

Expert Paper Series

# Expert Paper **Cross-Cutting** **Seven** Issues



# Cross-Cutting Issues

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**Pierre Jacquet** has since January 2002 been executive director (in charge of strategy) and chief economist at the French Development Agency (AFD) in Paris. He was formerly deputy director of the French Institute of International Relations (IFRI) in Paris and chief editor of IFRI's quarterly review *Politique Etrangère*. He is a professor of international economics and chairman of the Department of Economics and Social Sciences at the Ecole Nationale des Ponts et Chaussées, and a guest professor in executive programs at the French business school INSEAD.

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**Alexander Shakow** joined the World Bank in 1981 after nearly 20 years with the Peace Corps and the US Agency for International Development. At the World Bank he held a number of policy and advisory positions before becoming director of strategic planning, and subsequently director of external affairs. He was then executive secretary

of the Joint Bank/Fund Development Committee, a position he held until his retirement in 2002.

**Todd Sandler** holds the Robert R. and Katheryn A. Dockson Professorship of International Relations and Economics at the University of Southern California (USC). He is also a professor of economics, international relations and law in the School of Law at USC. He has written or edited 20 books, including *Global Collective Action*, *Economic Concepts for the Social Sciences* and *Global Challenges*, as well as over 200 journal articles in economics and political science that have appeared in *American Political Science Review*, *Quarterly Journal of Economics* and *American Economic Review*. He also co-authored a recently published book titled *The Political Economy of Terrorism* (Cambridge University Press).

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**Heather Baser** is the coordinator of the Development Cooperation and Capacity Programme at ECDPM. She leads the ECDPM study on Capacity, Change and Performance, initiated under the aegis of the OECD/DAC network on governance. She has a master's degree in international development from Carleton University in Ottawa, Canada, with a thesis on technology transfer. She has spent nearly 20 years looking at aid effectiveness issues, with a focus on technical assistance, sector-wide approaches and capacity development.

# Acronyms and Initials

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ACP	Asia-Caribbean-Pacific
AITIC	Agency for International Trade Information and Co-operation
AGOA	African Growth and Opportunity Act
ASEAN	Association of South East Asian Nations
DAC	Development Assistance Committee
DDA	Doha Development Agenda
DSM	Dispute Settlement Mechanism
DTIS	Diagnostic Trade Integration Study
EBA	Everything But Arms
EC	European Commission
EU	European Union
GATS	General Agreement on Trade in Services
GATT	General Agreement on Tariffs and Trade
GPG	global public good
GSP	Generalized System of Preferences
IBRD	International Bank for Reconstruction and Development
IDA	International Development Association
IF	integrated framework
IFI	International Financial Institution
ILO	International Labour Organization
IMF	International Monetary Fund
Intelsat	International Telecommunications Satellite Organization
ITC	International Trade Centre



JITAP	Joint Integrated Technical Assistance Programme
LDC	least developed country
MFA	Multifibre Agreement
MFND	most-favoured-developing-nation
MFN	most-favoured-nation
NAMA	non-agriculture market access
OECD	Organisation for Economic Co-operation and Development
PRGF	Poverty Reduction and Growth Facility
PRSP	Poverty Reduction Strategy Paper
PTS	preferential trade agreement
RIP	Regional Indicative Programme
ROO	rule of origin
RTA	regional trade agreement
SDT	special and differential treatment
SPS	Sanitary and Phyto-Sanitary Measures
TBT	Technical Barriers to Trade
TPR	Trade Policy Review
TPRM	Trade Policy Review Mechanism
TRIMS	Trade-Related Aspects of Investment Measures
TRIPS	Trade-Related Aspects of Intellectual Property Rights
UNCTAD	United Nations Conference on Trade and Development
UNDP	United Nations Development Programme
UNSC	United Nations Security Council
WHO	World Health Organization
WIPO	World Intellectual Property Organization
WTO	World Trade Organization

# Preface

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**A one-size-fits-all solution does not exist for the supply of global public goods. Each specific global public good demands a supply remedy of its own. The six volumes focusing on Infectious Disease, Global Commons, Financial Stability, International Trade, Peace and Security and Knowledge illustrate precisely that point.**

**But there is a bigger picture. Global public goods are linked by common features. They are all issues considered important by the international community, and for the most part they cannot and will not be adequately addressed by individual countries and so will require international cooperation.**

Global public goods are also united by strong synergies. Progress in one area can help spur progress in another and vice-versa. To take a specific example, the eradication of smallpox may have been possible only because of a break in the decades-long civil war in Sudan. The eradication effort was led by the World Health Organization (WHO), but the WHO lacked the wherewithal, let alone the authority, to intervene in this dispute, even if a failure to do so would have threatened the supply of this vital global public good.

Usually such interconnections are overlooked. Public goods are typically addressed piecemeal. Indeed, compartmentalization is even formalized in the institutions responsible for supplying global public goods. Thus the WHO has a central role in controlling the spread of communicable diseases, and the United Nations Security Council (UNSC) in safeguarding peace and security. Other global public good categories

are even more fragmented. A world environment organization does not exist. Instead there are hundreds of environmental treaties dealing with a broad range of global commons problems. Similarly, there is no world knowledge organization. The incentives for producing and distributing knowledge are dispersed. Intellectual property is addressed by the World Intellectual Property Organization (WIPO) and, recently, the World Trade Organization (WTO) and a number of preferential trade agreements, and cooperative research and development in such specific areas as nuclear fusion research is supported by a variety of separate international agreements.

Compartmentalization has its advantages. It allows, among other things, for specialization of expertise. But it also has drawbacks. Frictions can arise; opportunities can be missed; and priorities can be wrong. So there is a need to complement the area-specific approach with a broader approach to the provision of global public goods. There is a need to consider cross-cutting issues.

The Secretariat of the International Task Force on Global Public Goods has commissioned papers to explore these issues further. In these papers international experts analyse issues cutting across global public good—such as institutions, financing and capacity building—and offer recommendations to better address them. While focusing on the bigger picture, experts have also been asked to apply their analytical framework and findings to the six priority global public goods selected by the Task Force. Individual papers are further described below.

### **Papers commissioned by the Secretariat of the International Task Force on Global Public Goods**

In “Critical Factors for Providing Transnational Public Goods” Scott Barrett analyses the factors that have historically contributed to the success and failure of global public goods provision. Building on many well documented examples, he identifies three main factors: the nature of the good, the nature of the countries affected by the good and the strategies that can facilitate supply. He then applies his three-tiered framework to the six priority global public goods and provides recommendations for moving forward.

Pierre Jacquet and Sarah Marniesse’s “Financing Global Public Goods: Issues and Prospects” focuses on financing. It reviews literature and case studies in an attempt to build a typology. It also demonstrates

that development and global public good provision often are joint processes, and thus development assistance policies and institutions have an important role in managing the latter. The authors call for a substantial increase in financing—including official development assistance—for global public goods.

Jacquet and Marniesse show that financing is not an independent issue; it is part of a bigger institutional picture, the focus of Alexander Shakow's "Review of Lead Institutions for Global Public Goods". Shakow assesses the performance of lead institutions involved in the provision of global public goods against six core functions. The resulting scores range from quite effective for WIPO and the International Monetary Fund (IMF) to moderately effective for the WTO, UNSC and the WHO, with the United Nations Environment Programme in a class by itself. The author also shows that while most lead institutions have a strong mandate, each has one or more key weaknesses that impede its ability to be fully effective in providing global public goods. For example, the legitimacy of UNSC and IMF decisions is often called into question because of the imbalance in their voting structures.

While Shakow takes a global perspective, Todd Sandler's "Regional Public Goods and Regional Cooperation" and Björn Hettne and Fredrik Söderbaum's "Regional Cooperation: A Tool for Addressing Regional and Global Challenges" focus on the regional level. Sandler proposes a typology of regional public goods and related problems of provision. He calls for increased attention to regional public goods and highlights their importance for development. He also demonstrates how the subsidiarity principle applies (or not) to regional public goods and reviews which institutions should be involved in which circumstances.

Hettne and Söderbaum's departing point is also the regional level. They look at the effectiveness of regional cooperation in providing regional and global public goods. They show that regional cooperation is most effective in producing and managing regional public goods and that regional cooperation also can be helpful in sharing lessons learned in the production of global public goods and developing common approaches to shared problems.

In "Strengthening the Capacity of Developing Countries to Participate in the Provision of Global Public Goods" Heather Baser focuses on capacity building at the national level. Her paper shows that most developing countries do not have the capacity either to participate in global public goods negotiations or to implement the outcomes of these negotiations. So developing countries are more takers than makers of

the global agenda. Baser makes recommendations for different actors and at different levels to overcome this situation.

# Critical Factors for Providing Transnational Public Goods

# 1

Chapter

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*Three types of factors lead to the successful provision of transnational public goods. The first is the nature of the transnational public good itself: some transnational public goods are easier to supply than others. The second is the nature of the countries affected by supply of the public good: asymmetries among countries make it easier to provide public goods. The third is the strategies that can facilitate supply: for any given public good, different institutional designs can enhance supply. A framework for understanding the roles played by these different factors is developed and applied to six different cases: peace and security, trade regimes, financial stability, control of communicable diseases, sustainable management of the natural commons and knowledge. Recommendations are made for increasing the supply of public goods.*

Transnational public goods are difficult to supply, partly because of an underlying incentive problem. By definition, global public goods benefit every country, those that pay for them and those that do not. Each country therefore has an incentive to let others provide transnational public goods, free-riding on others' efforts.

Of course the free-rider problem operates at the local (intranational) level, too. But the horizontal nature of the international system makes supplying public goods at the transnational level much more difficult. There is no world government that can supply a transnational public good directly or enforce an agreement among countries to supply it. Supply must instead rely on voluntary provision.

The institutional constraints at the local and national levels are very different. States are empowered to coerce citizens and corporations into supplying public goods. Taxes are collected to pay for public goods.

Regulations command industries to reduce their pollution (a public bad), usually without compensation.

By contrast, institutional arrangements for the supply of transnational public goods must be self-enforcing. The framework developed here shows that the supply of transnational public goods is determined by three factors: the nature of the good itself, the nature of the countries that have an interest in seeing the public good supplied and the institutional approaches used to facilitate supply.

The challenge of supplying transnational public goods is illustrated here by considering six cases in detail:

- *UN peacekeeping*. The Security Council members, especially the permanent members, decide which peacekeeping operations to support. These countries also carry the lion's share of the burden of peacekeeping, albeit not the entire cost. This design facilitates supply, but it also creates a tension: the more the costs are shared, the greater the pressure to change either the rules for decision-making or the membership of the Security Council.
- *Dispute settlement in the World Trade Organization*. The procedure for dispute settlement is essential to enforcing multilateral trade rules. But if one country challenges another for violating the rules, the second country often reciprocates by charging the first with a rule violation. Moreover, the penalty for violating the rules is usually a reciprocal trade restriction. Ironically, enforcement can thus increase protectionism. A remedy for this situation is not so obvious. Proposals for changing these incentives rely on commitment, which is not likely to be credible.
- *The European Stability and Growth Pact*. Monetary authorities aim to control inflation. In times of recession, however, there are political pressures to lower taxes and increase public spending. With a common currency, the pressure is increased, because the cost of poor fiscal discipline is shared among all of the countries in the currency zone. The Euro zone countries devised a mechanism to restrain fiscal policy, but when challenged in late 2003, the system broke down. The threat to punish non-compliance was shown not to be credible.
- *Polio eradication initiative*. The World Health Organization is attempting to eradicate poliomyelitis, a hugely ambitious task. The effort has reduced the incidence of this disease dramatically. However the economics of eradication depend entirely

on whether vaccination can eventually be stopped, which, in the case of polio, may not be possible for technical reasons.

- *The Kyoto Protocol.* This agreement aims to reduce the greenhouse gas emissions of leading industrial countries and to provide a foundation on which even more emission reductions can be achieved over time. However the treaty is poorly designed. It fails to provide incentives for key countries to participate, it had to be diluted to induce countries to participate, and it creates virtually no incentive for compliance should the agreement ever enter into force. A different approach needs to be considered.
- *New vaccines.* The development and use of vaccines must count among the great accomplishments of the twentieth century. However innovation was uneven. Effective vaccines were developed for global diseases but not the diseases that threaten only the poorest countries. A number of new organizations, such as the Global Alliance for Vaccines and Immunization (GAVI), are trying to change these incentives. They face a formidable challenge. On the demand side, getting countries to pay will be difficult, because rich countries do not benefit directly. On the supply side, getting companies to believe that they will be paid for developing new vaccines will be difficult, because it is hard for countries to commit to compensate companies for their research and development (R&D) efforts.

As these six cases illustrate, different approaches have been tried to facilitate the supply of different kinds of transnational public goods. None of these cases is an unqualified success, and some are likely to fail. This should not come as a surprise. Supplying transnational public goods is difficult. The greatest successes so far—including the eradication of smallpox and protection of the stratospheric ozone layer—were relatively easy. Many of the public goods problems that remain will be harder to remedy.

More can be done. Where the potential gains to success are great, every failure creates an incentive to try again. One reason for the mixed record of achievement is that the nature of the challenge has often been misunderstood. A primary purpose of this paper is to demonstrate this—and to show how efforts could be enhanced in the future.

Peacekeeping and protection of the ozone layer, the development of new vaccines and the establishment of financial stability, the eradication of disease and the liberalization of trade, the mitigation of global climate



change and research on nuclear fusion—all these activities may seem unrelated, but they share one common feature: they are all transnational public goods and are therefore prone to being undersupplied.

This paper explains why public goods tend to be undersupplied by the anarchic international system and how international institutions can be designed to enhance their supply. It seeks to explain success and failure in the supply of transnational public goods. The presentation is grounded in theory, but it draws on real-world experience.

The tendency to undersupply transnational public goods is a consequence of a fundamental incentive problem that underlies (and undermines) the supply of almost all transnational public goods. Individually, countries have little incentive to supply these goods—at least in substantial quantities—even though all countries would be better off if the goods were supplied.

The nature of the incentive problem, however, varies. In some cases there are relatively strong incentives for supply. Indeed countries can be counted on to supply some transnational public goods unilaterally—and in abundant quantities. In other cases, however, incentives to supply are much weaker. Some transnational public goods may not be supplied at all. There is not one transnational public good problem but many.

Incentives vary because of differences in the nature of these public goods—differences in the number of countries that share the goods, differences in the structure of the supply of the goods and differences in the costs and benefits of supply, both in the aggregate and for individual countries.

Though the nature of a public good and of the countries affected by its supply is a given, incentives can sometimes be manipulated. Clever institutional design can even supply efficient quantities of some transnational public goods that would otherwise be undersupplied. In other cases, first-best outcomes are unattainable, but supply can be increased. Examples of institutions that facilitate supply include the arrangements for deciding to deploy and finance peacekeeping operations, enshrined in the UN Charter; the procedures for enforcing liberalized trade agreements, incorporated within the rules of the World Trade Organization; and the agreement to phase out ozone-destroying chemicals, included in the Montreal Protocol.

Because the nature of different transnational public goods problems differs, there are no off-the-shelf cures. Different transnational public goods require different kinds of institutional remedies. While the

promise to finance UN peacekeeping and the threat to punish violations of the trading rules both need to be enforced, they are enforced by different means. Compliance with the Montreal Protocol must also be enforced, but the greatest challenge for treaties is to get countries to participate in the first place.

