power remains at the nation state level, whether for producing detailed law, implementing it, or enforcing it, international law must interact with national law to be effective. In practice, domestic law and institutions will always remain critical parts of a recursive process of resistance,

⁸ See N. Krisch, *Beyond Constitutionalism: The Pluralist Structure of Postnational Law* (2010).

⁹ Delmas-Marty addresses how pluralism also manifests itself temporally, captured in such concepts as 'multi-speed', 'variable geometry', and 'common and differentiated responsibilities', which she labels 'polychrony': Delmas-Marty, *supra* note 7, at 133.

¹⁰ M.A. Pollack and G.C. Shaffer, *When Cooperation Fails: The International Law and Politics of Genetically Modified Foods* (2009), at 113–176; Shaffer and Pollack, 'Hard vs. Soft Law: Alternatives, Complements and Antagonists in International Governance', 93 *Minnesota L Rev* (2010) 706; and Krisch, *supra* note 8.

¹¹ See, e.g., Halliday and Carruthers, *supra* note 3.

adoption, and adaptation of international legal norms, which in turn can reshape those international norms.

Thirdly, in an economically interdependent world, private actors develop non-public legal orders at the state and international levels. They are sometimes encouraged by public actors that may later codify these private legal norms, or enforce them judicially, or collaborate through forming 'public-private partnerships'. We thus also have a plurality of public and private legal orders.¹²

The concept of legal pluralism does not signify disorder – per the international relations trope of anarchy. Legal pluralism, with its account of interacting legal orders, takes the idea of international law seriously. Otherwise, there is nothing with which national legal systems can interact, except with each other or with private legal ordering. The normative vision of legal pluralism rather aims to foster transnational and global legal order out of the plural; it aims to structure out of the many one, but with the one constituted by the interactions of the many.¹³

2 Legal Pluralism and the Challenge of Global Public Goods

Despite the appeal of the legal pluralist vision, one realizes in reading thought-provoking authors on legal pluralism, such as Mireille Delmas-Marty and Nico Krisch, that though they compellingly support their arguments with examples and case studies, their case studies do not focus on the challenges of global public goods. They do not, one might conjecture, because there is a tension between the operation of legal pluralism and the production of global public goods where processes of pluralist interaction will provide too little too late.

What do we mean by a global public good? In economic theory, a public good, in contrast to a private good, is one that is non-excludable (no one can be excluded from the good's consumption) and non-rivalrous (the good's consumption does not reduce its availability to others).¹⁴ Clean air, for example, is a public good because it is not depleted by our breathing it, and it cannot be appropriated by a few. The term 'good' refers to a product, and not a normative attribute. A public good thus can be positive (such as knowledge), or negative, a good that we wish to curtail so that our aim is to produce its absence (such as terrorism).

Those promoting international cooperation often broaden the definition of a public good classically used in economic theory, which was statist in its initial focus, to

¹² See, e.g., Abbott and Snidal, 'The Governance Triangle: Regulatory Standards Institutions and The Shadow of the State', in W. Matli and N. Woods (eds), *The Politics Of Global Regulation* (2009); F. Cafaggi, *Private Regulation in European Private Law* (2009) (EUI Working Paper RSCAS 2009/31), available at: http://papers.ssm.com/sol3/papers.cfm?abstract_id=1443948.

¹³ See, e.g., Delmas-Marty, *supra* note 7, at 2 ('[t]o break the deadlock, jurists must abandon both utopian unity and illusory autonomy, and explore the possibility of reciprocal procreation between the one and the many. To convey the idea of movement, this process could be called ordering pluralism').

¹⁴ See R. Cornes and T. Sandler, *The Theory of Externalities, Public Goods and Club Goods* (1986); and Samuelson, 'Pure Theory of Public Expenditure and Taxation', in J. Margolis and H. Guitton (eds), *Public Economics* (1969).

encompass a larger number of issues for global action. On the one hand, the two-fold ‘publicness’ of a good in practice often lies along a continuum, so that goods may combine public and private attributes, complicating the assessment of how to generate them.¹⁵ On the other hand, one reason policy-makers arguably have developed a broader definition of global public goods is to enhance the scope for global governance projects and thus legitimize their pursuit.¹⁶ The concept of global public goods, for example, was originated under a project sponsored by the UN Development Programme which seeks funding for projects. Inge Kaul and her collaborators, leading that project, use a relaxed definition of public good as ‘goods with benefits that extend to all countries, people, and generations’,¹⁷ while noting that the concept of public good is a social construction.¹⁸ Such expanded definitions, however, risk making the concept of global public goods so malleable that it becomes abused, leading to scepticism and cynicism regarding its relevance.¹⁹ As we will see in section 3, we rather need to differentiate among different types of public goods in order meaningfully to address the role of international law and organizations in their production.

The major challenge for the production of many (but not all) global public goods, as well as those public goods that are transnational (but not global) in scope,²⁰ and thus the challenge of celebrating legal pluralism, is collective action and free riding. Nation states and other actors will not invest in global public goods if their independent action will have no impact, or if they can free ride on the investment of others. To produce global public goods often requires a sense of collective purpose based on mutual interests and understandings. To arrive at that collective purpose, we need (for economists) an alignment of incentives, and (for sociologists) socialization processes that lead to a common identity (such as national citizens). We are then more likely to cooperate and create institutions that invest in producing public goods. The creation of nation states with general taxing powers and a monopoly of the legitimate use of

¹⁵ Economists thus often refer to goods that do not fully meet the two criteria, but have significant public attributes, as ‘impure’ public goods: Cornes and Sandler, *supra* note 14, at 255. Goods that are non-rival but excludable are often called ‘club goods’, and those that are non-excludable but rival are called ‘common pool resources’.

¹⁶ Similarly, the concept of public goods was developed in the context of public expenditure and provided economic legitimacy for enhancing the size and role of the state. See, e.g., Samuelson, *supra* note 14; R. Musgrave, *The Theory of Public Finance* (1959).

¹⁷ Kaul, Concicao, Le Goulven, and Mendoza, ‘How to Improve the Provision of Global Public Goods’, in Kaul, Concicao, Le Goulven, and Mendoza (eds), *supra* note 2, at 23; and Kaul, Grunberg, and Stern, ‘Defining Global Public Goods’, in Kaul, Grunberg, and Stern (eds), *supra* note 2, at 1. The Nautilus Institute also broadly defines ‘global public goods’ as ‘goods with benefits that extend to all countries, people, and generations’. See www.nautilus.org/gps/applied-gps/global-public-goods-2.

¹⁸ Kaul and Mendoza, ‘Advancing the Concept of Public Goods’, in Kaul, Concicao, Le Goulven, and Mendoza, *supra* note 2, at 80–81 (‘consideration should be given to expanding the definition – to recognize that in many if not most cases, goods exist not in their original forms but as social constructs largely determined by policies and other collective human actions According to this revised definition, public goods are nonexclusive or, put differently, de facto public in consumption’).

¹⁹ For a critique of the concept’s vagueness as a rhetorical device see Long and Wooley, ‘Global Public Goods: Critique of a UN Discourse’, 15 *Global Governance* (2009) 107.

²⁰ ‘TPGs are public goods whose benefits and costs reach beyond one country’: Sandler, *supra* note 2, at 76.

force facilitated the production of national public goods. The development of the theory of public goods correspondingly has been statist on account of the existence of centralized decision-making in nation states which produce them.²¹

The most salient challenge internationally is that we lack legitimate, centralized institutions with general taxing and regulatory powers. We thus have traditionally depended on cooperation between nation states involving decentralized forms of implementation and enforcement to advance collective goals. International law facilitates this cooperation through creating international institutions and common norms and rules, thereby reducing transaction, monitoring, and enforcement costs and building shared understandings.²² States created the UN and its Security Council to help to ensure the global public good of international peace and security. They created the World Health Organization to protect public health from the spread of infectious diseases, the UN Framework Convention on Climate Change to address climate stabilization, the World Trade Organization to address trade liberalization and help to manage inter-state trade conflicts so that they do not escalate into 1930s beggary-neighbour policies, the Financial Action Task Force to address money laundering of illicit funds, and the International Monetary Fund to stabilize currency and sovereign debt crises. The concerns addressed by these institutions can be viewed in global public goods terms. Yet none of these institutions has a general taxing power to address them. All of them depend on negotiations between states over the amount of 'contributions'.

3 The Need to Differentiate between Global Public Goods

In order to assess the place and role of international law and institutions to promote and govern the production of global public goods, we need to differentiate among the range of public goods challenges faced, as opposed to speaking of global public goods and international law in the abstract. Global public goods come in different varieties, calling for different institutional responses, sometimes involving greater centralization through international law and institutions, and sometimes not. There is no one size fits all, no one optimal institutional structure. For the production of many global public goods, legal pluralism, in which different legal orders interact with each other, works fine. There may be little need for international law, at least in its hard (mandatory) law variety, much less centralized international institutions.

Since global public goods do not come in one variety, international law plays a variable role in their production. As Scott Barrett conceptualizes in his book *Why Cooperate?: The Incentive to Supply Global Public Goods*,²³ some global public goods raise collective action problems and others do not. Barrett, following other economists,

²¹ Desai, 'Public Goods: A Historical Perspective', in Kaul, Concicao, Le Goulven, and Mendoza, *supra* note 2, at 63.

²² In international relations, rational institutionalists focus on transaction costs and constructivists on norms.

²³ Barrett, *supra* note 2.

classifies global public goods into three varieties: single best efforts goods, weakest links goods, and aggregate efforts goods.²⁴ An example of a *single best efforts public good*, on the cover of his book, is the crashing of a giant asteroid into the earth. All countries are affected by this prospect. Scientists do not know when one will hit and what size it will be, but they find that small ones hit the earth about once a month, and estimate that potentially catastrophic ones that could devastate an area the size of Manhattan every 250 years, and one that could cause the extinction of most life forms every 65 million years.²⁵ For this global public good, the US has the incentive to finance research and implement technology to detect and deter such happenings. No international treaty is required for it to do so. Other countries may free ride on the US's research, or may engage in complementary research, but that will not deter the US from investing.

Similarly, countries, companies, and even individual researchers have incentives to invest in basic science on their own which can benefit the world. Joseph Salk's development of the polio vaccine in the US was a gift to the world, as he did not patent the polio vaccine.²⁶ Such a good can be produced by private initiatives (such as those of pharmaceutical companies and of the Gates Foundation), purely national ones (such as those of the National Institutes of Health), or international collaborative ones (such as the UNICEF/UNDP/World Bank/WHO Special Programme in Tropical Diseases).²⁷

Is there no required role for international law in these cases? Even in the asteroid case, Barrett notes the potential negative externalities of other countries relying on the US. The US may have the incentive to invest in producing the global public good, but in a way that could create a new risk. If an asteroid bears toward the earth, and if the existing technology is such that the asteroid could only be slightly deflected so that it would crash into a different part of the earth, who should make the decision regarding its deflection? Even if it were to be deflected into the ocean, the location of its impact would raise differential risks for countries of a tsunami.²⁸

Similarly, geoengineering increasingly looks like an important policy option for climate stabilization, given the world's inability to reduce carbon emissions. It thus can be viewed as a global public good, at least to avoid abrupt and catastrophic climate

²⁴ These varieties can be viewed along a continuum and be further broken down, but for our purposes, they highlight the key differences for purposes of discussing international law's role. Sadler, e.g., also discusses weighted sum, weaker link, and better shot public goods. See Sandler, *supra* note 2, at 82.

²⁵ Barrett, *supra* note 2, at 23–26.

²⁶ When asked who owned the patent, its creator Jonas Salk famously responded, 'Well, the people, I would say. There is no patent. Could you patent the sun?': see D.E.Y. Sarna and A. Malik, *History of Greed: Financial Fraud from Tulip Mania to Bernie Madoff* (2010) (quoting televised interview of Salk by Edward R. Murrow), at p. xvi.

²⁷ Knowledge is not a pure public good since it is potentially excludable, although even under the patent system it eventually reaches the public domain.

²⁸ See, e.g., 'Tsunami Risk of Asteroid Strikes Revealed', *New Scientist*, 12 May 2006, available at: www.newscientist.com/article/dn9160-tsunami-risk-of-asteroid-strikes-revealed.html.

change.²⁹ Since engineering the climate may be relatively cheap, it could be a single best efforts global public good. Yet like climate change itself, geoengineering may benefit some countries and harm others. Climate engineering constitutes a huge experiment that poses unforeseeable, differential risks for countries in light of uncertainties. A wealthy country may decide to invest in geoengineering to assist its own climate situation, but in the process have negative externalities on others. If different countries engage in climate engineering, their plural efforts will interact, potentially undercutting each other. Coordination over climate change thus raises governance challenges. Who should decide whether and how the climate should be engineered? Once again, there is a role for international law and international institutions in coordinating decisions even though only one or a few wealthy countries invest in geoengineering on their own.

Eliminating infectious diseases and curtailing the proliferation of weapons of mass destruction are *weakest link public goods*. A wealthy country can invest in preventing an infectious disease within its borders through financing the vaccination of its population each year. The US does so, for example, with polio vaccines. Yet it would be much more cost effective to eradicate polio, as the world did for smallpox in the 1970s. The benefit-cost ratio for smallpox eradication is thought to be 159:1, if all costs are included, and 483:1, if only international funds for financing eradication efforts in developing countries are considered.³⁰ That is a remarkable rate of return. Investing in polio eradication could provide another global public good. Yet, in order to eradicate polio, poor and failed states, such as Somalia, are the weakest links.

The World Health Organization, an international institution created under the auspices of the UN and inheriting the mandate of an earlier institution created pursuant to the League of Nations, leads the eradication efforts. The WHO includes distinct voting rules for its regulations on infectious diseases, which facilitate collective action for collective purposes. The general rule of international law of treaties is an 'opt in' rule. A state is not bound unless it consents. Under Articles 21 and 22 of the WHO constitution, however, a majority decision is binding on matters involving 'procedures designed to prevent the international spread of disease', unless a state opts out. The WHO created new International Health Regulations in 2005 pursuant to these provisions, which require states to build institutional capacity toward containing communicable diseases, collaborate with each other, and maintain clear points of contact.³¹ In parallel, the regulations expand the legal authority of the WHO's Director-General to intervene in response to communicable disease outbreaks, including through a system for convening experts and declaring a public health emergency of international concern. As has been shown experimentally and statistically, opt-out rules generate

²⁹ The view of geoengineering as a global public good is contested in light of its risks, but if successful in stabilizing the climate, it could provide a global public good.