This paper is organized as follows. The first section explains in more detail why transnational public goods are underprovided. The second section develops the framework for analyzing the supply of transnational public goods. It focuses on the features of a public good that make provision easy or hard and shows how institutions can redirect or manipulate incentives to enhance provision. The third section applies the framework to six public goods—peacekeeping, financial stability, world trade, the global commons, infectious diseases and knowledge—and shows how different institutions or approaches have been used or proposed to enhance their supply. The fourth section makes recommendations for future analyses and the design of institutions to promote the supply of transnational public goods.

## **Why are transnational public goods undersupplied?**

Transnational public goods are undersupplied for two main reasons. One springs from the concept of a public good itself. The other derives from the transnational dimension and the concept of sovereignty.

### ***Public goods and free-riding***

Public goods have two essential features: one person's consumption of the good does not diminish the amount available to others (non-rivalry) and no one can be excluded from consuming the good (non-excludability). An example is star-gazing. One person's enjoyment of a meteor shower does not reduce the potential enjoyment of another, and if one person's viewing quality is improved by a reduction in ambient light pollution, others will also benefit. Together these two features spell trouble for provision. If the amount of a good available is the same for the people who supply it and those who do not and if no one can be excluded from consuming the good once it is supplied, why should anyone pay for it to be supplied? Inherent in the concept of public goods is an incentive for every potential beneficiary to free-ride on the efforts of others.

Related kinds of goods also suffer supply problems. By definition, a fishery subject to open access is non-excludable. But the non-excludability condition of a fishery is not inherent in the resource. It can be changed. Enforcement of a licence system would suffice, at least in principle. In practice many approaches are employed to regulate access to a fishery, including community-based management and co-management approaches relying on both government and civic enforcement. All of these approaches limit access to the resource. With public goods, by definition, that option is not available.

The similarities between international commons problems and transnational public goods are probably more important than the differences. Exclusion from a high seas fishery may be technically feasible, but it is not permissible under international law. Management of international fisheries, like the provision of public goods, tends to be undermined by free-riding incentives.

### ***Local (national) versus transnational public goods***

Public goods are transnational if they are shared by two or more countries. Why should transnational public goods be distinguished from other kinds of public goods? The essential reason is that the state is vested with coercive powers that facilitate supply. The first responsibility of a state is to defend its citizens from invasion. National defence is a public good, financed by tax revenue raised domestically by involuntary means. In some countries defence is also supplied by conscription. Individuals and other legal persons who break the law, by evading taxes or dodging the draft, are pursued by the state, prosecuted and, if found guilty, fined or sent to jail. This enforcement is an essential ingredient in compelling compliance with the law. Even democracies give the state the power to tax and conscript; without these powers, free-riding incentives would prevent the public good of national defence from being provided. Indeed the state is best understood as an institution designed to overcome collective action problems, including the supply of public goods.

At the international level there is no institution with equivalent powers (or responsibilities). The United Nations, for example, does not have the authority to tax. Membership in the United Nations carries an obligation to fund the organization, but membership is voluntary.

Coercion is not always needed to supply a public good. Under some circumstances, public goods are supplied voluntarily and in abundance. In other cases, such as defence, volunteerism does not suffice. Similarly,

public goods are sometimes supplied by states and sometimes by private actors.<sup>1</sup> The main focus here is supply by states.

Voluntary association is a hallmark of the principle of sovereignty. Many transnational public goods are supplied by means of an international treaty, and participation in these legal instruments is also voluntary. The United States declined to ratify the Kyoto Protocol, making it essential for Russia to ratify this agreement to ensure that it entered into force. The requirement for entry into force is incorporated within the treaty. Was it set at the right level? The agreement entered into force, and so has been successful from that perspective. But in failing to attract the participation of the United States, the agreement will fail to reduce the atmospheric concentration of greenhouse gases materially.

Another recent example is the deception practiced by China in response to the severe acute respiratory syndrome (SARS) outbreak. Chinese authorities kept the outbreak secret, preventing other countries from defending themselves against infection and allowing the disease to spread. Within weeks SARS spread around the world, helped by the forces of globalization.

The basic legal rules relating to infectious diseases are the International Health Regulations (Fidler 1999). States usually make a deliberate and conscious decision to participate in an agreement—signing and (in the case of multilateral treaties) ratifying the treaty. The International Health Regulations were adopted by the World Health Assembly, a kind of legislative body of the World Health Organization (WHO). Under the WHO constitution, regulations adopted by the assembly are binding on all member states except those that explicitly reject them. States normally choose to opt in to a treaty. Under the WHO constitution, states must instead choose whether to opt out. These different formats create a different starting point or presumption, but under either arrangement participation is voluntary.

The International Health Regulations are weak and outdated. They require only that countries report outbreaks of three diseases (plague, cholera and yellow fever). Though China is bound by the International Health Regulations, it was under no legal obligation to report the SARS outbreak. Moreover, the regulations impose no obligation on countries to control infectious diseases. The regulations have recently been revised, and they are much improved. And yet they still fall short of supplying essential global public goods, such as surveillance capacity.

The weak nature of international law does not derive from the process leading to the adoption of treaties or even from the specific requirements encoded in a particular treaty. It derives instead from the concept of sovereignty. This might suggest that the concept of sovereignty should be abandoned. However it is not obvious that the world would be better off under a different system of governance. There is no collective preference.<sup>2</sup> The world consists of peoples and governments with very different preferences, and a world government would inevitably make choices that would favour one group over another. No ideal concept of collective decision-making could be adopted, so there can be no presumption that abandoning sovereignty would make the world better off. In any event, countries would need to cede sovereignty to a world government, and there seems to be little interest in doing this any time soon. Europe is not an exception. Europe is integrating, both economically and politically. But each step in the direction of closer integration has been voluntarily entered into, and every member of the European Union reserves the right to withdraw. What makes Europe special is that integration has entailed sunk costs, which limit the incentive for member states to reclaim their freedom of action in a number of spheres.

Despite the constraints imposed by sovereignty, countries have succeeded in supplying important transnational public goods. Overall the record is mixed with astonishing successes, stunning failures and everything in between. These different outcomes did not happen by accident. There are good reasons success has been achieved in some cases and failure in others. If more global public goods are to be provided in the future, policy-makers need to understand these reasons. Developing this understanding is a primary aim of this paper.

### *Defining success and failure*

Success and failure are not defined only by whether a public good is or is not supplied: if the global benefit of supplying a binary public good is less than the cost of supply, supply would make the world worse off. Success means that a public good is supplied and that as a consequence the world is better off. Failure means that a public good is not supplied, even though the world would have been better off had it been supplied.

With binary public goods, success and failure are fairly easy to understand. With continuous public goods, success and failure can be harder to identify. Success almost certainly involves some amount of supply, but how much? Failure involves too little supply, but how little

is too little? The appropriate benchmark is the amount that maximizes the aggregate payoff to the world.

Almost all economic analyses of global climate change suggest that emissions need to be reduced. None, however, recommends that global emissions be eliminated immediately. One study (Nordhaus and Boyer 2000) suggests that global emissions should be cut by about 5% today. The uncertainties associated with climate change could lead to recommendations for even greater reductions. Deciding on the ideal level of mitigation is a challenge. Failure in this case is easier to identify. Little if anything is being done to reduce global emissions. Evidence presented below suggests that, as currently designed, the Kyoto Protocol may not reduce global emissions at all even if it is fully implemented.

### **A framework for analyzing the supply of transnational public goods**

The framework for analyzing the supply of transnational public goods emphasizes the nature of the public good itself, differences among the countries sharing the good and the institutional approach used to facilitate the supply of the public good.

Public goods have at least four dimensions:

- *The number of countries that share the good.* Transnational public goods shared by a smaller number of countries are easier to supply.
- *Whether the good is continuous, discrete or binary.* Continuous public goods (such as climate change mitigation) involve incremental supply. Discrete public goods (such as knowledge of how to make a vaccine) involve lumpy supply. Binary public goods (such as disease eradication) are either supplied or not. Discrete and binary public goods are usually easier to supply than continuous public goods.
- *The technology of supply.* A public good may be supplied by all countries (as in the case of disease eradication), it may be supplied by just one country or a consortium of countries (as in the case of a particle collider), or the amount supplied may equal the aggregate of the amounts supplied by individual countries (as in the case of climate change mitigation).
- *Costs and benefits.* Some countries have incentives to supply some public goods (perhaps even in substantial quantities) uni-

laterally. For other public goods, the incentives to supply either increase or decrease based on the quantities supplied by other countries. For some public goods there may exist thresholds above which some supply and some do not or where every country supplies the public good or none does so.

The nature of the public good is defined partly in relation to the countries that are affected by its provision. It is not just the aggregate costs and benefits that determine supply but the costs and benefits for individual countries. Of special importance is the symmetry or likeness of the countries that share an interest in a transnational public good. When the countries sharing a public good are very different, it is likely that some countries will have to compensate others for helping to supply the good. Asymmetry can make provision easier.

Institutional approaches also determine supply. The effectiveness of a particular institution also depends on the nature of the public good. A treaty, for example, can help when the public good is of the summation variety (such as climate mitigation). For weakest link public goods (such as disease eradication), however, a treaty may be inappropriate, because universal participation is required.

Institutional design can also vary. Some treaty designs are better at changing behaviour than are others. This is important. The nature of a public good is given; the institutions used to facilitate its supply are not. The Task Force should be especially concerned with institutional design, but choosing the best design requires an understanding of the situation it wants to shape.

While there may be a best design, an ideal remedy usually does not exist for every public good problem. The constraint of sovereignty means that first-best outcomes may not be sustainable. Sovereignty often requires second-best approaches. Put differently, the perfect may be the enemy of the good.

With regard to institutional approaches, the type of approach that works best depends on the nature of the problem. Unilateralism may work in some cases, but it is often likely to fail. When multilateral approaches are needed, treaties will work in some cases but not in others.

The design of the institution intended to promote supply can also vary. For example, if a treaty on climate change focuses on emission reductions, as the Kyoto Protocol does, then the continuous nature of this public good, coupled with the incentives for its provision places a huge burden on enforcement—a burden that sovereignty may be unable to support.

An approach that focuses on technologies may work better. The discrete nature of a technological goal may facilitate development. And where adoption of the technology is a strategic complement, an agreement on adoption may promote diffusion—that is, after enough countries adopt the new technology, it may be in the interests of other countries to do so as well. Enforcement would then not be needed.

As this example suggests, while the nature of the public good and the characteristics of the countries affected by its supply are both given, the institutional approach is not. Clever institutional design can increase supply.

### ***Regional and global public goods***

Some transnational public goods are regional, some are global. Mitigation of climate change and the reporting of disease outbreaks are global public goods. Protection of a regional sea and the eradication of a tropical disease are regional public goods.

The distinction between regional and global public goods matters, because it is generally easier to supply public goods shared by a smaller number of countries—an idea due to Olson (1965) and elaborated on by Barrett (2003a). Countries will cooperate to supply a public good if deterred by the threat of punishment should they choose not to cooperate. To be effective, a threat to punish must be both severe and credible. A punishment is credible if the countries called upon to punish a country that fails to cooperate are better off imposing the punishment than not. A punishment is severe if a country is better off cooperating than deviating and suffering the punishment. The problem is that more severe punishments harm the countries that impose them more and so are less credible. As more countries supply a public good, the loss they experience in imposing a punishment increases. The credibility of imposing severe punishments is eroded.

Consider the special case of a bilateral public good, such as cleaning up the Great Lakes shared by the United States and Canada. Suppose that these countries can either reduce their pollution or not and that each country is better off when both countries abate their pollution than when both pollute, though each would prefer the outcome in which only the other country reduces its pollution—a classic “prisoners’ dilemma” game. The two countries can write an agreement stating that each will reduce its pollution, that the agreement will enter into force only if ratified by both countries and that each will comply with the obligation to reduce pollution if and only if the other country



complies. Plainly, a deviation by either country would impel the other to carry out its threat to punish, since the underlying problem makes it attractive for each country to reduce its pollution only if the other country does so. In bilateral agreements of this kind, severe punishments are (under certain conditions) always credible (Barrett 2003a).

As the number of countries that share a resource increases, however, restrictions in the supply of the public good needed to punish a country for failing to cooperate may only make the enforcing countries worse off, implying that the threat to punish is not credible. To illustrate this observation, it suffices to note that other countries were willing to implement the Kyoto Protocol even after the United States elected not to participate.

### *Discrete, binary and continuous public goods*

Knowledge can be incremental or discrete. The spillovers associated with learning by doing are a continuous public good: a little more doing yields a little more learning. By contrast, the knowledge associated with the discovery of a new vaccine is discrete, or lumpy. Disease eradication is binary public good: either it happens or it does not.<sup>3</sup>

The incentives to supply binary public goods are particularly strong. Suppose there are  $N$  countries (1, 2 ...  $N$ ), with country 1 having the highest benefit of provision, country 2 the next highest and so on. Denote the benefits from provision of a binary public good to country  $i$  as  $B_i$ . By construction,  $B_1 > B_2 > \dots > B_N$ . If the cost of provision is  $C$ , the binary public good will probably be provided if  $B_1 > C$ . It would not necessarily follow that a single country would supply the good, but this is certainly possible and may even be likely. Indeed, under some circumstances, it would seem likely that country 1 would be the sole supplier (Compte and Jehiel 2002).

Suppose, however, that  $B_1 + B_2 + \dots + B_N > C > B_1$ . In this case it would not pay any country to supply the public good unilaterally, even though all countries would be better off if the good were supplied. Will the public good be supplied? It seems likely that it will be, but countries would need to coordinate their contributions for this to happen.

For polio vaccines, the condition  $B_1 > C$  was satisfied (the United States was country 1). For other potential vaccines this condition will not be satisfied. The problem is particularly acute for tropical diseases that do not afflict rich countries. As Glass, Batson and Levine note, in 2000 just “10% of global research funds were dedicated to the 90% of

disease burden that affects the world's poorest people" (2001, p. 5). Innovations relevant to tropical diseases must await coordinated efforts among affected countries or development assistance, as discussed below.

In other cases the needed coordination has been sustained. An example is large-scale scientific research, such as the European Organization for Nuclear Research (CERN), established under a 1953 treaty, or the International Thermonuclear Experimental Reactor (ITER) project for fusion energy research. Both programmes required the construction of huge and costly facilities and are jointly funded by supporting countries.<sup>4</sup> It would likely not pay a single country to proceed with either of these projects unilaterally. Collectively, however, both projects hold the promise of supplying the knowledge needed for major breakthroughs in science and engineering.

Another example is the maintenance of peace and security. Many if not all countries benefit from conflict prevention, and the provision of peacekeeping is discrete: a certain force is required (coupled, of course, with the consent of the warring parties). This public good is examined in detail later in this paper.

War, waged for the right reasons, can also supply a discrete public good. Following Iraq's invasion and annexation of Kuwait, a coalition of countries, led by the United States, cooperated in restoring Kuwait's sovereignty by implementing UN Security Council resolution 678, which authorized the use of "all necessary means" to remove Iraq from Kuwait and "restore international peace and security" in the region. The Gulf War was of value to almost every country. Enforcement of the Security Council resolution enhanced the status of the United Nations. Restoration of Kuwait's sovereignty gave weight to international legal principles, and ousting Iraq from Kuwait both removed a regional threat and stabilized the world oil market. No wonder almost every country gave at least political support to the effort. Many gave serious financial and material support as well.

### *Technology of supply*

Three kinds of technology contribute to the supply of public goods: weakest link, best shot and summation.

### *Weakest link public goods*

Some public goods can be supplied only when every country contributes. Put differently, the quantity supplied depends on the smallest amount contributed by any country. For weakest link global public goods, supply often depends on universal participation.

Certain policies on infectious diseases are of this type, which may explain why the WHO constitution incorporates the “opt out” principle—as noted before, all countries are presumed to be bound by a resolution unless they have specifically opted out from it.