³⁰ Barrett, *supra* note 2, at 50–51.

³¹ World Health Organization, Revision of the International Health Regulations, WHA 58.3 (23 May 2005), available at: www.who.int/csr/ihr/WHA58-en.pdf.

much broader participation than do opt-in rules.³² No WHO member, in fact, opted out of the 2005 International Health Regulations.³³

Keeping weapons of mass destruction out of terrorist hands is another weakest link global public good. We do not know where or when such weapons will be used, but the fallout of their use will have global repercussions, whether for life and health, civil rights, or the global economy. Countries thus have the incentive to keep these weapons out of terrorist hands, but the result will depend on the weakest links. The weakest links today are Pakistan, Russia, and North Korea. New weakest links may emerge, as more states invest in nuclear technology to gain advantage or parity with their rivals. States in 1968 signed the Nuclear Non-Proliferation Treaty (NPT), which was extended indefinitely in 1995,³⁴ and the Convention on the Physical Protection of Nuclear Material in 1987, amended in 2005.³⁵ In addition, the UN Security Council passed Resolution 1540 in 2004 which enjoins all states to take measures to prevent nuclear weapons materials from being obtained by non-state actors having ‘terrorist purposes’.³⁶ The non-proliferation regime, however, has been under some risk of unravelling, as the Bush administration created a special regime for India and reconsidered the US’s first strike options and weapons development plans.³⁷

The severest global public goods challenge today is what Barrett calls an *aggregate efforts public good* – that is, where the global public good can only be produced through the aggregate efforts of multiple countries. The world appears to have been startlingly successful in addressing the depletion of the ozone layer, starting with a framework convention, then turning to hard law obligations that were progressively

³² Zimmerman, ‘Funding Irrationality’, 59 *Duke LJ* (2010) 1105, at 1140 (stating that opt-out default rules result in greater participation than do opt-in rules); Madrian and Shea, ‘The Power of Suggestion: Inertia in 401(k) Participation and Savings Behavior’, 116 *QJ Econ* (2001) 1149, at 1158–1161, table IV, 1171–1173, and table VIII, at 1185 (showing greater participation in retirement plan under opt-out option).

³³ Two states filed reservations; and there were no opt-outs. See www.who.int/ihr/legal_issues/states_parties/en/index.html (as of 5 Feb. 2008, 194 states were parties to the IHR (2005)).

³⁴ According to the terms of the treaty, non-nuclear weapon states (NNWS) agree not to receive, manufacture, or acquire nuclear weapons and also to accept safeguards and verification inspections conducted by the International Atomic Energy Agency to confirm that nuclear technology is not diverted from peaceful energy use to weapons manufacturing. Five nuclear weapon states (originally the US, the Soviet Union, and Great Britain, later joined by France and China) agree not to transfer nuclear weapons or otherwise assist any NNWS in acquiring or developing nuclear weapons. In addition, all states parties to the treaty, including nuclear weapon states, agree ‘to pursue negotiations in good faith ... on a treaty on general and complete disarmament under strict and effective international control’: Treaty on the Non-Proliferation of Nuclear Weapons, 1 July 1968, 21 UST 483, 729 UNTS 161.

³⁵ Convention on the Physical Protection of Nuclear Material, 26 Oct. 1979, 1456 UNTS 101, TIAS 11080, amended by Int’l Atomic Energy Agency, Amendment to the Convention on the Physical Protection of Nuclear Material, GOV/INF/2005/10-GC(49)/INF/6 (6 Sept. 2005).

³⁶ SC Res. 1540, UN Doc. S/RES/1540 (24 Apr. 2004).

³⁷ Handl, ‘The Nuclear Non-Proliferation Regime: Legitimacy as a Function of Process’, 19 *Tulane J Int’l & Comp L* (2010) 1, at 4, 11 (stating that the nuclear arms control regime has been referred to as ‘looking battered’, and describing the Bush administration’s agreement with India); Richardson, ‘Native Prospects’, 4 *Asian-Pacific L & Policy J* (2003) 598, at 616 (noting the Bush administration’s support for first-strike nuclear capability).

enhanced, and then using soft law mechanisms to facilitate compliance, even when formally hard law sanctions were available.³⁸ The Montreal Protocol on Substances that Deplete the Ozone Layer created a variety of sticks and carrots to realign incentives, including potential trade sanctions and a Multilateral Fund for Implementation for developing countries. In contrast, the world has been completely unsuccessful in addressing climate change mitigation, which is a much more complex and difficult issue that is more susceptible to free riding, undermining collective action. Human-induced climate change is happening and it is not clear what, if anything, effectively will be done to reduce emissions.

These different public goods entail different problem types. That of weakest link public goods involves a holdout problem, whether the holdout is an unwilling one, such as North Korea over nuclear weapons, or an unable one, such as Somalia regarding polio eradication. That of aggregate efforts public goods involves a free rider/collective action problem, resulting in underinvestment in providing a solution. And that of best shot public goods involves a positive externalities problem because the investor does not fully capture the benefits. It is easier to fund best shot public goods, even if the result is overinvestment from the perspective of global efficiency. A technological alternative to chlorofluorocarbons (CFCs) for refrigerants, propellants, and solvents (a best shot problem) appears to have resolved ozone layer depletion by facilitating the phase-out of CFCs (an aggregate efforts problem). Similarly, climate engineering (a best shot problem) has become a default solution for addressing climate change because of the difficulty of agreeing to emissions reductions (an aggregate efforts problem).

There is a varying role for international law and international institutions in producing these different global public goods. For best shot global public goods, an international institution is not needed to develop them. Private foundations could provide some of these goods, such as through prizes for the development of new drugs to combat tropical diseases. Yet where decisions over implementation can have negative externalities, international legal obligations and institutions that constrain unilateral action can better ensure fairness and manage conflicts, and possibly produce public goods more efficiently, as in the case of asteroid deflection and climate engineering. For aggregate efforts public goods, in comparison, there is a greater need for centralized institutions to produce them, leading to a relinquishment of some national sovereignty. The opening quotation from Nordhaus reflects his frustration with the global collective failure to address climate change. In contrast, with weakest link public goods, the challenge sometimes lies in building state sovereignty. The challenge for disease eradication, for example, is with 'failed states' that lack functional governing institutions. In other weakest-link situations involving states unwilling to cooperate, such as that of nuclear proliferation, there is greater need for an international institution such as the UN Security Council, combined with financial transfers to secure nuclear materials. Otherwise, pressure for unilateral action will increase.

In sum, international law and organizations play varying roles in the production and governance of global public goods. [Table 1](#) summarizes the relationship of

³⁸ R.E. Benedick, *Ozone Diplomacy* (1991).

Table 1: Varieties of Global Public Goods and International Law’s Role

Type of Global Public Good	Example of Global Public Good	Institutions in a Pluralist World	IL and IO Role
Best shot P.G.	Asteroid collision	US national defence; other national initiatives; potential international scientific collaborations and governance for implementation	Help allocate funding; reduce bias in decision-making on deployment
Best shot P.G.	Polio vaccine	National agencies, private companies and foundations funding research, perhaps complemented by international funding initiatives; patent systems; prizes; WHO and NGO provision in poor countries	Help allocate funding, distribution, and provision in developing countries
Best shot P.G.	Climate engineering	National agencies and private companies funding research, perhaps complemented by international funding initiatives; patent systems	Help allocate funding; reduce bias in decision-making on deployment
Weakest Link P.G.	Polio eradication	WHO for provision of vaccines in weak link countries; national quarantines	Funding of WHO; WHO resolutions on eradication programmes, including vaccines
Weakest Link P.G.	Nuclear proliferation	Conference of Parties to UN treaties; inspection regimes	Treaty prohibitions and requirements on storage, transfer, and use
Aggregate Efforts P.G.	Ozone depletion	Conference of Parties to Montreal Protocol; public and private research; national implementing institutions; private companies	Treaties requiring phase-out of controlled substances; funding of developing country efforts; monitoring and sanctions
Aggregate Efforts P.G.	Climate change mitigation	Conference of Parties to UN Framework Convention on Climate Change; IPCC; Kyoto Protocol; Copenhagen Accord; Initiatives of regional, national, sub-national institutions and of private associations ³⁹	Treaties requiring reductions in emissions; enhancement of carbon sinks; funding of developing country efforts, monitoring and sanctions

different types of global public goods with international law and organizations in a legal pluralist world.

4 The Challenge of Distributive Conflict and the Production of Global Public Goods

International law, like all law, has distributive consequences, posing particular challenges for governing the production of global public goods. These distributive issues cannot be elided, although they often are in legal scholarship. At least three distributive issues arise in decisions over the provision of global public goods: the specific terms of cooperation for producing a global public good; choices among producing different global public goods in a world of limited resources; and the potential of actual conflict in the pursuit of different public goods which can act at cross-purposes to each other.

It is striking that many of the international legal scholars who incorporate rational international relations theory to explain international cooperation have drawn on the familiar Prisoner's Dilemma (PD) situation from game theory.⁴⁰ The Prisoner's Dilemma game, however, elides distributive issues. In the classic PD model, states are assumed to have a defined set of preferences and a common interest in reaching a cooperative outcome, and the primary impediment to be overcome is the fear that other states will cheat on their agreements. In PD models, mechanisms for the monitoring of state behaviour and the sanctioning of states that violate the terms of the agreement can be created to address these concerns. International law thus comes to the rescue to facilitate mutually beneficial outcomes. Since concerns over cheating, shirking, and slacking inhibit the production of global public goods through international cooperation, the PD model may seem appropriate.

However, the Prisoner's Dilemma game ignores another important obstacle to successful cooperation, namely conflicts among states with different interests over the *distribution* of the costs and benefits of cooperation.⁴¹ When states cooperate in international politics, they do not simply choose between 'cooperation' and 'defection', the binary choices available in PD games. They rather choose among specific *terms* of cooperation, which raise distributive issues.⁴² Different states and constituencies within them can have competing preferences for different international rules and

³⁹ For analysis of the broad array of institutions engaged see Keohane and Victor, 'The Regime Complex for Climate Change', 9 *Perspectives on Politics* (2011) 7; K. Abbott, *The Transnational Regime Complex for Climate Change* (2011), available at: <http://media.cigionline.org/geoeng/2010%20-%20Abbott%20-%20The%20Transnational%20Regime%20Complex%20for%20Climate%20Change.pdf>.

⁴⁰ See, e.g., A. Guzman, *How International Law Works: A Rational Choice Theory* (2008).

⁴¹ For a range of views on the challenge of distributive conflict in international cooperation see Krasner, 'Global Communications and National Power: Life on the Pareto Frontier', 43 *World Politics* (1991) 336; Morrow, 'The Forms of International Cooperation', 48 *Int'l Org* (1994) 387; Fearon, 'Bargaining, Enforcement, and International Cooperation', 52 *Int'l Org* (1998) 269; D.W. Drezner, *All Politics is Global: Explaining International Regulatory Regimes* (2007).

⁴² Distributive issues arise in all games, including collaboration and cooperation games. I just note their role in PD models here, since they particularly elide distributive issues. This point on distributive issues is developed in Shaffer and Pollack, *supra* note 10.

standards. States, and especially powerful states, thus jockey to employ different forms of international law in a world of fragmented institutions in an effort to influence the development, meaning, and impact of international law.⁴³

Secondly, different states and private actors benefit from the production of some global public goods more than others. Since resources are limited, they face opportunity costs when they make choices regarding the production of public goods. They must determine not only which public goods to fund, but also how much to fund each of them.⁴⁴ Distributive concerns arise in choice and budgeting decisions, given states' and private actors' conflicting views.

Thirdly, the pursuit of different public goods can conflict in a more direct sense. One public good may interfere with the pursuit of another. For example, choices over the generation of at least four public goods arise in the debate over the interaction of public health, pharmaceutical patent protection, human rights, and trade policy: knowledge-generation, liberalized trade, public health, and the right to life and human dignity.⁴⁵ Knowledge has public-good attributes since once knowledge enters the public domain it is no longer excludable and our consumption does not diminish its availability.⁴⁶ The central issue is how to generate knowledge that facilitates new inventions and understandings most effectively and equitably. International trade law similarly has public good attributes, since all countries benefit not only from the wider variety of products made available at lower prices that trade liberalization facilitates, but also because they benefit from rules constraining mutually harmful beggar-thy-neighbour policies.⁴⁷ Public health constitutes a third implicated public good since we all benefit from the global eradication of diseases and we do not diminish that good when we benefit from it.⁴⁸ The right to life and human dignity can be viewed as yet another affected public good to the extent that it affects our moral sensibilities.⁴⁹

The production of these public goods, however, can conflict, complicating global decision-making over the terms of international law. The recognition and enforcement of patent rights under the WTO Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPs Agreement) and other conventions can generate incentives for

⁴³ *Ibid.*

⁴⁴ Desai, *supra* note 21, at 72.

⁴⁵ See Shaffer, 'Recognizing Public Goods in WTO Dispute Settlement: Who Participates? The Case of TRIPs and Pharmaceutical Patent Protection', 7 *JIEL* (2004) 459.

⁴⁶ Patents represent temporary monopolies of exclusion, so that, in practice, knowledge can shift from a public good to a club good before reverting back to a public good. See, e.g., Stiglitz, 'Knowledge as a Global Public Good', in Kaul, Concicao, Le Goulven, and Mendoza, *supra* note 2, at 306–325 (labelling knowledge an 'impure public good').

⁴⁷ See, e.g., Birdsall and Lawrence, 'Deep Integration and Trade Agreements: Good for Developing Countries', in Kaul, Concicao, Le Goulven, and Mendoza, *supra* note 2, at 128, 133. Yet liberalized trade is an impure public good in that it creates individual winners and losers within countries, and is only posited to be good for a country in the aggregate. It also is subject to excludability, such as through restricting membership of the WTO, or entering into bilateral and regional free trade agreements.

⁴⁸ See, e.g., Sandler and Arce, 'A Conceptual Framework for Understanding Global and Transnational Goods for Health', 23 *Fiscal Studies* (2002) 195.