An example of a weakest link public good is resistance, including resistance to antibiotics, antimalarials, treatments for tuberculosis and antiretroviral drugs, as well as resistance by the malaria vector to DDT, the hepatitis B virus and pertussis (whooping cough) bacterium to vaccine. Interventions impose “selective pressure” on target organisms, causing them to adapt or die. The organisms that survive are able to pass on their genetic advantage, rendering the interventions less effective. This is a growing problem today, for several reasons: the scale of interventions has increased (increasing selective pressure), the discovery of new interventions (such as new antibiotics) has slowed, and little action has been taken to stop resistance. What is most striking about this global public bad is that effective intervention can stop resistance using existing technologies (Palumbi 2001). This is a problem that can be solved, but very little is being done to solve it.

If just one country fails to guard against resistance, resistance can develop. If it does, resistant strains of the pathogen or pest can invade other countries. As a 2002 WHO document notes concerning resistance to antimicrobials, resistance is a global problem and a special one at that:

No single nation, however effective it is at containing resistance within its borders, can protect itself from the importation of resistant pathogens through travel and trade. Poor prescribing practices in *any* [emphasis added] country now threaten to undermine the potency of vital antimicrobials *everywhere* [emphasis added].<sup>5</sup>

Countries can defend against resistance by supporting public health more broadly. Policies and measures that halt the spread of tuberculosis, for example, also protect against infection by multi-drug-resistant tuberculosis. Nonetheless, failure by any country to stop resistance makes every country more vulnerable.

An even clearer example of a weakest link public good is the eradication of an infectious disease. As long as a disease exists anywhere in nature, it is not eradicated. Disease eradication is a particularly ambitious goal, as failure by just one country to eliminate the disease foils the entire effort.

To date there have been several attempts to eradicate diseases, including attempts to eradicate hookworm, yellow fever, yaws and malaria, all of which failed; the singular success of smallpox eradication; and current efforts to eradicate poliomyelitis and guinea worm. Other diseases, including mumps, rubella, lymphatic filariasis, cysticercosis and measles, have been considered possible candidates for eradication. The most important of these diseases to eliminate is measles, which kills about three-quarters of a million children every year.

Defence against a bioterrorist attack is another weakest link public good. Should a pathogen be released in any country, all others would be vulnerable. This tilts the incentives countries have to guard against an attack. Each country reaps just a fraction of the global benefit of prevention and cannot rely on other countries to stop an attack. For both reasons countries are likely to spend less on prevention and more on minimizing the damage that an attack can do (by stockpiling vaccines, for example).

### *Best shot public goods*

The opposite of a weakest link public good is a best shot public good. For these goods, the efforts of just one country suffice to supply the good. The quantity supplied depends on the amount supplied by the country that supplies the most.

Examples include the knowledge of how to manufacture polio vaccines, the inactivated (killed) polio vaccine (IPV), developed by Jonas Salk, and the oral (live-attenuated) polio vaccine (OPV), developed by Albert Sabin. Research on both vaccines was funded by the March of Dimes (the National Foundation for Infantile Paralysis), a private organization in the United States. Though developed in the United States, by the United States and for the United States, these vaccines are used around the world. They are the main tools of the current eradication initiative organized by the WHO.

More generally, evidence suggests that R&D spending in the industrial countries—spending that is justified by the benefits that can be captured by the countries and companies making the R&D investments—also

raises (total factor) productivity in developing countries. It does so as a result of both the knowledge embodied in products that are traded and the transmission of information that would be costly for countries to acquire were the knowledge not already available in the industrial countries. According to Coe, Helpman and Hoffmaister (1997, p. 148), “total spillover effects from R&D in the industrial countries may have boosted output in the developing countries by about \$22 billion”, almost half of total official development assistance provided that year.

### *Summation public goods*

For many public goods it is not individual contributions but the sum of all contributions that matters—larger aggregate contributions yielding greater benefits to every country. Reductions in the emissions of ozone-depleting substances and greenhouse gases are of this type. It does not matter where the reductions in emissions take place, it is the total amount of reductions that matters.

There is usually an incentive for countries to supply some amount of a summation public good unilaterally. The cost of reducing the first unit of pollution is often very close to zero, while the benefit for even a single country is usually greater than zero. As more pollution is reduced, however, the marginal cost of reduction increases. Further reductions in pollution also often reduce marginal benefits.

While incentives may exist to supply some amount of a summation public good unilaterally, they will typically lead to underprovision of the good. Each country has an incentive to take account of the benefit it receives from its own abatement but not the benefit received by others. The efficient provision of a summation public good requires that aggregate marginal benefits equal marginal costs. Countries will usually provide less than this amount.

Indeed, if the marginal benefit of supplying the public good falls in the amounts supplied, then as one country increases its provision, others will respond by lowering their supply. This makes supply a strategic substitute. Worse yet, through the mechanism of international trade, supply of a public good by one group of countries may cause others to reduce their supply even more. Consider the example of global pollution, a public bad. Countries that reduce their pollution raise the costs to their industry, essentially shifting comparative advantage in supplying the public bad to other countries, a phenomenon known as trade leakage. The consequence is that as one group of countries reduces emissions,

another increases emissions. This response essentially penalizes countries for supplying summation public goods unilaterally.

### *Incentives for supply*

The incentives to supply global public goods vary dramatically. Sometimes unilateralism will suffice. In other cases cooperation is required but not enforcement. The most difficult cases require both cooperation and enforcement.

### *Coordination*

On which side of the road do most people drive? If the decision were random, one would expect half of the world's countries to drive on the left and half on the right. But the decision is not random. It is rare for contiguous countries to drive on different sides of the road. On the continent of Europe, everyone drives on the right. Only in the United Kingdom, Ireland, Malta and Cyprus—all islands—do people drive on the left. Even Gibraltar, a British territory contiguous with Spain, drives on the right. It was not always so. Gibraltar switched sides in 1929 to reduce the number of accidents involving two-way traffic with Spain. Sweden switched in 1967 for the same reason.

The decision over which side of the road to drive on is a standard, and though there are strong reasons for countries to conform, there is no need for countries to agree on or enforce a particular standard. These decisions can be taken unilaterally.

Air travel is different. It requires a very high degree of coordination. Think, for example, of the need for pilots and air traffic controllers to communicate. Civil aviation standards are established by the International Civil Aviation Organization (ICAO), a specialized agency of the United Nations. Under ICAO rules, pilots flying international flights must be proficient in either English or the local language of the countries to which they fly. Air traffic controllers must be proficient in the local language and English. These rules ensure that ground and flight staff can communicate in at least one language. Similar rules established by the International Maritime Organization (IMO), another specialized agency of the United Nations, govern communications at sea. An IMO resolution establishes Standard Marine Communications Phrases, based on maritime English, for ship to shore communications. Standards also allow machines to communicate: the Universal Postal Union, another

specialized agency of the United Nations, establishes uniform bar code standards, allowing machines to “communicate” with the coded international mail they process.

Open standards are public goods: use of a standard by one country does not affect the ability of others to use the standard, and no one can be excluded from using a standard.<sup>6</sup> Indeed the value of a standard to each country generally increases in the number of other countries that use the same standard.

Standards can be de facto or they can be agreed. The QWERTY keyboard is a de facto standard in much of the world. It was not agreed on by an industry group, let alone blessed by government regulators—it simply came to be used. A company can sell a computer with a different keyboard, but consumers familiar with the QWERTY layout are unlikely to prefer the alternative, which is why QWERTY persists.

A standard can be chosen and persist even when a change would make everyone better off. Indeed David (1985) argues that the QWERTY keyboard is a prime example of such a standard. International cooperation may thus be needed to ensure that the “right” standard is chosen. This is the reason behind standard setting by international organizations.

#### *Prisoners' dilemma*

In some situations countries can gain by mutual restraint. An example is protection of the stratospheric ozone layer by reducing the emissions of ozone-destroying chemicals (mainly chlorofluorocarbons), a summation global public good. Many countries had strong incentives to reduce their use of chlorofluorocarbons unilaterally, at least up to some level. Part of the cooperation challenge was to get countries to go beyond this level. A complete ban may make all countries better off, but each country may prefer the situation in which every other country bans chlorofluorocarbons while it retains the freedom to use some amount of these chemicals. This is characteristic of the prisoners' dilemma. The greatest challenge in overcoming the prisoners' dilemma is enforcement of an agreement to supply the public good—in the example of ozone layer protection, an agreement to ban chlorofluorocarbons.

An agreement was negotiated to address this problem, and it has succeeded spectacularly. As a result of this agreement—the Montreal Protocol—almost 100 ozone-harming chemicals are being eliminated globally. The agreement is having a real effect on the environment.

The rate of decline in stratospheric ozone at mid-latitudes has already slowed. Within the next decade, the ozone layer is expected to begin to recover.

Climate change is also an environmental problem. As in the case of ozone layer protection, mitigation is likely to yield a positive global net benefit. However cooperation to protect the environment has been much less successful than cooperation to protect the ozone layer.

### *Chicken games*

In coordination games every country wants to behave as others are behaving. If other pilots are speaking English, pilots in a particular country also want to speak English.

In other cases, some countries may want to behave differently from others. Situations in which some countries want to behave differently from others are known as “chicken games”.

Imagine a situation in which there are two competing standards. If some countries choose standard A, others may prefer to choose standard B, not because B is intrinsically superior to A but because they may be able to profit more from adopting the B standard. The separate standard has a smaller market but also less competition. This explains why Europe and North America have different television standards. Adoption of a common standard is substantially determined by economies of scale in production and network externalities (consumer demand increases in the total number of other people using the same standard). In some cases networks are localized. This is true of roads and explains why different standards are used on different continents (or on islands) but not on the same continent. Other networks—telephones, the mail, international air travel—are global.

Another application important to the provision of global public goods is treaty participation. Whether a country participates in a treaty is rarely an independent decision. Participation depends on whether others participate (sometimes the decision depends on whether particular other countries participate). In some situations, the more others participate, the more a particularly country gains by participating. In other situations the reverse is true. The United States’ decision not to ratify the Kyoto Protocol, for example, affected the decision of others. Australia chose not to ratify. Canada did ratify, but only after some hesitation; its incentive to ratify was affected by the decision of its closest neighbour and largest trading partner not to ratify.



### *Asymmetric countries*

When countries are strongly asymmetric, cooperation may make one kind of country worse off while making another kind substantially better off. In these situations cooperation will require more than enforcement. It will also require money transfers—in the jargon of economics, “side payments”. Usually these are compensating payments.

Protection of the ozone layer, for example, would substantially benefit the industrial countries—because depletion would be greater near the poles, because people with white skin would be most adversely affected and because developing countries have different priorities. The industrial countries needed to ensure that global emissions of ozone-depleting substances were reduced and that production did not relocate to non-participating developing countries.

The original Montreal Protocol did not address this fundamental asymmetry, but the 1990 amendments did. This agreement compensated developing countries for the “agreed incremental costs” of complying with the emission reduction obligations. Essentially, the amended agreement ensured that developing countries would be no worse off for joining the agreement. Since they would also be subject to trade restrictions if they decided not to join, the combination of carrots and sticks promoted their participation.

This kind of asymmetry essentially transforms the prisoners’ dilemma. It is an example of how international institutions can redirect the incentive problems that undermine the supply of transnational public goods.

### ***Redirecting incentives***

The nature of a public good is a given. By clever institutional design, however, it may be possible to redirect incentives to increase the supply of a transnational public good. There is no simple formula for how to do this, but the examples discussed below give a sense of the possibilities.

### *Smallpox eradication*

A number of prerequisites must be satisfied for eradication of an infectious disease to be feasible (Lederberg 2002): there must not exist a non-human host for the disease; diagnosis and surveillance must be effective; it must be possible to interrupt person to person transmission; vaccina-

tion and survival from infection must confer very long, if not life-long, immunity; the disease must be of sufficient importance to justify the effort; and there must be political commitment to eradication. The first four prerequisites are epidemiological. The last two are economic and institutional. All are essential. For example, the attempt to eradicate yellow fever was abandoned after it was discovered that monkeys in the border regions of Brazil were hosts to “jungle yellow fever”, which could be transmitted to humans through these animals and not only by the vector *Aedes aegypti*.

In the case of smallpox eradication, the epidemiological prerequisites were all met. The economics were also favourable. And yet what is perhaps most astonishing about this case is that it nearly failed. As Fenner and others explain, “the gap between success and failure ... was a narrow one, and the issue was often favourably decided by fortuitous and unpredictable political developments and with only marginally adequate resources” (1988, p. 1,366).

The economics of eradication are especially interesting. The only reason for choosing to eradicate a disease, rather than to control it to a very high level, is the prospect of avoiding future vaccination costs. The additional upfront costs of eradication are therefore an investment. If eradication is technically feasible—if the first four prerequisites noted above are satisfied—then the economics of disease control will require either that the disease be controlled at a relatively low level or that it be eradicated; control at a high level will not be economic, because with just a little extra effort, the disease can be eradicated, yielding a huge return into the indefinite future (Barrett and Hoel 2003).

The example of smallpox illustrates how large the gains from eradication can be. Using 1967 as a base year—a year in which smallpox, though controlled, still killed 1.5–2.0 million people—the benefits of eradication to the world were about \$1.35 billion annually (Fenner and others 1988). The total expenditure for the eradication programme—the incremental cost above the cost of control—was about \$100 million, incurred over a period of about 10 years. Very roughly, a one-time cost of about \$100 million saved the world about \$1.35 billion a year. Using a discount rate of 3%, this implies a benefit–cost ratio for global eradication of 459:1 (see table 1.1). Smallpox eradication was an extraordinarily good deal for the world, perhaps the highest yielding investment of any global good.

Smallpox eradication was a good deal for individual countries. The poor countries in which smallpox remained endemic gained mainly from

**Table 1.1 Annual estimated benefits of eradicating smallpox (millions of 1968 dollars)**

<b>Item</b>	<b>Annual benefit</b>
Benefits to India	722
Benefits to all developing countries	At least 1,000
Benefits to the United States	150
Benefits to all industrial countries	350
Total benefits	1,350
Total present value of benefits	45,000
Total international assistance	98
Benefit-cost ratio	459:1

*Source:* Fenner and others (1988).

the lives saved from future infections. The rich countries that had long been smallpox-free gained by not having to vaccinate in the future.

Eradication demands tremendous coordination. The disease must be eliminated from every country at the same time. Since the international system is decentralized, it is important to consider the incentives facing an individual country. If the disease exists abroad, it may still pay a country to eliminate the disease at home—all the rich countries had eliminated smallpox before the eradication initiative began. If all other countries have eliminated smallpox, however, the incentive for the last country to do so is very strong, for its elimination then eradicates the disease, yielding this country a huge dividend (in the form of avoided future vaccination costs). If it does not pay a country to eliminate as long as the disease exists abroad but it does pay a country to eliminate when the disease has already been eliminated abroad, then eradication is a coordination game. If, however, all countries are better off if the disease is eradicated but it does not pay a country to eliminate even after all other countries have eliminated the disease, then eradication is a prisoners' dilemma game.

Careful examination of the economics of smallpox eradication suggests that coordination should have sufficed. However some poor countries lacked the wherewithal to eliminate smallpox. Eradication also required the supply of associated public goods, such as the knowledge gained by basic research into whether there existed a non-human host and whether related viruses could be transmitted to humans once the smallpox virus had been eradicated. The eradication programme generated substantial learning by doing, with each step in the process yielding

knowledge that lowered the cost of taking the next step—another public good.