⁴⁹ That is, to the extent that we all have moral sensibilities, the effect of an increase in the protection of human dignity on moral sensibilities is neither excludable nor rivalrous.

the production of knowledge and new drugs for the protection of human life. But the protection of pharmaceutical patent rights also can diminish the benefits of liberalized trade by reducing the consumption possibilities of citizens, interfere with the provision of public health policies in containing diseases, and raise human rights concerns, as the AIDS epidemic illustrates. Moreover, mandatory vaccination policies to protect public health raise human rights concerns, especially from a libertarian perspective, and in particular given uncertainty regarding the consequences of vaccinations.

In sum, choices over global governance policies involve different values, priorities, and perspectives, considerable uncertainty, and rival public goods. As a result, although the definition of a single global public good is one that is non-rivalrous, global public goods are collectively rivalrous because choices must be made among them, including in funding their production. Decisions over producing global public goods thus raise the question of alternative institutional choices in light of trade-offs.

5 Alternative Institutional Choices for the Production of Global Public Goods: Global Constitutional, Administrative Law, and Legal Pluralist Approaches

For the efficient production of pure private goods we rely on (imperfect) preference revelation through the market. For the efficient production of pure public goods we rely on (imperfect) preference revelation through democratic voting. The conventional (although not sole) solution is thus to rely on the state for the production of public goods.⁵⁰ State decisions, in turn, are constrained by constitutionally provided checks and balances involving different state institutions, including democratically elected legislatures and courts which exercise judicial review of legislative and executive decisions. For the production of global public goods, the institutional analogues are international organizations. Since centralizing decision-making within them raises serious legitimacy concerns, institutional choice poses the ultimate question for the production of global public goods.

Although economists and law and economic scholars tend to address the production of global public goods in terms of substantive effectiveness, and thus start with an assumption of what is to be measured, we first need agreement over the goal. Priorities and goals are determined through institutional processes. Where choices among institutions affect opportunities to participate, institutional analysis is needed to focus on the relative biases of participation in alternative decision-making processes that may define priorities and goals.

Problems of biased participation beset all institutional alternatives on account of informational and resource asymmetries and divergent incentives to participate because of varying *per capita* stakes in outcomes. A major challenge in relying on

⁵⁰ An alternative for the production of public goods is to tie their production to private goods, as through the recognition of private rights that generate positive externalities (as in the example of patent law to create knowledge). Yet the granting of private rights also gives rise to strategic behaviour, and thus also involves trade-offs.

national institutions is that they make decisions which affect outsiders who are not represented before them. In the case of many global public goods, moreover, reliance on national decision-making raises collective action problems and free rider concerns which undercut each nation's ability to attain its goals. International institutions can help to overcome collective action problems, as well as to reduce bias in participation in national decision-making. However, the major challenge with international institutions is their remoteness from affected constituencies and local contexts, raising legitimacy concerns when decision-making has distributive implications.

A key issue from a public policy perspective is thus the assessment of the *relative* merits of institutional processes, and different combinations of them, in terms of the relatively unbiased participation of affected parties compared with other (non-idealized) institutional alternatives.⁵¹ That is, *who decides* regarding the production of global public goods? Or, put differently, which institutional process, among alternative political, market, and judicial processes at the national, local, regional, and international levels, should be granted how much authority to decide on the appropriate balancing of different goals in light of their distributive implications? These institutional choices affect how different interests, directly and indirectly, are taken into account. Such an approach is decidedly pragmatist. It recognizes that there is no single best approach to producing global public goods, but rather alternative approaches that involve trade-offs which vary in light of particular global public goods problems, and from which we can learn through practice.

In current international law scholarship, three analytic frameworks compete for addressing the challenges of global governance, and thus implicitly of the production of global public goods: constitutionalism, global administrative law, and legal pluralism. These frameworks are sometimes put forward as alternatives that better address global governance challenges; yet, for our purposes, they are better viewed as complements that apply differentially to the types of global public goods we have discussed. These frameworks each have attributes and deficiencies that make them more suitable frameworks for some issues compared to others.

A The Global Constitutional Approach

Global constitutionalism is one of legal pluralism's chief rivals as a contemporary vision for organizing, constraining, and legitimizing international law.⁵² The

⁵¹ See the important work of Neil Komesar on comparative institutional analysis, including *Imperfect Alternatives: Choosing Institutions in Law, Economics and Public Policy* (1995). See also Shaffer and Trachtman, 'Interpretation and Institutional Choice at the WTO', 32 *Virginia J Int'l L* (2011) 103; and Shaffer, 'Power, Governance and the WTO: A Comparative Institutional Approach', in M. Barnett and B. Duvall (eds), *Power in Global Governance* (2005), at 130 (applying comparative institutional analysis to dispute settlement over international trade and trade-related issues).

⁵² Cf. Krisch, *supra* note 8, at 69; J. Dunoff and J. Trachtman, *Ruling the World?: Constitutionalism, International Law, and Global Governance* (2009); J. Klabbers, A. Peters, and G. Ullstein, *The Constitutionalization of International Law* (2009); Kumm, 'The Cosmopolitan Turn in Constitutionalism: On the Relationship between Constitutionalism in and beyond the State', in Dunoff and Trachtman, *supra*, at 272, 322 (providing 'a conceptual structure that allows for the holistic construction of legitimate public authority... [by] reference to the idea of free and equal persons'); Walker, 'Taking Constitutionalism Beyond the State', 56 *Political Studies* (2008) 519.

constitutional vision of international law comes in different varieties, but, relative to the pluralist vision, one of its major attributes is its framing international law and international institutions in constitutional terms that involves centralized international institutions,⁵³ often involving some form of majoritarian or supra-majoritarian decision-making. The global constitutional vision is suitable, in particular, for addressing the production of aggregate efforts global public goods. Centralized institutions operating under international law help to align national incentives and to overcome free rider problems facing the production of aggregate efforts global public goods.

For example, if climate change stabilization is to occur, centralized rules and institutions to oversee their application will be required, as occurred successfully in the case of the protection of the ozone layer. Under the Montreal Protocol on Substances that Deplete the Ozone Layer, amendments to emissions limits can be made by a two-thirds vote of the parties representing at least half of the total consumption of the parties of controlled ozone-depleting substances, if there is no consensus.⁵⁴ Analogous voting arrangements will need to be developed for the international regulation of climate change mitigation that take account of those most implicated.

For global public goods challenges that pose imminent threats, existing UN institutions, and in particular the UN Security Council, will need to be reformed and updated. The issue of UN reform was considered in the 1990s and 2000s, but remains needed to reflect today's global context.⁵⁵ Issues such as asteroid collisions and climate change could even be considered within a reformed Security Council where they pose international security risks. Centralized institutions and regulations have become important for coordinating the monitoring of dangerous diseases and declaring international public health emergencies, as we saw under the WHO's 2005 International Health Regulation.

Finally, as we have seen, even the production of best shot global public goods raises distributive concerns that centralized governance can help to address. Centralized institutions, operating under a constitutional frame of checks and balances, can help to keep national decision-makers accountable. We have seen these issues raised in decision-making over geo-engineering and asteroid deflection for national defence.

As globalization and technological advance increase the need for centralized international decision-making, a constitutional frame will become of growing

⁵³ Dunoff and Trachtman, 'A Functional Approach to International Constitutionalization', in Dunoff and Trachtman, *supra* note 52, at 4 ('the distinguishing feature of international constitutionalization is the extent to which law-making authority is granted (or denied) to a centralized authority'); *ibid.*, at 8 ('[t]o the extent that fragmentation arises ... constitutionalization can respond by providing centralized institutions or by specifying a hierarchy among rules'). Constitutional pluralists blend constitutionalism and legal pluralism, and the boundaries thus become blurred. See Shaffer, 'A Transnational Take on Krisch's Pluralist Structure on Postnational Law', 23 *EJIL* (2012) 565. For our purposes, a constitutional frame entails a centralized institutional component.

⁵⁴ See Montreal Protocol on Substances That Deplete the Ozone Layer, Art. 2.9(c), 16 Sept. 1987, 1522 UNTS 28, 33 (entered into force 1 Jan. 1989).

⁵⁵ Japan, Germany, India, and Brazil should be designated permanent members of an expanded UN Security Council. See, e.g., K. Annan, UN Secretary-General, 'In Larger Freedom: Towards Development, Security, and Human Rights for All', UN Doc. A/59/2005 (21 Mar. 2005) (for a set of alternative proposals).

importance for critically scrutinizing and checking these institutions' exercise of power. Nonetheless, although the global constitutional vision has certain attributes regarding the governance of centralized institutions needed to provide global public goods, these institutions face major legitimacy challenges. The production by national institutions of public goods is beset by trade-offs, ranging from bureaucratic inefficiencies to political corruption. A vastly greater challenge at the global level is the lack of democratic processes that reveal preferences, reflecting the lack of a global *demos*.⁵⁶ To the extent that we rely on states to represent citizens' interests, moreover, many states are not democratic.⁵⁷ States vary considerably in terms of population, so that decision-making arguably should take into account differences in the size of states (as opposed to generally relying on consensus voting at the international level). Since international institutions are so distant from citizens that it is difficult to conceive of democratic global institutions, we will need to re-conceive or otherwise adapt our concept of democratic checks and balances to the international level,⁵⁸ and rely on other forms of accountability mechanisms. Curiously, the existing literature on global constitutionalism has been largely silent on the issue of global public goods.⁵⁹

B The Global Legal Pluralist Approach

Although the concept of global public goods poses challenges for the legal pluralist vision and its focus on decentralized processes, this approach remains extremely relevant. Among legal pluralism's virtues is that pluralism accounts better for divergences in community values, priorities, and perspectives in light of the distributive consequences at stake in the production of global public goods. Enumerating and deliberating over these distributive issues highlights the need for pluralism to contest centralized policies.

The legal pluralist vision calls to the forefront the importance of ongoing interaction with state institutions in order for global-public-goods governance to be accountable and effective. From an accountability perspective, the pluralist approach provides a needed check on centralized decision-making at the global level, such as for the production of aggregate efforts public goods. From the perspective of effectiveness,

⁵⁶ Weiler, 'The Geology of International Law – Governance, Democracy and Legitimacy', 64 *ZAÖRV* (2004) 547, at 561 ('[a] simplistic application of the majoritarian principle in world arenas would be normatively ludicrous').

⁵⁷ This situation calls for a move towards an international norm requiring democracy at the national level, backed by civil rights protections. See, e.g., Franck, 'The Emerging Right to Democratic Governance', 86 *AJIL* (1992) 446.

⁵⁸ Cf. Held and Archibugi, 'Introduction', in D. Held and D. Archibugi, (eds), *Cosmopolitan Democracy: An Agenda for a New World Order* (1995); de Búrca, 'Developing Democracy Beyond the State', 46 *Columbia J Transnat'l L* (2008) 102; Peters, 'Dual Democracy', in Klabbers *et al.*, *supra* note 52. Peters, e.g., notes, critiques, and builds upon conceptualizations of deliberative democracy, participatory democracy, and contestatory democracy in relation to representative democracy: *ibid.*, at 268–271.

⁵⁹ Global public goods, e.g., are not covered in either Dunoff and Trachtman, *supra* note 52, or Klabbers *et al.*, *supra* note 52. But cf. Petersmann, 'De-Fragmentation of International Economic Law through Constitutional Interpretation and Adjudication with Due Respect for Reasonable Disagreement', 6 *Loyola U Chicago Int'l L Rev* (2008) 209, at 217.

international law is more likely to be implemented if it engages and takes account of state perceptions and concerns through pluralist interaction.

Legal pluralists focus on the potential pathologies of centralized institutions and the role of pluralism in checking these pathologies. Krisch shows how, in our current socio-political context, the interaction of pluralist legal orders can produce superior ordering to a constitutionalism that is based on hierarchic, centralized decision-making, since mutual accommodation that can result from pluralist interaction will be grounded in greater legitimacy.⁶⁰ Krisch illustrates, for example, how the UN Security Council reassessed and revised its procedures regarding the freezing of individuals' assets in the 'war on terror' in light of due process concerns, only after states and other actors challenged and resisted implementation of its resolutions.⁶¹

Delmas-Marty demonstrates how pluralism can also lead to a unification of legal norms based on a 'hybrid' melding of different 'ensembles' of law, rather than on hegemony.⁶² Such a pluralist hybrid is more legitimate, in that it takes into account, and borrows from, different national legal systems. Because it is more legitimate, it is more likely to be implemented in practice by states.

Ultimately, international law depends on national implementation. Concerns over implementation are particularly salient regarding weakest link public goods. If an infectious disease is to be eradicated, for example, then capacity must be built in a weakest link state. Otherwise, centralized decision-making will be ineffective. Weakest link global public goods highlight the need for pluralist interaction with states having meaningful capacity to engage with policies, such as disease eradication. Take, for example, the distribution of antiretroviral drugs to combat the AIDS crisis. Their effective use for constraining the epidemic's ravages are enhanced where developing countries have the capacity to provide meaningful input to tailor policies and to carry out such tailored programmes effectively.

C The Global Administrative Law Approach

The global administrative law approach helps to address the deficiencies of the global constitutional vision through providing other accountability mechanisms, derived from national administrative law, which can be used to check centralized international decision-making.⁶³ As national governments grew during the twentieth century in response to the growing complexity of national public goods challenges, legislatures delegated increasing powers to agencies. States correspondingly developed administrative law accountability mechanisms to apply to agencies, given that

⁶⁰ Krisch, *supra* note 8, at 69.

⁶¹ *Ibid.*, at 189–224.

⁶² Delmas-Marty raises the prospect of 'unification by hybridisation' involving the melding of different 'ensembles' of law. The construction of European and international criminal justice norms and procedures exemplify this provision: Delmas-Marty, *supra* note 7.

⁶³ See Kingsbury, Krisch, and Stewart, 'The Emergence of Global Administrative Law', 68 *L & Contemporary Problems* (2005) 15; Stewart, 'US Administrative Law: A Model for Global Administrative Law', 68 *L & Contemporary Problems* (2005) 63.

legislatures were unable to oversee them sufficiently. International institutions can be viewed analogously to national government agencies, in that both involve a delegation of power to an unelected body.