Eradication required coordination accompanied by financial contributions. The poor endemic countries shouldered two-thirds of the costs of eliminating smallpox within their borders. Of the \$100 million in external assistance, about a third was mandated by a vote of the World Health Assembly, with individual country contributions determined based on the WHO scale of assessments (which is based on the UN scale).<sup>7</sup> The balance was financed by bilateral aid and voluntary contributions. The consequence: non-mandated contributions were miserly. Even after smallpox had been eliminated everywhere but the Horn of Africa, voluntary contributions only trickled in. The reason is partly a problem of incentives. Why should one country pay when others will benefit? Why not let other countries pay instead? In fact the incentive to finance eradication was strong. The reluctance to finance seems to have been affected more by countries not understanding the return they could earn on their investment. This suggests that future eradication efforts should demonstrate not only the global returns to eradication but also the financial gains for individual countries.

Sadly, concerns about the threat of bioterrorism erode the economics of smallpox eradication. Success in eradication makes countries more vulnerable to a deliberate release. To guard against such a threat countries have to take defensive measures. In the case of smallpox, a number of countries have incurred the expense of stockpiling vaccines and in vaccinating front-line responders (medical and paramedical professionals, police officers, fire fighters). As long as indefinite, mass vaccination can be avoided, smallpox eradication is almost certain to remain an economic success, despite the need for such measures. For other diseases, however, this may not be true. It all depends on the benefits and costs of eradication and the measures needed to guard against a terrorist attack.

### *Protection of the oceans*

Multilateral cooperation may be needed to ensure that the “right” standards are chosen. However countries may also cooperate in standard setting for a different reason. They may choose a standard not for its inherent qualities, but because adoption of the standard can be expected to alter a related kind of behaviour. That is, standards may help redirect incentives. They may be chosen for strategic purposes.

An example of this kind of standard setting is the International Convention for the Prevention of Pollution from Ships (MARPOL), an agreement intended to reduce the deliberate release of oil at sea. Oil tankers must fill their holds with ballast water for the return journey and then flush out the ballast water before taking on the next load. Years ago nearly all tankers used the same tanks for carrying oil and ballast water. The process of flushing the oil tanks, repeated over and over again by all the world's tankers, once added up to a significant environmental problem. More oil was released deliberately in to the seas by this means than by the more publicized accidental spills.

International negotiations on limiting these oil releases began in the 1920s, with a focus on limiting the quantities that could be released within particular zones, especially close to shore. Unfortunately this approach provided neither the means nor the incentives for effective enforcement.

In the 1970s a different approach was tried (Mitchell 1994). Rather than regulate quantities, MARPOL imposed new technical standards: segregated ballast tanks. The new approach had a dramatic effect. While compliance with the performance standards could not be monitored or enforced, compliance with the equipment standards was easy to monitor and enforce. Indeed compliance with the treaty has been perfect. Moreover, as of November 2003, 127 parties participated in MARPOL, making up almost 97% of global tonnage ([www.imo.org/HOME.html](http://www.imo.org/HOME.html)). A later agreement built on this success by imposing a new technical standard: the adoption of double hulls, intended to reduce accidental oil releases. This new agreement, adopted in 1992 but recently accelerated, should result in conversion by 2015.

There is a strategic advantage in the technology standards approach (Barrett 2003a). First, there are economies of scale in tanker design and construction. As more tankers are built to a given specification, the cost per tanker falls. Second, tankers are connected by means of a global network. The value of a tanker increases in the number of ports to which it has access. Port states can deny access to tankers that fail to comply with an equipment standard; as the number of port states that do so increases, the incentive for complying with the new standard increases (similarly, the greater is the number of tankers meeting the new standard, the lower are the costs of enforcement for port states). Once "enough" states enforce a new tanker standard, the market will be "tipped". Nearly all tankers will meet the new standards, and nearly all states will in turn enforce these standards.

*Protection of the ozone layer*

Long before the Montreal Protocol was negotiated, countries started to address the problem by taking unilateral actions. In the late 1970s the United States—together with Belgium, Canada, Norway and Sweden—banned the use of chlorofluorocarbons in aerosols.

A cost-benefit analysis by the US Environmental Protection Agency (1988) confirms that these countries had strong incentives to reduce their use of chlorofluorocarbons unilaterally (see table 1.2). Even if no other country took action, a 50% cut in chlorofluorocarbons emissions by the United States would have yielded a benefit 65 times as large as the cost (Barrett 2003a). Of course, if other countries took similar measures, the United States would have gained even more. Hence rather than make unilateral cuts in emissions only, the United States preferred that all countries reduce their emissions. For their part, other countries would have little incentive to take any account of the benefit their own abatement would give the United States. Indeed they would prefer to free-ride on any reduction in emissions undertaken by the United States.

The provision of summation public goods such as protection of the ozone layer must thus overcome severe incentive problems. In the environmental area this is usually done by means of a treaty. The purpose of a treaty is not only to impel countries to declare an obligation to act. It is also to manipulate the incentives for countries actually to act.

**Table 1.2 Estimated effect of the Montreal Protocol in the United States**

Item	No controls	Montreal Protocol	Unilateral implementation of Montreal Protocol
<i>Ozone depletion (percent)</i>			
By 2000	1.0	0.8	0.9
By 2050	15.7	1.9	10.3
By 2100	50.0	1.2	49.0
<i>Pay-offs to the United States</i>			
Present value benefits (billions of 1985 dollars)	n.a.	3,575	1,373
Cost (billions of 1985 dollars)	n.a.	21	21
Present value of net benefits (billions of 1985 dollars)	n.a.	3,554	1,352
Benefit-cost ratio	n.a.	170:1	65:1

n.a. Not applicable.

Source: US Environmental Protection Agency (1988).

The original Montreal Protocol on Substances that Deplete the Ozone Layer, negotiated in 1987, demands that parties to the agreement cut their production and consumption of chlorofluorocarbons and related chemicals by half by 1999. It also imposes trade restrictions between parties and non-parties on chlorofluorocarbons, products containing chlorofluorocarbons and, potentially, products made using chlorofluorocarbons. The treaty incorporates a minimum participation clause: it enters into force only if ratified by at least 11 countries, making up at least two-thirds of (1986) global consumption of the listed chemicals.

The last two features of the treaty are strategic and help make the promise to reduce emissions stick (Barrett 2003a). Suppose the vast majority of countries participate. Then non-participants are able to free-ride on the abatement supplied by participants. However, under the terms of this agreement, non-participants would be unable to trade with the vast majority of countries. If the loss in the gains from trade exceeds the benefit of free-riding, every country would do better by participating, provided enough others participated. The trade restrictions thus manipulate the incentives to participate, while the minimum participation clause ensures that a threshold participation level is exceeded. The threat to restrict trade is made credible by trade leakage. Non-participation harms the participants substantially if the potential for leakage is great, making participants better off by imposing the trade restrictions for any given level of non-participation.

The Montreal Protocol was helped by a very favourable cost-benefit ratio. But as the Montreal Protocol was strengthened, marginal costs increased, and marginal benefits probably fell. Marginal benefits almost certainly exceeded marginal costs so that aggregate net benefits increased, but the incentives facing individual countries to participate and comply with the agreement were probably weakened as the agreement was strengthened. It was the strategic design of the treaty that allowed the treaty to be strengthened. These incentives are characteristic of a prisoners' dilemma.

“Cooperate” in the context of a treaty means two things. First, it means that countries participate. Second, it means that participating countries comply. Participation and compliance are often analyzed separately, but they are joint decisions and should be analyzed jointly. Under the rules of international law, countries are free to participate in an agreement or not as they please. Under these same rules (of customary law), however, countries are expected to comply with the agree-

ments in which they choose to participate. This means that if a country believes it will not be able to comply or would not want to comply, it ought not participate. Participating and then not complying violates (customary) international law.

This explains why it is difficult to negotiate a treaty that demands substantial sacrifices. As more is demanded of signatories, countries choose not to participate. Put differently, to secure the participation of more countries, the effectiveness of the agreement may need to be diluted. The Montreal Protocol is impressive because it was able to have its cake and eat it, demanding real sacrifices of its parties while simultaneously securing both full participation and compliance. It did this by strategically transforming the game, turning a prisoners' dilemma into a coordination game.

The side payments in the Montreal Protocol are reminiscent of the international transfers used to finance smallpox eradication. One difference, however, is that the Montreal Protocol funds were to be paid only by the industrial countries. By contrast, all countries were gross contributors to the smallpox campaign.

Another difference is that only a fraction of the contributions to the smallpox eradication effort was mandated by agreement of the World Health Assembly; most contributions were made voluntarily (if grudgingly). The Montreal Protocol required that all international assistance be financed by parties to the agreement, under a mechanism that only implicitly threatened punishment for non-payment (Barrett 2003a). This difference could be significant.

The Multilateral Ozone Fund has been very successful, raising \$1.6 billion so far, with no substantial problems of non-payment.<sup>8</sup> Even after adjusting for inflation this is more than the total amount of international finance raised for smallpox eradication.

### *Fisheries conservation*

The examples of smallpox eradication and the Montreal Protocol are inspiring, but they are not typical. As illustrated by the evolution of the International Convention for the Conservation of Atlantic Tunas (ICCAT), overcoming the prisoners' dilemma is never easy and not always possible.

Tuna and related fishes (such as swordfish) are pelagic, migrating across different Exclusive Economic Zones (EEZs) and traversing the high seas. Under the rules of international law, a country can manage



its EEZ as it pleases. But why should a country conserve a fish that may move to another country's EEZ or enter the high seas, only to be caught by another country? In the high seas, of course, fish belong to everyone and hence to no one until caught. Then the fish belongs to the vessel that catches it. The incentives all tilt in the direction of overfishing.

The aim of ICCAT, like almost all fisheries agreements, has been to constrain fishing nations in order to maintain healthy stocks and thus support a "maximum sustainable catch". The success of such an agreement, however, creates the conditions that undermine it. If stocks are protected, participants have an incentive to cheat by exceeding their quotas; to withdraw from the agreement and fish as much as they like; or to register their vessels under another flag to get around the requirements of the treaty. Non-participants have no incentive to join the agreement. Indeed, the more the agreement succeeds in protecting a stock of fish, the more non-participants have an incentive to enter the fishery, undermining the conservation efforts of participants.

ICCAT has taken a number of steps to stop and even reverse these incentives, but its hands are tied. Recently ICCAT has threatened to impose trade restrictions against both non-participants and non-complying states. To deter non-cooperative behaviour, the threat of trade restrictions must be both credible and severe. The ICCAT restrictions are credible: they have actually been imposed. However the restrictions are not always severe, as indicated by the fact that they have had limited influence so far. A country with a large domestic market, or the opportunity to export its catch to non-ICCAT countries, would be undeterred by the trade restrictions. ICCAT has about 35 parties, leaving a very large market for any country that chooses to ignore the agreement.

ICCAT has pushed the treaty instrument about as far as it can go. To make more progress a different approach is needed. Customary law is the only form of international law that applies generally, not just to countries that explicitly agree to accept it. Unlike a treaty, custom is not deliberately constructed. It reflects how states actually behave. For agreements such as ICCAT to be made effective, it will probably be necessary for custom to evolve and embrace a general prohibition against actions that undermine fisheries agreements.

This would not be the first time that custom came to the rescue of international fisheries. The concept of the EEZ was created in response to the scarcity caused by international overfishing. In giving coastal states ownership of fisheries within 200 miles of their shore, custom essentially nationalized the vast majority of the ocean's commercial re-

sources. This evolution in custom achieved what no treaty could. Custom will once again have to step into the breach if a complete collapse of many of the world's most productive fisheries is to be avoided.

## Applying the framework

This section applies the framework developed above to six different areas: peace and security, world trade, financial stability, global public health, the global commons and knowledge. It cannot provide a comprehensive analysis of all six areas—a book could be written on each topic. Instead it identifies one institution or approach within each area and assesses its ability to supply the global public good. The transnational public good, the incentive problems associated with its supply, and the means by which a particular institution or approach tries to redirect these incentives are identified for each public good. Each of the institutions or approaches identified addresses an important problem. Each also yields important lessons.

Although the six areas are very different, each is substantially burdened by free-riding. Moreover, in every case the institution or approach developed or proposed for changing the incentives to supply the transnational public good is imperfect. The difficulties encountered are familiar: lack of adequate enforcement leads to low contribution levels and the failure to set and meet ambitious goals. A common theme of these analyses is that there may not exist a perfect, first-best remedy for every transnational public good; successes such as smallpox eradication and protection of the ozone layer may be exceptions. Still, there may be ways to improve matters.

### *Peace and security: UN peacekeeping*

Peacekeeping prevents hostilities from erupting between or within states by means of third-party intervention, almost always with the consent of the main belligerents. Most peacekeeping operations are organized by the United Nations.<sup>9</sup> Since 1948 the United Nations has led 56 peacekeeping operations. Today it runs 13, with a force of more than 42,000 personnel and a budget of more than \$2 billion.<sup>10</sup> Ninety-two countries supply personnel to UN peacekeeping missions.<sup>11</sup> Contributions in personnel depend partly on the operation, indicating the regional nature of the public good in some cases. For example, Australia deployed

5,000 personnel out of a total force of about 9,000 peacekeepers in East Timor in 1999.

Peacekeeping operations require the support of the 15-member Security Council: at least 9 votes in favour, with none of the 5 permanent members voting against. The secretary-general makes recommendations for launching and carrying out the operations, but the Department of Peacekeeping Operations is responsible for directing operations in the field. Member states contribute troops, equipment and supplies, for which they are compensated at agreed rates. The UN rates exceed the costs of deployment for some countries (explaining Pakistan's large contribution) and fall well short of these costs for others (Shimizu and Sandler 2002).

Costs are shared by all member states, based on a special scale of assessments. Like the scale used to finance other UN operations, the peacekeeping scale reflects the wealth and size of each state. However further adjustments are made. Because peacekeeping requires the approval of Security Council members and because the permanent members are also responsible under the UN Charter for maintaining international peace and security, these states are required to pay a larger share of the burden—about 22% more than the regular budget assessment scale. Developing countries, by contrast, pay less than the regular assessment (Shimizu and Sandler 2002).

For some Security Council members, the burden is even greater than reflected in these assessments. At UN compensation rates, the United States is only partially compensated for the full cost of troop deployment. States also often make voluntary contributions over and above their assessed share.

The theory of public goods—especially the theory of burden-sharing (see Olson and Zeckhauser 1966)—suggests that “large” nations should be expected to shoulder a disproportionate share of the costs of provision, with “small” nations paying little if anything.<sup>12</sup> Is this the case?

Estimation of relative burden-sharing must distinguish between assessed and actual burdens. Some states do not pay all of their assessed burdens in some years. By design the assessed burdens impose a greater relative cost (contribution per unit of GDP) on the larger countries (in terms of GDP). Shimizu and Sandler (2002) show that actual burdens borne by these countries are also greater.<sup>13</sup> Moreover, they detect a change in burden-sharing, “evidence that the new security threats posed by the post-cold war era are bringing back a bygone era of the 1950s and 1960s, when security was underwritten by a few large nations” (Shimizu

and Sandler 2002, p. 652). This is partly a matter of distribution or equity, but it may also be a matter of efficiency; in placing a particular burden on some countries, the overall level of provision may be increased.

Another prediction of the theory of public goods is that peacekeeping will tend to be undersupplied because of the familiar free-riding problem—provided it is supplied purely by voluntary means. However UN peacekeeping is not funded by a purely voluntary system. Because contributions are mandated, the countries that decide to undertake peacekeeping missions (that is, the members of the Security Council, especially the five permanent members) pay less than the full cost of their decision. This encourages provision. However, under the formula for assessments, the permanent members of the Security Council also pay a higher proportion of the total costs of peacekeeping relative to the ordinary UN budget. From the point of view of efficiency, it is unclear whether the large countries pay “too much” overall.