The accountability mechanisms highlighted by the global administrative law project are pragmatically useful for governing the production of global public goods. They include transparency and access to information; engagement with civil society and with national parliaments; monitoring, inspection, reporting, and notice and comment procedures; reason-giving requirements; substantive standards, such as proportionality, that must be met; and judicial review.⁶⁴ These accountability mechanisms can be developed through international treaties, such as under the Aarhus Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters,⁶⁵ and through national and international judicial decisions. Decision-making within international institutions must be overseen, in particular, through private groups placing pressure on public representatives. Making international decision-making more transparent facilitates such processes.

To give one example of the usefulness of the global administrative law framework in the context of global public health, the WHO is increasingly engaging in public-private partnerships for innovative drug development because of the challenges of obtaining sufficient public financing.⁶⁶ These partnerships raise conflicts-of-interest concerns that a global administrative law model can help to address through transparency and other administrative law mechanisms.

The global administrative law model also offers the advantage of being applicable to national decision-making over the production of global public goods, thus providing checks on decentralization under a legal pluralist model. As we have seen, the deployment of best shot global public goods, such as technologies for asteroid deflection and climate engineering, may not require an international institution. Yet, the externalities involved in their deployment by states calls for accountability checks. Such national decision-making can be subject to due process requirements and to monitoring and review before international administrative bodies and courts. The WTO *Shrimp–Turtle* case provides an excellent example. The US exercised unilateral action to help preserve an endangered species on the high seas (a global public good). Its efforts, however, had significant implications for developing countries and their traders. The WTO Appellate Body successfully pressed the US to change its administrative law procedures better to assure due process review of the situations and concerns of these countries and their traders.⁶⁷

⁶⁴ *Ibid.* See also Esty, 'Good Governance at the Supranational Scale: Globalizing Administrative Law', 115 *Yale LJ* (2006) 1490; Kingsbury and Casini, 'Global Administrative Law Dimensions of International Organizations Law', 6 *Int'l Orgs L Rev* (2009) 319.

⁶⁵ 25 June 1998, 38 ILM 517.

⁶⁶ See Abbott and Gartner, 'Reimagining Participation in International Institutions', available at: http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1933562 (2011) (forthcoming in *J Int'l L & Int'l Relations*). I thank David Fidler for his comments on WHO and global health issues.

⁶⁷ See S. Cassese, 'Global Standards For National Administrative Procedure', 68 *L & Contemporary Problems* (2005) 109; and Shaffer, *supra* note 51.

Nonetheless, despite its many attributes, the global administrative law approach is rather technocratic and thus lacks ambition regarding larger scale questions of governance requiring political decision-making for the production of global public goods.

Each of these three leading analytic frameworks for assessing law's role in global governance focuses in a different way on the issues of accountability and legitimacy. Their relative attributes can be assessed in relation to different global public goods. For the production of *aggregate efforts public goods* where more centralization is needed, the legal pluralist vision is particularly insufficient. The global constitutionalist perspective, which legal pluralists have criticized, offers a complementary frame for building and critically scrutinizing centralized international institutions to which important secondary rule-making powers are delegated in light of imminent global public goods challenges, such as over international security and climate change. The global administrative law project has been particularly important in providing practical tools drawn from domestic administrative law for enhancing the accountability of decision-making in the production of global public goods, whether at the international or at the national level. The case of *best shot public goods*, for example, illustrates concerns regarding decision-making at the national level. Finally, the challenges of *weakest link public goods* highlight the need for ongoing interaction between centralized entities and nation states if international law and policy are to be implemented effectively. Each approach, in short, has attributes and deficiencies, involving trade-offs and potential complementarities. They should be viewed in comparative institutional analytic terms in relation to different global public goods challenges. Table 2 summarizes our discussion.⁶⁸

Although these analytic approaches are sometimes advanced as alternatives, they play important complementary roles for enhancing the legitimacy of the international institutions that we need to produce different types of global public goods.

6 International Law as Facilitator of, and Potential Constraint on, the Production of Global Public Goods

Law (in general) and international law (in particular) can be viewed as a public good in providing for order and stability.⁶⁹ Law (in general) and international law

⁶⁸ A variant of the global constitutionalist vision – that of constitutional pluralism – can be viewed as combining the attributes of both the legal pluralist and global constitutionalist visions, but it equally could be viewed as combining their deficiencies. Constitutional pluralists view the world in terms of multiple constitutional orders at the supranational and national levels which interact. For expositions of a constitutional pluralist vision see, e.g., Poyares Maduro, 'Courts and Pluralism: Essays on a Theory of Judicial Adjudication in the Context of Legal and Constitutional Pluralism', in Dunoff and Trachtman, *supra* note 52, at 356; and Walker, 'The Idea of Constitutional Pluralism', 65 *MLR* (2002) 317.

⁶⁹ Cf. traditional sociological perspectives of law providing for social integration and order, going back to the classical works of Emile Durkheim, Max Weber, and Talcott Parsons, and critical approaches viewing law as an exercise of power and control in the context of social struggle. See, e.g., discussion in M. Deflem, *Sociology of Law: Visions of a Scholarly Tradition* (2008), at chs 2, 3, and 6, and at 275–276.

Table 2: Trade-offs for the Production of Global Public Goods of Global Constitutional, Legal Pluralist, and Global Administrative Law Perspectives

	Attributes	Deficiencies	Public Goods Governance Examples
Legal Pluralist	Provides for contestation and exchange among legal orders; grounded in deliberative interaction with national legal orders on which effective implementation depends	Lack of deference to centralized decision-making authority to realign incentives of national decision-makers to collaborate in the production of global public goods	Building state capacity to facilitate interaction and engagement, as for <i>weakest link GPCs</i> ; addressing local contexts as for distribution of retroviral drugs
Global Constitutional	Increased focus on centralized international institutions required to overcome collective action and free rider problems; they are analogues of state institutions on which we rely for producing national public goods	Lack of a global demos and democratic accountability of international institutions making decisions with distributive consequences; these institutions exercise agency and constitutional discourse can provide legitimacy to them	Governance, in particular, for the production of <i>aggregate efforts public goods</i> , such as ozone protection, climate stabilization, and monitoring, declaring and combating global public health emergencies
Global Administrative Law	Focus on practical accountability mechanisms for unelected international bodies; builds from analogous techniques used to oversee and check agencies in national systems to which power has been delegated	Relatively technocratic focus on issues of delegation; lack of ambition regarding larger scale questions of governance requiring political decision-making	Providing accountability mechanisms for the governance of global public goods production, including <i>best shot public goods</i> , as in the case of climate engineering

(in particular) also can be viewed as an intermediate public good that facilitates the production of final substantive public goods – such as the avoidance of ozone depletion, the provision of a stable climate through mitigation and geoengineering, financial stability, and peace between nations.⁷⁰ International law and institutions help to overcome collective action and free rider problems. They facilitate interaction that can produce shared understandings and common purposes. And they help to manage the frictions between pluralist legal orders that govern different public goods. In this way, international law helps to provide for public order.