Two other aspects to the financing of UN peacekeeping promote provision of this public good. First, while concerns about free-riding typically reflect the motivation of greed (with every country preferring that others pay for the public good), contributions are also motivated by fear that one country will pay and others will not, with the result that the public good is not provided and the country loses its contributions (Dawes and Thaler 1988). Mandated contributions reduce the fear factor, further encouraging supply of the public good.

Second, experiments show that a person’s willingness to contribute to a public good depends in part on whether others contribute or can be expected to contribute. People seem willing to contribute their fair share but to hold back their contributions if they expect that others will not pay, even when the withholding of payments is self-damaging (Fehr and Gächter 2000). Because peacekeeping assessments are agreed in advance, each country is ensured of contributing a “fair” amount to the effort, further promoting the supply of this public good.

Of course, this assumes that countries actually pay. In practice they do not always do so—at least not on time (one reason being that authorization of peacekeeping operations typically does not coincide with the normal budgetary cycle) (see table 1.3).

What is the penalty for failing to pay? Under the UN Charter, states lose their right to vote in the General Assembly if the amount of arrears equals or exceeds its assessed contributions for the preceding two years. States do lose their votes, fairly routinely. In mid-May 1999, for example, 30 states had lost their right to vote (US General Accounting

**Table 1.3 Peacekeeping arrears as of June 2000**

<b>Member state</b>	<b>Arrears (millions of dollars)</b>	<b>Percent of total</b>
United States	900	70.2
Ukraine	190	14.8
Russia	62	4.9
Belarus	50	3.9
Brazil	15	1.2
Libya	6	0.5
Iran	5	0.4
Japan	4	0.3
Iraq	4	0.3
Yugoslavia	4	0.3
Georgia	4	0.3
Moldova	3	0.2
All others	34	2.6

Source: [www.un.org/Depts/dpko/dpko/pub/pko.htm](http://www.un.org/Depts/dpko/dpko/pub/pko.htm).

Office 1999). In addition, when a state is in arrears, the United Nations is unable to reimburse it for its contributions of troops, equipment or supplies to peacekeeping operations, presumably making these states less inclined to contribute to peacekeeping operations, to the harm of all states, including those in arrears.<sup>14</sup> More generally, failure to pay makes other states less inclined to pay and erodes the ability of the institution to serve. This provides an incentive for countries to pay.

The situation of the United States is particularly interesting.<sup>15</sup> The United States essentially withheld payments to the United Nations to negotiate down its assessed contribution—a tactic that succeeded. In 2000 the US assessment for the regular UN budget was 25%, while its peacekeeping assessment was just over 30%. Under a General Assembly resolution adopted in late 2000, the ordinary assessment for the United States fell to 22% by 2001, making the peacekeeping assessment just over 28%. In 1995 the US Congress imposed a cap on the amounts it would pay towards peacekeeping: 25% at a time when the assessed amount was just over 30%. By 2000 the US peacekeeping assessment had fallen to about 27%. The US Congress has authorized payment at this level, although it has not yet removed the cap it imposed earlier.

Is this recent change in contributions good or bad for the provision of peacekeeping? The answer is not obvious for two reasons. First, if the

(relative) costs borne by one country fall, the (relative) costs borne by others must increase. Second, it is not clear whether the combination of financing and the rules for approving peacekeeping operations promotes or discourages efficient provision. Shimizu and Sandler (2002) argue that the combined effect does more to discourage provision. For this reason, they believe that “the UN assessment scheme needs to be changed in order to raise contributions from wealthy developing nations” (Shimizu and Sandler 2002, p. 667).

Shimizu and Sandler (2002) assume (implicitly, at least) that peacekeeping is a summation public good. In fact peacekeeping operations are discrete. A minimal force is needed to maintain the peace; a larger force is of little if any additional benefit. Discrete public goods are more likely to be supplied.

Shifting the relative burden from the large industrial countries towards, say, developing countries with high per capita incomes would increase provision (for the simple reason that the countries deciding to supply the public good would pay less). But the countries being asked to shoulder a larger share of the cost would also likely insist on having a greater say in the decision to undertake peacekeeping missions. In other words, a change in financing may only beget a change in the decision-making rules—and it is not at all obvious what the consequence of both changes would be for provision. This is clearly a topic deserving closer examination.

### *Trade regimes: the World Trade Organization*

Trade is not a public good; organizations such as the World Trade Organization (WTO) do not supply public goods. Nor is the WTO itself a public good—the WTO restricts membership and, by definition, access to a public good cannot be restricted. It might be argued, however, that a generalized environment conducive to liberalized trade, of which the WTO is a part, is a public good. Rose (2002) has even suggested that the main contribution of the WTO and its predecessor, the Global Agreement on Tariffs and Trade (GATT), has not been in liberalizing trade among its members. Indeed, and rather astonishingly, Rose is unable to find a statistically significant relationship between GATT/WTO membership and a raft of indicators of trade liberalization. This implies one of two things. Either the multilateral trade regime has made no difference, or (as hinted at by Rose) the principal role of the GATT/WTO has been in promoting free trade among all countries. The sec-

ond possibility seems closer to the mark, since trade has become more liberalized over time. Hence the GATT/WTO can probably be seen as having been instrumental in creating the public good of a global liberalized trading environment.

Perhaps the most basic reason for having a trade agreement is to prevent countries from restricting trade, thereby correcting the terms of trade externality of protectionism.<sup>16</sup> This externality arises when a (large) government imposes a trade restriction (an import tariff, for example) in order to improve its own terms of trade, with the unintended consequence of worsening the terms of trade of other countries by restricting their access to this market. With every country taking account of the benefit it receives from a tariff while ignoring the costs imposed on others, the result is a situation in which tariffs are too high across the board. Aggregate welfare could be improved by a general reduction in tariffs, but no country has an incentive to reduce its own tariffs unilaterally. Trade regimes can be explained as institutions that arise for the purpose of correcting this familiar prisoners' dilemma (Bagwell and Staiger 2000).

Two basic principles underpin the multilateral trading regime: non-discrimination and reciprocity. Non-discrimination is enshrined in most-favoured-nation (MFN) treatment, which requires that every party set the same tariffs (these levels being negotiated in "bindings") with respect to all members. Reciprocity is reflected both in the negotiation of reciprocal tariff reductions (a feature of MFN) and in the rules of enforcement. The enforcement rules allow the "principal supplier" of a country to retaliate by withdrawing equivalent concessions should a country not conform to the tariff bindings.

How does enforcement work? Alleged failure by a party to comply with the trading rules triggers a dispute. If the parties are unable to negotiate an agreement to their conflict, a dispute panel is convened and rules on whether a violation has occurred. If it finds that a violation has occurred, it authorizes the harmed country to retaliate unless the violation is corrected or compensation agreed. The harmed country is free to choose the targets for its retaliation; the WTO only restricts the total magnitude of the response (which must be proportionate to the harm done). By this means the victim state can retaliate in ways that cause maximum (political) harm to the country that violated the rules and the least (political) harm to itself. At a stroke, this provision increases both the (political) severity of the retaliation and its credibility.

Trade agreements are similar to international environmental agreements in that both must be self-enforcing. However there are also dif-

ferences. The most striking difference is that violation of the trade rules triggers retaliation or punishment only by the principal trading partner, the country most affected. It does not call for a general response.<sup>17</sup> There is a reason for this. Trade is a bilateral activity. With specialization, one country will be most affected by the withdrawal of a concession, and it is this country that is most deserving of compensation, as well as most eager to retaliate. Protection of the ozone layer, by contrast, is of global concern. Failure by any country to phase out ozone-depleting chemicals harms every country, and every country (or at least a very large number of countries) must usually participate in the punishment.

Enforcing a bilateral agreement is much easier than enforcing a multilateral agreement (Bartlett 2003a). The WTO is a multilateral agreement, but trade is a bilateral activity. The WTO ingeniously relies on the bilateral nature of trade to effect enforcement of its multilateral rules. Enforcement of these rules is not perfect, however. It has been argued that smaller countries are less inclined to make use of the dispute mechanism, partly because of the legal costs of launching a dispute and partly because it is harder for small, developing countries to impose severe punishments against large industrial countries or to make the threat to do so credible. To promote greater involvement of developing countries in the disputes process, different reforms have been proposed, including the requirement that a negative finding by a disputes panel trigger a collective response (Lawrence 2003).

A different criticism is that the dispute process has been overused by some countries or groups of countries, especially the United States and the European Union. Indeed Lawrence (2003) argues that the enforcement provisions may actually promote protection rather than liberalization. Anderson (2002) also criticizes the dispute settlement procedure. By design, the rules call for a complainant to withdraw its concessions in response to another country's withdrawal of concessions. In practice complaints are often reciprocated. One country's complaint against another encourages the second party to file a complaint against the first. Moreover, the enforcement provisions cannot be effective in inducing compliance—if they were, they would deter non-compliance and there would be fewer disputed cases.

How can matters be improved? Lawrence (2003) proposes a system of “contingent liberalization commitments” under which countries identify upfront the compensating measures they would take in the event that they are found to have violated the agreement. These



commitments could be in the form of financial compensation or tariff reductions (perhaps within particular sectors) on an MFN basis.

Lawrence identifies a number of advantages in this approach. First, because complainants are not required to retaliate, smaller countries would be more inclined to use the dispute system. Second, the response to a protectionist violation would not be more protection but an equivalent reduction in protection. Third, compliance would be improved, not least because pre-announcement of the sectors identified for providing compensation would “create domestic constituencies in each country that would lobby for compliance” (Lawrence 2003, p. 87).

The flaw in this proposal lies in the ability of countries to make commitments. Lawrence’s proposal is similar to the enforcement mechanism developed for the Kyoto Protocol. If a country is found not to be in compliance, it is required to punish itself. But how is the enforcement provision to be enforced? Suppose a panel rules against a country, triggering its “commitment” to institute its compensating offer, but the country then refuses to implement the offer (because it was not really committed to doing so). Why should the commitment to compensate be taken any more seriously than the more basic commitment not to withdraw concessions, the violation of which would trigger retaliation in the first place? Ultimately enforcement requires that action be taken by others against a country that violates the agreement.

### ***Financial stability: the European Stability and Growth Pact***

Financial markets are highly integrated, and financial instability can spread—thus the term “financial contagion”. Financial markets suffer from numerous market failures; public policy responses to these often fail as well. These failures are the principal causes of contagion and “excessive” instability. This section considers the design of one institution designed to provide financial stability—an institution that, when put to the test in late 2003, quite obviously failed. This is the Stability and Growth Pact of the European Economic and Monetary Union.

The Stability and Growth Pact is intended to reduce risks for the stability of the new European currency resulting from inflationary debt bailouts. The main objective of the new European Central Bank is to maintain price stability, but the bank controls only interest rates, not fiscal policy; efforts to control inflation by means of monetary policy could be undermined by poor fiscal discipline (lowering taxes and increasing public spending). Of course this same problem applies to a

single state. The difference is that with a single currency, fiscal indiscipline by one state has implications for others. In spreading the negative effects across the entire Euro zone, each state has an incentive to exercise even less fiscal discipline than when currencies are not shared: a free-riding problem. The Stability and Growth Pact was intended to correct that incentive.

The Stability and Growth Pact prohibits countries from incurring a deficit greater than 3% of GDP when real GDP falls by less than 0.75% (“mild” recession). The EU Council, composed of the heads of state of the member countries, determines whether a country has an “excessive deficit”. This decision is made by a qualified majority (and thus includes non-members of the Euro zone). Countries incurring such persistent excessive deficits are to be punished by financial sanctions. The sanctions are determined by a two-thirds majority of the member states of the monetary union, excluding the country against which sanctions may be applied. Initially, the country found to be in non-compliance must make a deposit (of 0.2%–0.5% of GDP), on which it earns no interest. If the excessive deficit persists for two consecutive years following imposition of the initial sanction, the country can be fined (by the same two-thirds majority) by the amount of the deposit. Both penalties—the interest on the deposit and the fine—are redistributed to members of the European Economic and Monetary Union that did not run an excessive deficit in the same year the infraction occurred. This rewards these countries, both for their fiscal responsibility and for carrying out the punishment.

Germany and France, both with stagnant economies, exceeded the 3% ceiling three years running and so should have triggered the sanctions mechanism. The European Commission recommended that the enforcement provisions of the Stability and Growth Pact be applied, but when the time came to impose the sanctions, the council gave both countries more time to comply.

A common criticism of the pact is that it is excessively rigid. (The president of the European Commission, Romano Prodi, famously called the pact “stupid”.) What is so special about a deficit in excess of precisely 3% of GDP? Although the 3% may be somewhat arbitrary, not drawing a line somewhere—keeping the rule deliberately ambiguous—would make enforcement even more difficult.

A slightly more sophisticated criticism is that a rule that focuses on debt rather than deficits allows countries to borrow more in downturns, provided they make up for these borrowings in upturns. Why should a country be required to raise taxes or cut spending when its economy is

already weak? The counterargument is that failure to stick to the rules raises interest rates, imposing costs on the Euro countries that did comply with the rules. Smaller countries that cut their spending to remain within the pact's limits feel doubly harmed.

Although it is often claimed that the pact is excessively rigid, the council has great discretion in implementing its rules (the council rejected the European Commission's recommendation to impose sanctions against France and Germany in 2003, for example). The voting procedure is peculiar in that countries that fail to comply are allowed to vote to impose sanctions against other countries that fail to comply—something that, if only for reasons of reciprocity, they would likely not do. In 2003, for example, Italy and Portugal—both in danger of violating the pact's rules—sided with Germany and France. Luxembourg's prime minister also voted with France and Germany, reportedly in order to garner their support for becoming the European Commission's next president (Fuller 2003).

The Stability and Growth Pact can be looked at in a slightly different way; while a case can be made for restricting debt rather than budget deficits or adopting an even more sophisticated rule, the countries themselves chose the current rules. The more fundamental problem is that when push came to shove, the council decided not to punish France and Germany for breaking the rules, suggesting that the threat to punish was not credible. Changing the focus from deficits to debt would not address this problem.

To see why, suppose that a debt burden rule were adopted. A country that ran up a large debt (by taxing too little and spending too much in good years) would still be required to tighten its fiscal policy at a low point in the economic cycle. Would the punishment for fiscal irresponsibility be imposed at this point? One of the other arguments made by critics of the Stability and Growth Pact is that it requires fiscal tightening just when an economy needs a stimulus. This complaint would remain even under a different set of rules. Worse, a country's finance ministry would know that the council would be reluctant to punish it at this time and so would be emboldened to increase its debt. Targeting debt rather than deficits makes sense for other reasons, but it will not correct the fundamental problem with the Stability and Growth Pact. It only makes matters worse that smaller countries feel—with some justification—that the rules are not applied the same way for large countries and small ones.

This case illustrates the need to overcome the incentive problems inherent in situations demanding collective action. To change behaviour, threats must be both credible and severe, yet more severe punishments are often less credible.

Indeed the similarities between the provision of the public good of financial stability and other public goods, such as environmental protection, are suggested by the kinds of proposals recommended for overcoming problems like the ones highlighted here. With a common currency, the deficits run up by individual countries are irrelevant; what matters are the deficits run up by all the members of a monetary union. Casella (1999) proposes creating a market for deficits, allocating per-country entitlements to run up deficits and allowing them to be traded. In this way, a country could exceed its deficit threshold and purchase the difference from countries that met their thresholds. As with the Stability and Growth Pact, countries that fiscally misbehave would be punished, while the more responsible countries would be rewarded.

The problem here is once again credibility. How would the rules for trading be enforced? As with the Stability and Growth Pact, under the Casella proposal a country would incur a financial penalty just at the time when its finances were already fragile. If the country refused to purchase deficit credits, would it be punished? This is the essential flaw in the Kyoto Protocol.

### *Control of communicable diseases: polio eradication initiative*

The polio eradication initiative, approved by the World Health Assembly in 1988, was expected to reduce global incidence of the disease to zero by about 2005, but it failed to meet this goal. Polio has already been eliminated from most of the world, and so the epidemiological preconditions for eradication are plainly satisfied. Moreover, the economics of polio eradication appear to be favourable, provided vaccination can stop after incidence of the disease falls to zero.

Bart, Foulds and Patriarca (1996) assume that vaccination can stop in 2005. Taking account of the costs invested in the programme beginning in 1986, they estimate that the cumulative benefits of the initiative would exceed the costs shortly after vaccination stopped. Thereafter, a windfall would be realized in the form of avoided vaccination and infection costs. Assuming a 3% discount rate, they estimate that by 2040 the cumulative net benefits of the programme would be about \$34.5 billion.

Khan and Ehreth (2003) assume that vaccination can stop in 2010. Their analysis begins in 1970 and extends to 2050. They find that routine immunization yields a present value benefit (in medical costs saved, assuming a 5% discount rate) of about twice the cost. Starting from the base of routine immunization, eradication imposes an incremental cost and yields an incremental benefit. Unfortunately Khan and Ehreth do not count the dividend to eradication as a benefit, so the overall economics of eradication are not clearly demonstrated in their paper. Their analysis is probably more useful in showing the regional disparity in costs and benefits. They find that rich countries gain significantly from eradication, while poor countries likely lose: “without the financial support from the developed countries of the world, many developing countries would not have opted for polio interventions for implementation. From the developed countries’ point of view, providing support for the polio programme is not simply helping the poor and the disadvantaged, it actually represents a good economic investment” (p. 705).

Though these studies make different assumptions, are hard to compare and in many ways are inadequate for assessing the eradication decision, both assume that vaccination can cease. Unfortunately the vaccine that makes eradication of the wild polio viruses feasible is problematic. The OPV-derived virus can circulate after vaccination has ceased, possibly infecting the next cohort of susceptible newborns. As a consequence, stopping vaccination carries the risk of reintroducing the disease. Other post-certification policies are therefore being considered, including the option of continuing OPV vaccination indefinitely (Wood, Sutter and Dowdle 2000). In this case, however, the dividend to eradication would never be realized, undermining the favourable economics of the initiative. It is also unlikely that countries would maintain high vaccination levels after the disease had been eliminated.

Two alternative strategies are being considered that would make stopping vaccination possible. One would organize a highly coordinated global “pulse” campaign, vaccinating in a short period of time as many susceptible persons as possible using OPV. The other would switch to vaccinating with the IPV vaccine after the wild viruses had been eradicated. The first approach may not succeed; the second may not be economically feasible.

Barrett and Hoel (2003) develop a sophisticated cost-benefit framework for evaluating eradication initiatives (a fully dynamic analysis that compares eradication with the best alternative policy rather than the status quo). Their preliminary analysis suggests that the economics of

polio eradication are asymmetric. Like Khan and Ehreth (2003), Barrett and Hoel (2003) find that if all other countries eliminated polio, every rich country would also want to do so while poor countries would not. Of course the gain for the rich countries may exceed the loss for the poor, so that with suitable transfers polio eradication may make all countries better off (though Barrett and Hoel are unable to confirm this). This presumably explains why the polio eradication initiative was undertaken in the first place and why rich countries and other donors are financing the (incremental) costs of polio elimination in the poor countries. At the same time, these results are consistent with the ambivalent attitude towards polio eradication expressed by public health experts (see, in particular, Taylor, Cutts and Taylor 1997 and Sutter and Cochi 1997). The economics of polio eradication are not as favourable as the economics of smallpox eradication were.

The polio eradication initiative is experiencing the same kinds of financial problems as the earlier smallpox effort. As with smallpox, the total costs are shared by the endemic countries and the (polio-free) rich countries. According to the WHO (2003), endemic countries have spent at least \$2.35 billion on polio eradication, while external sources have contributed about \$3 billion. Though these are significant sums, contributions by rich countries are voluntary (in contrast, part of the cost of smallpox vaccination was financed out of a special WHO budget, assessed contributions to which were mandatory). Moreover, a significant portion of external financing has been borne by private foundations, with Rotary International alone contributing about a fifth of the total external budget. These contributions are to be welcomed, of course, but they also hint at underfunding by nation states (free-riding). The WHO (2003) estimates that there is currently a funding gap of \$210 million for 2003–05. But this is not all. Vaccination cannot just stop even if the initiative succeeds in eradicating the wild viruses.

At one level the polio initiative has already proved a success. It has reduced the number of cases of paralytic polio from more than 350,000 in 1988 to about 1,900 in 2003 (WHO 2003). It has also reduced the number of endemic countries from more than 125 to just 7. These are tremendous achievements. However the economics of eradication hinge dramatically on reaping the windfall from stopping vaccination in the future. If vaccination must continue indefinitely, the initiative may not yield a global benefit that exceeds the cost. The alternative strategies, such as switching from OPV to IPV, may also be uneconomic, though it is as well to point out that the economics of eradication de-

pend partly on the starting point (see Barrett and Hoel 2003) and are helped by the current low rate of incidence (past expenditure is sunk and so should be disregarded in today's policy decisions). It remains to be seen whether years from now the polio eradication initiative will be deemed a success or a failure.

### *Sustainable management of natural commons: global climate change*

The challenge of global climate change emerged at about the same time the Montreal Protocol talks were concluded. As the two environmental problems were similar, it was assumed that the success of the Montreal Protocol could be easily replicated. It was after Montreal was negotiated and subsequently amended that the world set out on a negotiating path that eventually gave birth to the Kyoto Protocol. The lesson learned from this process, however, is a negative if important one: climate change is a harder problem to address, and the Montreal Protocol may have been the wrong model for a climate change treaty.

The Montreal Protocol permanently eliminates the emissions of all ozone-depleting substances by all countries. An equivalent goal is not even contemplated for climate mitigation. The Kyoto Protocol is very modest compared with Montreal. It aims only to reduce the emissions of a small number of countries by a very small amount (about 5%) for a very short period of time (just five years).<sup>18</sup> By design, global emissions would continue to rise under Kyoto.

Worse, though the Montreal Protocol entered into force as soon as allowed by the treaty, ratification of the Kyoto Protocol has dragged on and its eventual entry into force remains in doubt. And while the Montreal Protocol was strengthened over time, Kyoto has been diluted—the price for trying to get countries to ratify. Finally, while the Montreal Protocol developed a supporting enforcement capability, the Kyoto Protocol—by design—cannot incorporate enforcement mechanisms having “binding consequences”, except by means of an amendment. At least for now countries seem to have no taste for such an amendment.

Why the difference? One important reason is that the underlying economics of climate change and chlorofluorocarbon mitigation are very different. Chlorofluorocarbons were widely used when the Montreal Protocol was negotiated, but they formed a small part of the economic system, and innovation revealed attractive and inexpensive substitutes. The marginal costs of abating the emissions of ozone-depleting substances, even in very substantial quantities, have been low.

Greenhouse gas emissions, by contrast, result from basic economic activities, such as the burning of fossil fuels—energy sources that are not easily or inexpensively replaced. Though marginal mitigation costs will be low for the first few units, they will increase steeply beyond some point, and substantial investment in R&D will be needed to shift the marginal cost curve downwards.

The benefits of climate mitigation are also very different. No country benefits from ozone depletion, but some countries, at least over some time intervals, may well benefit from climate change. And while ozone depletion would result in an increase in deaths—something people would be willing to pay much to avoid—climate change has not been shown to have the same kind of consequences.

Climate change is a serious environmental problem. Too little is known about how the climate system works to be sure of the full consequences of the “business as usual” emissions path, however, or of the policies intended to shift this path. It may be that the greatest effects of climate change will not be caused directly by the accumulation of greenhouse gases in the atmosphere, but indirectly by so-called “feedback” effects. For example, gradual warming may cause ocean circulation in the North Atlantic to shift or diminish or even collapse. Moreover, these changes may not be reversible. Finally, though the effects will be felt locally, the changes wrought by climate change will be global in scale. The world is essentially conducting a huge experiment and therefore taking a big risk. One way to think about climate change mitigation policy is as a means of insuring against this risk.

Estimates for the United States suggest that the climate change associated with a doubling in atmospheric concentrations of greenhouse gases would reduce GDP by about 1 percentage point, while a cost-effective abatement policy would cost about the same if emissions were cut less than 20% (Barrett 2003a). Estimates like these, however, do not suggest what should be done about climate change. Even a 100% cut in emissions would not eliminate climate change; given the lags in the climate system, some damage is inevitable. Hence in deciding on policy it is better to know the benefits associated with particular levels of emission reduction than the damages.

Nordhaus and Boyer (2000) estimate the benefits and costs to the world of an “optimal” mitigation policy—one that maximizes the net benefits of climate mitigation along an optimal growth path. According to their analysis, the optimal policy would set a carbon tax of about \$9 per ton, rising to \$13 per ton of carbon by 2015. This very modest



tax would reduce global emissions by a little more than 5% in 2015—roughly the same as the Kyoto Protocol was designed to do. Moreover, according to Nordhaus and Boyer (2000), the benefit–cost ratio associated with this policy would be only about 3:1, much smaller than the equivalent ratio for ozone layer protection.

The essential approach taken by the Kyoto Protocol is to prescribe targets and timetables for reducing greenhouse gas emissions. These are quantitative limits set for industrial countries only for a specific period of time (2008–12). There are obvious flaws in this approach, but the intention was that this agreement would be only a first step in a longer process. Kyoto’s architects believed that its emission limits would be broadened (to include developing countries) and deepened (to reduce emissions by more) over time. Moreover, the agreement incorporates flexible mechanisms for cost-effective implementation. One of these allows industrial countries to trade their emission-reduction obligations. Another allows these countries to finance abatement in developing countries.

The main problem with the Kyoto Protocol is that it provides no effective means for enforcement. Enforcement has three dimensions. The first is participation. Are countries worse off for not participating in this agreement? Most countries have nothing to lose by participating. The developing countries are not obligated to reduce their emissions. The emissions of the European transition economies are limited by the agreement, but at levels substantially below their current emissions. The only countries constrained by this agreement are the OECD countries, which have little incentive to participate. Most important, the United States has declined to ratify the agreement. Many countries are cross with the United States for pulling out of the agreement, but it must be acknowledged that there is something wrong with an agreement that makes it easy for the world’s largest emitter to walk away.

The second dimension of enforcement is the depth of the agreement—the required emission cuts. Kyoto was intended to reduce the emissions of the industrial countries by about 5%. However, in later negotiations, the emission constraints were relaxed to win the participation of countries such as Canada, Japan and the Russian Federation. Among these changes were more generous accounting rules for the so-called carbon “sinks”—credits for forests, for example, that absorb atmospheric carbon. The combined effect of non-participation by the United States and de facto renegotiation of the emission limits for other countries has been to dilute the treaty substantially. Some studies even

suggest that if Kyoto entered into force and were implemented fully, global emissions would not change at all (Barrett 2003a).

The third dimension of enforcement is compliance. Why should a country that becomes a party to this agreement comply with it? Initially Kyoto provided no means for enforcing compliance. During later stages of the negotiations, a mechanism was incorporated that essentially requires that a country in non-compliance during the first commitment period (2008–12) pay a 30% penalty in the next commitment period (presumably 2013–17).

There are a number of problems with this approach. First, the emission levels that apply in the second commitment period would need to be accepted by the country in non-compliance. The country could insist on a generous emission ceiling as the price of participation, effectively diluting the punishment. Second, compliance with the compliance mechanism is not enforced. If a country fails to comply and then fails to comply with the compliance mechanism, other countries are not required to change their behaviour. Finally, article 18 of the treaty says that compliance “mechanisms . . . entailing binding consequences” must be approved by amendment. Of course such an amendment would apply only to the countries that ratified it, provided the amendment entered into force. Currently, therefore, compliance with the agreement is essentially voluntary.

There is no easy way around these problems. The targets and time-tables approach imposes a huge burden on enforcement but cannot be enforced. The trade restrictions that facilitated enforcement of the Montreal Protocol would not suffice. Trade restrictions for enforcing Kyoto would be illegal, because they would need to apply to production and process methods. Moreover, they are likely either not to be credible or to cause the multilateral trading system to unravel.

More than a dozen alternative approaches have been proposed (see Aldy, Barrett and Stavins 2003), but most of them do not address the enforcement problems highlighted here. An exception is a proposal inspired by the MARPOL treaty (Barrett 2003a). This alternative focuses on the need for technological change in the long term. Unlike the technologies needed to implement MARPOL, the technologies needed to mitigate climate change do not exist. Push and pull incentives are needed to change this. Since the knowledge associated with R&D is itself a global public good and development of new energy technologies for the purpose of climate change mitigation is not a best shot, international cooperation is needed to supply the needed basic research.

Kyoto provides no incentives for such research. Indeed, signatories to the agreement have cut back on their R&D expenditure. Kyoto does try to provide a pull incentive for innovation, but the power of this incentive depends entirely on enforcement of the targets and timetables. The alternative proposal includes the negotiation of protocols that prescribe technology standards. Provided economies of scale and network externalities were substantial and the minimum participation level in the agreement were set high enough, a standards approach would create the incentives for adopting new technologies without the need for international enforcement. Clearly this approach is far from ideal. However the constraint of sovereignty means that “ideal” solutions should not be sought, for they would likely never be implemented. Instead second-best approaches should be developed.

### ***Knowledge: new vaccines***

Like vaccines, technologies can do tremendous good. The smallpox vaccine alone has saved millions of lives. Rich countries often have strong incentives to develop vaccines unilaterally, even if poor countries also benefit. Some diseases, however, affect only the poor. Foremost among these are the diseases endemic in poor countries, such as malaria, tuberculosis and certain strains of HIV. The rich have little direct incentive to invest in the knowledge needed to break the transmission of these diseases, and no poor country has a strong enough incentive to do so unilaterally.<sup>19</sup> Hence cooperation is needed.

The Global Alliance for Vaccines and Immunization (GAVI) and its Vaccine Fund were established to promote the use of vaccines in developing countries and “to demonstrate to vaccine manufacturers that a developing country market exists for newer vaccines”, with the aim of encouraging manufacturers “to develop new and even better vaccines in the future” ([www.vaccinefund.org](http://www.vaccinefund.org)).<sup>20</sup> GAVI consists of development banks, aid agencies, foundations, international organizations, pharmaceutical companies and governments. The Vaccine Fund finances GAVI activities in immunization and research, using a \$750 million grant from the Bill & Melinda Gates Foundation and significant but smaller contributions from the United States, Norway, the United Kingdom and other rich countries (Kaddar, Lydon and Levine 2003). Initially GAVI focused on encouraging the development of new vaccines with high probabilities of success: pneumococcal, rotavirus and meningitis A/C conjugate. Current plans are for it to support the development of new

vaccines that are at an earlier stage of development—vaccines against malaria, tuberculosis and HIV/AIDS.

The knowledge of how to make an effective vaccine is a discrete public good. Theory therefore suggests that supply should be institutionally feasible. However provision of this particular discrete public good is not easy, as a result of both demand and supply problems.