However, international law, in its prescriptive and proscriptive forms, can also constrain the production of global public goods. It may do so by creating positive or negative obligations that interfere with their production. Some contend, for example, that the positive obligations under the WTO TRIPs Agreement and other international intellectual property conventions reduce the supply of knowledge and constrain the protection of public health.⁷¹ Others contend that the negative obligations provided in other WTO agreements could constrain needed national action on climate change, such as through carbon taxes, an emissions-trading system, or a product 'life cycle' labelling regime.⁷² To the extent that decisions under the Convention on Biodiversity limit research on geoengineering, they too are suspect.⁷³

Unilateral action is problematic because it can be self-serving and fail to take account of the values and perspectives of affected others. Yet unilateral action may also be an important part of a broader transnational process leading to the production of a global public good over time. In a world of interacting legal orders, certain actors will have to act, sometimes unilaterally, to catalyse international and global action. These actors most likely will exercise some form of power, such as market power wielded by the US and EU. To advance climate change policies globally, the US or EU may need to take unilateral action by creating its own internal system and then imposing some form of a border tax adjustment or penalty applied to applicable imports and cross-border services from countries that do not have a remediation system of comparable

⁷⁰ Kaul and Mendoza, 'Advancing the Concept of Public Goods', in Kaul, Concicao, Le Goulven, and Mendoza, *supra* note 2, at 104.

⁷¹ See, e.g., P. Drahos with J. Braithwaite, *Information Feudalism: Who Owns the Knowledge Economy* (2002), at 218 ('under conditions of information feudalism the supply of knowledge goods as public goods will probably suffer').

⁷² Shaffer and Bodansky, 'Unilateralism, Transnational, and International Law', 1 *J Transnat'l Environmental L* (2012) 31. On the latter issue see Vranes, 'Climate Labelling and the WTO: The 2010 EU Ecolabelling Programme as a Test Case Under WTO Law', available at: http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1567432 (2010).

⁷³ At the Tenth Conference of the Parties of the Convention on Biodiversity in 2010, the parties adopted a decision requesting that 'no climate-related geo-engineering activities that may affect biodiversity take place', subject to certain conditions. See Convention on Biological Diversity, Decision X/33, (29 Oct. 2010), available at: www.cbd.int/climate/doc/cop-10-dec-33-en.pdf UN Doc. UNEP/CBD/COP/DEC/X/33 ([hereinafter Decision X/33]). Cf. Carlarne, 'Arctic Dreams and Geoengineering Wishes: The Collateral Damage of Climate Change', 49 *Columbia J Transnat'l L* (2011) 602, at 650 (noting uncertainty about the effect of Decision X/33); Bracmort, 'Geoengineering: Governance and Technology Policy' (Congressional Research Service Report, 10 Jan. 2011), at 23 (listing arguments against moratorium on geoengineering research).

effectiveness.⁷⁴ In a world without centralization and hierarchy, there will often be a need for unilateral action to spur the production of global public goods by inciting reactions and interactions which lead to the emergence of international law and international institutions to govern conflicts and maintain order. In practice, unilateralism may help to produce a global public good where common action fails, especially in light of opt-in rules under international treaties. Although international law can help to produce global public goods, it also can get in the way of their production.

The possibility of unilateral action is not available to all, and the results often reflect biases. For example, John Yoo has written of global security as a public good which is not provided by global institutions in order to justify US intervention in Iraq and other unilateral policies.⁷⁵ The example of Iraq makes clear the need for some form of international constraint on unilateral action so that a nation must justify its acts and take into account their impact on others. The WTO provides such a possibility in the area of regulation. It creates constraints and has a mandatory dispute settlement system to hear legal complaints, backed by sanctions. Its dispute settlement system can press a country to negotiate in good faith with third countries and create internal administrative law mechanisms in which non-citizens' interests are heard. These constraints are less binding in other areas, such as international security, as represented by the US invasion of Iraq, NATO's intervention in Kosovo, and US missile and drone attacks in the territories of other states.

In sum, international law represents an important 'constraint on the unilateral definition of a global public good'.⁷⁶ The stringency of this constraint, however, should vary in light of the objective at stake, the effectiveness of a multilateral alternative, and the possibility that the national measure can take better account of its implications on outsiders in an unbiased manner. There are thus compelling reasons to refocus attention from public international law to processes of transnational legal ordering in which international law is one element in a broader interactive process.

7 Conclusion

Globalization pressures transform issues that formerly were national in scope into global ones. With globalization, national decision-making increasingly has externalities on outsiders, and it is increasingly insufficient to attain national goals.

⁷⁴ See Shaffer and Bodansky, *supra* note 72 (discussing the EU's emissions trading system applied to jet aircraft).

⁷⁵ Delahunty and Yoo, 'Great Power Security', 10 *Chicago J Int'l L* (2009) 35, at 45, 48 ('[a]rmed intervention into the internal affairs of nations may prevent these threats from materializing, even though they do not involve an imminent cross-border attack.... The theory of public goods predicts that activity necessary to secure international peace and security will be less than optimal'); and Yoo and Trachman, 'Less Than Bargained For: The Use of Force and the Declining Relevance of the United Nations', 5 *Chicago J Int'l L* (2005) 379, at 383–384 (arguing that the US invasion of Iraq was justified in part by the failure of the UN to provide security).

⁷⁶ Krisch, 'International Law in Times of Hegemony: Unequal Power and the Shaping of the International Legal Order', 16 *EJIL* (2005) 369.

International law and institutions thus rise in importance. Choices over the terms of international law, however, have distributive consequences, and the choice among global public goods and their funding involves rivalry. As a result, the key normative question becomes a comparative institutional one: that is, under what *conditions* are more or less centralization and hierarchy preferable? While the choice among alternatives may be complicated at the national level, the choice becomes much more so at the international level where problems of numbers and complexity multiply.

The global public goods framework helps us to see both the attributes and limits of a legal pluralist approach toward international law and institutions. Legal pluralism's starting assumption is about the need for communities to have a voice in shaping their own destinies. It thus distrusts order imposed by hierarchical, centralized institutional authority. The starting assumption for the production of many global public goods, in contrast, is the need for collective action to cooperate for common benefits. These starting points create a tension. There are risks of too much comfort with the legal pluralist framework as an organizing concept for the production of global public goods. But there are parallel risks with legitimizing centralized international decision-making without global democratic checks. Comparative institutional analysis is thus required which is tailored to the particular challenges raised by the production of different global public goods. International law will play a critical role by facilitating the creation, maintenance, oversight, and constraint of centralized international institutions, and the monitoring and review of national institutions, in relation to decision-making implicating the production of global public goods in different contexts. Given the varying contexts of different global public goods, there is no single best, universalist approach. Rather, a pragmatic approach is required in relation to different types of public goods and real world institutional limits. These strategies must include greater international centralization (for which constitutional principles are needed), multi-level institutional interaction (highlighting the key role of pluralism), and hybrids that include public-private partnerships (for which administrative law principles are required).

We face considerable obstacles in producing global public goods in light of free rider problems, distributive concerns, and the challenge of revealing preferences through democratically accountable international institutions. Nationally, at least in the US, the sense of collective purpose of a *demos* appears to be in decline just when it is needed to address our common challenges. Globally, the challenge of developing collective purpose based on inter-solidarity among peoples remains more daunting. Such are the challenges of producing global public goods in our contemporary legal pluralist world.