On the demand side vaccination benefits not only the people who are vaccinated but the communities in which they live. Vaccination confers “herd immunity”—an externality, in the jargon of economics. Individuals can thus be expected to spend too little on vaccines. This means that the efficient distribution of vaccine requires government policy.<sup>21</sup> In many poor countries governments are weak, indifferent to the needs of their citizens and corrupt. It is often noted that vaccines are not developed for the poor countries because of their lack of purchasing power. Incomes do play a role, but poverty is not a market failure (though poverty arises in part from market failures). Given the cost-effectiveness of vaccination (see Kremer 2000a), dysfunctional governments are probably the greater problem. Of course, from the perspective of development assistance, the poorest countries are precisely the ones most in need of help; it is hard to turn one’s back on the citizens of such countries just because their governments are bad.

For any given demand, firms may have incentives to hold back from investing in vaccine R&D. Their incentives to do so will depend partly on the availability of fundamental knowledge, generated by basic research that cannot be patented. Government (national or international) or private foundation support is needed to supply this essential ingredient. But more is needed. If firms are unable to price discriminate, they will be able to appropriate only a fraction of the social benefit of vaccines. They may also find that drug therapies are a more profitable product line.<sup>22</sup> Once better treatments become available, the market for a new vaccine will shrink, making vaccine innovation less rewarding. Vaccine testing is typically more rigorous than drug testing and imposes special challenges, not least because of worries about liability (Glass, Batson and Levine 2001). UNICEF has been very effective in securing vaccine on behalf of developing countries at a low price, but the flip side to this success is a worry that new vaccines will be purchased by a monopsony, forcing the price down. Companies must also worry about whether the fruits of their efforts—the knowledge produced by their R&D—will be confiscated by third parties. Developing countries have a poor record in defending intellectual property rights.

GAVI and similar organizations must grapple with these demand and supply side problems. They face a formidable challenge.

Consider first the demand side. GAVI requires recipients of Vaccine Fund assistance to plan for a gradual switch to other sources of funding. To promote such a switch, GAVI can offer one incentive: the promise not to fund in the future. But how credible is such a promise? GAVI exists to help the countries that have failed to help themselves. If these countries fail to self-finance vaccination (or, under the GAVI definition of sustainability, find sufficient alternative sources of external finance), will GAVI really carry out its promise to withhold assistance? Because the threat may not be credible, a principal aim of GAVI may not be attainable.

An even more serious problem is the ability of GAVI and similar organizations to raise international contributions. As Kremer notes (2000a, p. 17), “vaccine research and development is a global public good, so each country has an incentive to free-ride off research financed by other countries’ governments.” The challenge is similar to the financing of eradication campaigns, but with three unwelcome differences. First, it is unlikely that any country would benefit enough directly from the development of these vaccines to ensure their provision.<sup>23</sup> Second, while the knowledge of how to make a vaccine is discrete, much like eradication, use of the vaccine once it is provided would be a summation public good and so be more vulnerable to free-riding. Finally, eradication benefited the rich countries directly (by allowing them to stop vaccinating). The problems that organizations like GAVI are trying to address are very different. The public good produced by vaccination of diseases that do not threaten rich countries (directly) is largely one of humanitarian assistance—something for which there may exist only fragile international support.

On the supply side the greatest challenge is a fundamental moral hazard problem. When there is no vaccine, drug companies may be asked to develop one. When a vaccine exists, drug companies are asked to provide it more widely, at a low price. One of the key challenges to future innovation is making credible the promise to compensate firms for producing the public good of new knowledge. Of course this has long been the purpose of the patent system. Though patents give firms a monopoly (perhaps only in a narrowly defined market) for the life of the patent, they also allow firms to capture (part of) the value of new knowledge. However, for the vaccines needed in poor countries, the patent system would not suffice, for the reasons already noted. A different mechanism is therefore needed.

Kremer (alone (Kremer 2000b) and with others, including Jeffrey Sachs (Sachs and Kremer 1999)) has proposed creating a vaccine purchase fund, a proposal GAVI has studied. The fund, supported by the governments of industrial countries or private foundations, would commit to purchasing a vaccine for an agreed cost per dose. The vaccine would then be donated or sold to developing countries at a subsidized price. According to Kremer (2003, p. 503):

Several researchers have concluded that a real annual market of \$250–\$500 million would be needed to motivate substantial research. Over 10 years a commitment at this level could save about 1.9 billion discounted disability-adjusted life years—equivalent to saving the lives of 63 million 30-year-olds. The average cost per year of life saved would be \$4.

Realizing this potential gain will be difficult. It is easy for governments to say they are committed to something. It is harder for them to actually commit.

This is true even at the domestic level. Consider, for example, the practice of price regulation in the United Kingdom. Price caps for regulated utilities are set at regular intervals of four to five years. Within these intervals, firms have incentives to cut costs, because once prices are fixed, firms reap all the rewards from improved efficiency. The credibility of the commitment not to change prices is essential to this system of regulation. If firms believe prices will drop once they lower costs, the incentive for firms to lower costs is lost. Partly to enhance credibility, the general framework for regulation is enshrined in Acts of Parliament. But there invariably remains room for manoeuvre.

Two subsequent decisions illustrate the problem. First, after fixing prices in 1994 and observing the reaction of the stock market to the decision, the electricity regulator imposed new, tighter price caps within a year. Though prices had already been fixed, the formal consultation period allowed by the regulation had not passed, allowing the regulator to change his proposals (Green 1997). Second, observing that the utilities had been privatized at too low a price and that regulation had been lax, upon coming to power in 1997 the Labour Government imposed a one-time, excess-profits (“windfall”) tax on the industry, effectively making a lie of the promise (by the Conservative Government) that the utilities could retain the profits from both privatization and the regulatory framework.

Another example is the threat by the US Secretary for Health and Human Services, Tommy Thompson, to override the patent for the drug Cipro following the anthrax attacks of 2001 unless the company cut its prices. The manufacturer, Bayer, entered into negotiations with the US government, agreeing to cut its prices dramatically.

The challenge of making threats and promises credible is profound and ubiquitous. It is not easily addressed even at the domestic level. At the global level it is even harder.

## **Recommendations for institutional design**

A lesson of these six cases is that there are no easy or quick fixes for the underprovision of most transnational public goods. In each case considered, a serious if not heroic attempt has been made to overcome free-riding incentives. In each case success has been partial at best. The more successful cases are UN peacekeeping and the WTO. The least successful cases are the European Stability and Growth Pact and the Kyoto Protocol. By one standard the polio eradication initiative has been an outstanding success. But the programme cannot really be assessed until the target disease has been certified as eradicated—and even then, eradication will not be an economic success if vaccination must continue (or even a public health success if vaccination falters and the disease is reintroduced). It is too early to judge whether GAVI and similar organizations will succeed in promoting the development of new vaccines and expanded immunization on a financially sustainable basis.

Success in the supply of any transnational public goods is determined partly by the nature of the good itself and of the countries affected by its supply. In evaluating any particular transnational public good, several dimensions should be considered:

- When countries can individually claim a large share of the benefits of provision, they have strong incentives to supply the good unilaterally, perhaps even in substantial quantities. Norway and Sweden had strong unilateral incentives to reduce their acid rain emissions. In doing so they also reduced acid emissions “offshore”.
- Public goods shared by a smaller number of countries are usually easier to supply (all else equal). Fisheries management should be easier in the Mediterranean Sea than in the high seas.

- Best shot public goods should be supplied even unilaterally (assuming that the benefit obtained by at least one country exceeds the cost of supply). However supply may also be affected by concerns about fairness, possibly raising a need to negotiate cost sharing.
- Discrete public goods are relatively easy to supply, but incentives may not exist for discrete public goods to be supplied unilaterally (unless they are also best shot). An agreement over fair burden-sharing is likely to be needed.
- Summation public goods are more challenging to supply, especially if the marginal benefit of supply is decreasing.
- Provision of some public goods entails coordination, which can be achieved without enforcement. Many standards are of this type.
- When countries are strongly asymmetric, only some may be willing to supply the good, yet the cooperation of all countries may be essential to secure full supply. Cooperation may thus require compensating payments.

Success is also determined by the nature of the institutions designed to aid provision. The discussion developed in this paper suggests a number of useful design features:

- First-best outcomes are not always attainable; when they are not, it is better to aim lower. The Kyoto Protocol can be seen as an attempt to sustain a first-best outcome. The alternative approach proposed here is not as desirable in the abstract, but it is more likely to be implemented. Policy in this area needs to focus on outcomes that can be sustained.
- Support for transnational public goods is likely to be strengthened if individual countries, and not just the world as a whole, can be shown to reap benefits that exceed the costs. The eradication of smallpox does not appear to have been perceived in these terms, which may have limited voluntary contributions.
- It may be better to promote the adoption of instruments that provide substantial benefits to individual countries in to supplying a global public good. For example, because of the benefits for local air quality, a climate change agreement on reducing soot emissions may be easier to achieve than an agreement limiting carbon dioxide emissions.
- Cooperation may be easier if entry can be restricted. By definition, entry cannot be restricted for pure public goods. For



commons problems, however, entry can be restricted. In the case of fisheries, the extension of the Exclusive Economic Zones served this purpose. Further nationalization of the seas is probably impractical, but it may be possible to change the custom allowing re-flagging and entry when these actions undermine fisheries agreements.

- Cooperation may be aided by focusing on the supply of a discrete public good rather than an associated summation public good. For example, disease eradication promises a benefit to rich countries and so encourages their support. By contrast, increasing immunization would command weaker support, because the rich countries can protect their own citizens by domestic vaccination.
- Burden-sharing rules affect supply. If some countries are made to shoulder too large a burden, they may refuse to supply the public good. The ordinary UN scale of assessments, which is regularly reviewed and revised, seems to command broad support. Permanent members of the Security Council bear a greater share of the cost of peacekeeping. They might be inclined to support more peacekeeping missions if the costs were shared more widely. This is a point to consider along with any changes in Security Council membership or voting rules.
- Where countries are strongly asymmetric and compensating payments are needed to promote broad participation, payments should be no higher than needed to induce supply of the public good. Higher payments increase the costs of provision and will therefore undermine provision. The Montreal Protocol compensates developing countries for the “agreed incremental costs” of compliance. This is a good model for other agreements.
- A “carrots only” approach will not always suffice. “Sticks” may also be needed to change behaviour. A problem with the Kyoto Protocol is that it requires sticks but provides none.
- Threats and promises must be credible if they are to change behaviour. The threats incorporated within the Stability and Growth Pact have not been credible and so have not worked. Reforms must address this fundamental problem, not only the question of whether it is better to limit debt than deficits.
- To change behaviour, threats and promises must be of sufficient magnitude. A problem with the WTO dispute settlement procedure is that small countries seem reluctant to complain

about possible violations by large countries. In this case the problem seems to be that enforcement would not be severe enough to change the behaviour of the large countries. One way to increase the severity of punishment would be to allow two or more countries to file a collective complaint that could be enforced collectively.

Plainly, there is no single recipe for success. But this listing of critical success factors suggests a three-step procedure for enhancing the supply of a particular transnational public good. First, assess the nature of the public good, of the countries affected by its supply and of the incentives that cause it to be undersupplied. Second, devise strategies for redirecting these incentives so that, if adopted, provision can be enhanced. Third, develop new institutions (or reform existing ones) so that these strategies can be implemented and enhanced provision actually achieved.

## Notes

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1. Technical standards are often chosen by private actors. The polio vaccines were developed largely with the support of a private foundation funded by voluntary contributions.
2. This is Arrow's (1951) famous insight. Imagine that three individuals (1, 2 and 3) must choose among three options (A, B and C). Suppose individual 1 prefers A to B and B to C, individual 2 prefers B to C and C to A, and individual 3 prefers C to A and A to B. Then the majority prefers A to B and B to C. This implies that the majority should prefer A to C. However it does not. Arrow's famous impossibility theorem states that there is no method to sum the individual preference orderings into a consistent collective preference ordering.
3. Knowledge of how to make a vaccine may be binary, but the knowledge of how to vaccinate against a disease is usually discrete. For example, there are three different polio viruses. A vaccine must protect against all of them to be effective.
4. Twenty countries fund CERN. Canada, China, Japan, the Republic of Korea, Russia, the European Union and the United States fund ITER.

5. See [www.who.int/mediacentre/factsheets/fs194/en/](http://www.who.int/mediacentre/factsheets/fs194/en/).
6. Proprietary standards such as the Microsoft operating system are not public goods.
7. UN peacekeeping operations are financed entirely by the United Nations based on a special peacekeeping scale of assessments that is based on the regular UN scale. Peacekeeping finance is determined by a vote of the Security Council. By contrast, financing of the smallpox eradication programme required a two-thirds majority of the World Health Assembly, a much more representative body.
8. See [www.unmfs.org/general.htm](http://www.unmfs.org/general.htm).
9. Other peacekeeping operations, in the Balkans and Afghanistan, are led by the North Atlantic Treaty Organization (NATO). Conflict in the Balkans was of greatest concern to NATO members; US actions in Afghanistan were in response to the September 11 terrorist attacks, which prompted NATO to invoke article 5 for the first time. This important mechanism for collective defence says that an armed attack against any NATO member “shall be considered an attack against them all”, prompting all NATO countries to take the actions necessary “to restore and maintain the security of the North Atlantic area”. The original purpose of NATO was to deter an attack against Europe by the Soviet Union; the threat of retaliation in article 5 was made credible by the presence of US troops in Europe. With the end of the cold war, NATO evolved, expanding its membership to include many of the countries formerly under the control of the Soviet Union. It also changed its mission: to provide collective security against all threats, including the threat of terrorism. It is for this reason that NATO intervened in Afghanistan, its first mission outside of Europe.
10. Data are from UN Department of Peacekeeping Operations (2003).
11. The majority of countries do not provide personnel; some provide as few as two or three troops. In 2003 Pakistan provided the most troops—more than 5,000. According to Shimizu and Sandler, “about 98% of peacekeeping assessments are assigned to about 27 countries” (2002, p. 654).
12. Indeed the theory suggests that a single country may provide a public good such as peacekeeping unilaterally. The outcome in which “big” countries pay a disproportionate share of the cost of provision was memorably described by Olson (1965) as “the ‘exploitation’ of the *great* by the *small* [emphasis in original]”.
13. Shimizu and Sandler (2002) do not take account of the fact that some countries are overcompensated for deployment of personnel and

others undercompensated. Taking account of these differences would only reinforce their conclusion that the “large” countries tend to contribute more per unit of GDP.

14. Sometimes states in arrears are also owed reimbursement. Through the end of 1998, for example, the United States was owed \$143 million (US General Accounting Office 1999).

15. See Brown (2003). The data in this paragraph are from this report.

16. This discussion draws on Bagwell and Staiger’s (2000) superb use of theory to “explain” the trading regime.

17. There are proposals for changing the rules to make retaliation multilateral in order to make the dispute settlement procedure friendlier to developing countries (Lawrence 2003).

18. The Kyoto Protocol only requires that some countries reduce their emissions. Other countries either do not have to reduce their emissions or have been given a surplus of emission entitlements—“hot air”. It turns out that the agreement can enter into force when participation constrains the emissions of countries accounting for just one-fifth of global emissions (see Barrett 2003a).

19. While rich countries do not benefit directly from knowledge on treating or eliminating tropical diseases, they would benefit indirectly if support for such research were seen as a form of development assistance. However, if development is itself a public good, because rich countries care about the well-being of the least well-off poor countries, raising finance for this purpose will run into the usual free-riding problems.

20. Other initiatives have been established with similar, though more disease-specific, goals. These include the Global Fund to Fight AIDS, Tuberculosis and Malaria; the International AIDS Vaccine Initiative; and the Malaria Vaccine Initiative.

21. In addition to the externality noted here, there are two other reasons for believing that demand may be too low. One is that children are often the direct beneficiaries of vaccines, yet decisions about vaccination are often left to parents. The second is that people may be irrational about allocating resources to prevention rather than cure.

22. For a sophisticated analysis of the incentives to invest in drugs rather than vaccines, see Kremer and Snyder (2003).

23. In game theory terms, zero provision is a Nash equilibrium. Intuitively, if other countries do not provide “enough” financing, each country will provide no financing, with the consequence that the public good will not be supplied.

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# Financing Global Public Goods: Issues and Prospects

## 2 Chapter

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*This paper focuses on the financing of global public goods (GPGs) and on the relation between financing mechanisms and the processes through which various GPGs can be produced. It draws on available GPG typologies as developed in the current literature to illustrate financing options. Discrete GPGs require a swift mobilization of adequate funding. A global fund is one of the typical vehicles available. The International Financial Facility initiative, also targeted at short-term massive needs, is a useful approach to financing discrete GPGs and has received a first concrete response in the creation of a facility for immunization. Continuous GPGs are more difficult to finance and produce as they require ongoing effort. Their financing needs to be based on secure, sustainable and predictable resources. This financing problem is akin to what taxation is about. One of the reasons why global taxation schemes deserve further attention stems from the lack of financing instruments designed to finance the provision of such GPGs. As a number of GPGs will exhibit both discrete and continuous characteristics, financing commitments of different natures are called for. There is a risk that the discrete component receives most attention, because it creates a short term concern, sometimes with a sense of urgency. The continuous aspect of GPG provision should not be postponed for later consideration.*

*This paper also develops the idea of a development-GPG nexus. Development and the provision of GPGs are joint processes. Public goods in general, and GPG in particular are necessary ingredients of any development strategy. This is especially obvious for the fight against contagious diseases, but, increasingly, local populations also realize the relevance of the preservation of natural resources for the sustainability of their development. Conversely, genuine development, meaning a sustainable increase in the standard of living of populations, is necessary both to allow the country to devote sufficient resources to the provision of GPGs,*



*but also to make it acceptable to the local populations to consider the longer term objective that is often involved in the provision of a GPG. As a consequence, this contribution argues that the public policy of official development assistance and its institutions are the proper locus to consider the provision of GPGs having a North-South dimension, in the following sense: for some GPGs, the only way to enlist developing countries is to include their provision into a global development package allowing the beneficiary to achieve its original objectives at no extra cost—a role for official development assistance is to compensate for any such cost; in many cases, GPGs are also strongly perceived as being local public goods and part of local development strategies and are thus legitimate objects for official development assistance; and, in many cases, the provision of GPGs also requires complementary goods and services, including technical assistance and capacity building at the local level, that are part of any development process and that official development assistance should also finance. Global financial resources must be substantially increased to take into account the requirements of collective action, including development aid, at the global level.*

The concept of GPGs is relatively new. But collective action to produce them has existed for a long time and achieved positive results. The adoption of common standards or the principle of mutual recognition and the architecture of international institutions show the scope of international collective action. In several instances GPGs have been produced quite spontaneously—the Universal Postal Union in 1874 or the Intelsat communications system in 1964—illustrating successful global cooperation. When the stakes are clear, the interests identifiable and immediate for beneficiaries, and free-riders can be excluded (even if only partially), a framework of collective action seems to come together quite spontaneously, thanks to case-by-case negotiations and the creation of voluntary cooperation structures.

Nonetheless, the emergence of GPGs in recent debates heralds a qualitative change in the nature of international cooperation. During the 1980s the main theme on the international agenda was the coordination of economic policies. The idea was to improve the design and efficiency of national economic policies by recognizing their externalities. But objectives and instruments were still understood as national. Today the global community has scaled up its discourse, aiming at defining and working towards common objectives, or GPGs. But there are major issues in global governance: Which GPGs should be provided? In what quantity? How should they be produced? And how should cost and maintenance be covered?

This contribution focuses on financing GPGs. Keep in mind that financing is, of course, not the only concern—and perhaps even not always the limiting factor in their provision. Providing GPGs relates to the ability of various actors to effectively and efficiently engage in global collective action. Several issues are involved: regulation, organization, collective decision-making, providing proper incentives and, above all, willingness to pay. Financing issues should not be considered in abstraction but are intrinsically linked to the nature and characteristics of various GPGs. Thus the challenge is not primarily one of providing financial resources—however difficult that might be given the tight budget constraints bearing on many countries. It is one of building consensus on priorities, of generating and harnessing the willingness to pay for these priorities, of understanding the processes through which specific GPGs can be produced and of choosing the adequate institutional and financial framework. Multiple actors need to be involved, and institutions in charge of official development assistance are particularly well placed to make significant contributions towards GPG provision.

## **Five stylized observations on providing global public goods**

### *Financing issues point to wider public policy challenges*

In many cases producing GPGs essentially consists of “internalizing externalities” (Pigou 1920; Samuelson 1954), either through a Pigovian tax or the introduction of regulations, possibly by creating a market for rights (Dales 1968). Such direct production is relatively inexpensive for public resources because the costs (monetary and non-monetary—notably behavioural) are transferred to the private domain and thus imposed on those encouraged to change their behaviour.<sup>1</sup>

More so than financing, the definitions of common goals and indirect cost sharing are problematic.<sup>2</sup> The fight against global warming is a good example: the stumbling block is estimating costs and benefits, documenting any trade-offs between short- and long-term effects on growth, building a case for immediate action despite costs for uncertain, very long-term benefits and sharing the burden among developed and developing countries. The logic of collective action may call for an explicit focus on equity and thus some compensatory mechanism that eases the burden on countries likely to lose the most or benefit the

least.<sup>3</sup>This is difficult because the utility value of global collective action may widely differ between various participants.

The 1987 Montreal Protocol on protecting the ozone layer provides an interesting example of the role of equity considerations. Largely because of their geography, developed countries stand to gain more than developing countries. Thus an amendment stipulates that developing countries will be compensated according to the incremental costs linked to the application of the agreement.

In other cases benefits are high and correctly perceived, but burden-sharing and ongoing commitment may be a problem—particularly for institutional cooperation. For example, the United Nations system is the by-product of the postwar attempt at reconstructing a peaceful international system financed through compulsory contributions. But as far as contributions are concerned, there is a lingering problem with arrears. As a result, the United Nations has a debt of more than \$2.5 billion. This points to a deficit of incentives and sanctions in a context where the interests and priorities of different states diverge.

Regional experiences provide a useful laboratory for thinking about GPG provision and financing. In theory, goods shared by few countries (often regional public goods) should be easier to produce (Olson 1965; Barrett 2002, 2006). But how can these goods be organized and financed? Sometimes, a regional fund or agency centralizes and manages common resources. Examples include the regional fund for agricultural technology in Latin America, the Blue Plan in the Mediterranean or regional organizations managing salt-water halieutic resources. The European Union (EU), despite decades of successful economic integration, has no systematic mechanism to organize and finance collective action in several areas. The discussion over the EU budget illustrates how difficult it is to institutionalize a joint approach among sovereign states and create a European budget, even though there is already within the EU a remarkable acceptance of some “supra-nationality”. This experience suggests that the task of institutionalizing GPG cooperation at the global level can only be more daunting.

### ***Nationally based policies are crucial to provision***

It is useful to think of the GPG production process as a chain involving national actions. Governments produce national public goods that at times are part and parcel of that production chain. In most cases no global collective action is necessary to coordinate this production.

When the domestic social benefit is perceived to justify the costs of a given public good, governments act through regulation, taxation or direct finance to make sure it is provided. When a public good also has a global dimension, its provision, short of any specific global initiative, will thus rest on various national contributions. When these national links are not sufficiently financed or are incorrectly organized GPG production becomes difficult, if not impossible.

Managing major pandemics, for example, requires action at the national level, stemming the spread of the disease and providing care for those infected. The same is true for internal security, for the production and dissemination of knowledge and technological innovations, for the stability and regulation of the banking and financial system. All these elements are national links in the production chain of key GPGs.

Other externalities are more difficult for national policies to deal with spontaneously. The fight against global warming is a good example. National incentives are weaker in areas in which the expected social benefits depend largely on the actions of other countries—a classic collective action problem.

Occasionally, however, benefits expected from the production of a GPG can encourage a country to assume the role of leader, shouldering at least some of the costs, and to strongly encourage other countries to participate in the effort when necessary. Because of its hegemonic situation, the United States has often led international collective action since the Second World War, notably in international trade, global security and with the Montreal Protocol.

### *Non-state actors play a growing role in financing*

Non-state actors' contributions to financing GPGs are modest but on the rise (Sagasti and Bezanson 2001). They are often well ahead of governments in pushing issues relevant to GPGs and in producing ideas towards provision. Non-governmental organizations in particular help shape collective preferences and mobilize public opinions, a major step in organizing support. This process is essential to generating some willingness to pay.

Non-governmental organizations are also significant GPG providers. They generally act out of limited budgets, with the exception of a few that spend several tens of millions of dollars. Some major non-governmental organizations—Médecins Sans Frontières, CARE, Oxfam, World Wildlife Fund, Conservation International—receive support

contracts from international institutions and development agencies. In 2002 international non-governmental organizations contributed \$95.5 million to the fight against HIV/AIDS (UNAIDS 2004). Their operational budgets come from various sources: companies, foundations, private donations, government aid (direct or in the form of federal tax exoneration) and revenues from the sale of goods and services. They also act as monitoring agents.<sup>4</sup> They are environmental watchdogs, ensuring that all stakes are known during political debates. They also help keep international institutions accountable.

Private firms are also major actors in GPG provision as direct producers of the goods and services involved. In some instances, they may spontaneously take part in the so-called GPG production chain. An interesting example is to be found in the involvement of firms in the treatment of their employees suffering from AIDS in Sub-Saharan Africa, not out of ethical concern of philanthropy, but because AIDS is costly for the employer as well. Firms are profit maximizers. By definition, GPGs, like ordinary public goods, typically involve market failures that will prevent firms acting on pure market forces from producing them. Specific incentives are generally needed:

- Through public policy, such as taxes and regulations internalizing negative externalities. Firms will act within current regulations and tax systems, but might also act in anticipation of possible future legislation. For example, the private sector's willingness to invest in the World Bank-sponsored carbon funds—inspired by the Kyoto Protocol—has been remarkable.
- Through considerations linked to image and reputation. For example, the spread of corporate social responsibility has mostly taken place ahead of deliberate public policies to promote socially responsible behaviour, admittedly sometimes to pre-empt future regulations.
- Through public-private partnerships, in which firms get specific advantages (say, in terms of costs or risk mitigation) in exchange for specific behaviours. Public-private partnerships go well beyond the traditional model of public authorities delegating mandates to the private sector. Promising ideas for health and research on tropical pathologies have been floated (Kremer 2002; Glennester and Kremer 2001). New forms of expanded partnership are emerging that seek to bring together not only international private operators, but also the

local government, private sector and civil society. Involvement of local partners in public-private partnerships—aside from the fact that it strengthens local appropriation and enhances the creation of a fabric of small and medium enterprises and industries—is often one of the factors establishing trust between the actors, thus ensuring success.

### *Provision involves partnering among developed and developing countries*

Ideally public goods would be funded based on consumers' willingness to pay, reflecting the satisfaction they expect. Intelsat, a network of 19 satellites in geostationary orbit, the costs of which are paid according to the number of transmission units used by members (companies, governments and other institutions), illustrates a contribution system based on the beneficiaries' willingness to pay. But willingness in that sense is hardly observable. Nor is it easily enforceable because of the free-rider problem and the incentive for public goods consumers to hide their willingness to pay in the expectation that the good might be financed by others without loss of availability for them.

The willingness to pay, however, introduces a major developed–developing country dimension in the provision of several GPGs. For reasons having to do with culture, history, geography, the level of development and several intrinsic factors, the willingness to pay will generally diverge widely between countries. Developing countries typically have shorter time horizons and higher rates of time preference. Hence GPGs with benefits spread over time are understandably less valued than in developed countries. Similarly, negative externalities with delayed costs are much less of a problem in developing countries' growth strategies.<sup>5</sup> There is, therefore, a potential perceived contradiction between GPGs and short-term development strategies.

Solving this contradiction is possible. It requires either compensation or, preferably, advocacy and conviction leading to the adoption of comprehensive sustainable development programmes involving effective development assistance.<sup>6</sup> Local populations in developing countries are increasingly aware of the importance of preserving their natural resources, particularly soil quality and biodiversity. New sustainable development programmes have been designed in which resource preservation is seen as a development factor rather than an arbitrary goal that inhabitants must side-step in order to improve their living conditions.

Nonetheless, the provision of GPGs is tightly linked to effective compensation. It has often meant setting up a fund maintained by contributions from developed countries in order to finance the contributions of the poorest countries. For instance, fighting global warming and protecting biodiversity are partially financed by the Global Environment Facility. The Global Fund to Fight AIDS, Tuberculosis and Malaria has been set up to help implement actions in developing countries. And the World Trade Organization manages several special allocation funds used to finance technical and training activities to help developing countries gain more from the multilateral trade system.

Although some willingness to pay is necessary to provide GPGs, burden-sharing does not extract a contribution from each country corresponding to the benefit it gets. Rather than the true willingness to pay, therefore, a more operational criterion has come to be a negotiated mix between the willingness and capacity to pay.<sup>7</sup> Official development assistance is a fundamental instrument in bringing to the fore such negotiation while linking GPG provision with actual development issues in the poorest countries.

***Important synergies exist between GPG provision and official development assistance***

As documented in recent studies, official development assistance has played a significant role in financing such GPGs as protecting global commons, fighting HIV/AIDS and restoring stability in post-conflict situations.<sup>8</sup> This has led to some concern that GPG finance might crowd out development finance. The GPG component of official development assistance has also been interpreted by some analysts and practitioners as a powerful factor to relegitimize official development assistance in the eyes of taxpayers asked to provide more resources (Severino and Jacquet 2002; Severino and Charnoz 2004).

Official development assistance finances a significant part of GPG production. In 2000 resources provided by donors in the form of concessional and non-concessional financing reached \$2 billion (World Bank 2001). At the same time, private foundations and donors using trust funds provided \$3 billion to similar use. Complementary activities were financed with an additional \$11 billion.

Some aid flows directly finance GPGs (post-conflict operations, HIV/AIDS treatments, knowledge dissemination). Others help finance them through indirect action: international aid is often used to finance

national public goods that indirectly contribute to GPG production or act as a lever in a co-financing framework. For instance, this is the case for the health system or providing access to clean drinking water, both of which are essential in the fight against HIV/AIDS.

Official development assistance for financing GPGs is rather concentrated. In 1998 the first five beneficiary countries were Bangladesh, China, India, Indonesia and the Philippines, with Indonesia and the Philippines receiving between one-fifth and one-quarter of aid (teVelde and others 2002). The use of official development assistance to finance GPGs is largely explained by the fact that development and GPG issues often overlap because global action must translate into local improvements. But international donors also want to contribute to GPG production as such. The question of the legitimacy of using official development assistance for financing GPGs is the subject of an ongoing debate.

## Theoretical insights and typologies

### *Global public goods from a public economics perspective*

Samuelson (1954) was the first to develop a formal theory of public goods provision. A key property is that each consumer can consume as much as wanted without diminishing the amount available to others (non-rivalry). There is a zero marginal cost in allowing another to enjoy the benefits of a public good. When it proves infeasible to exclude someone from these benefits (non-exclusion), the public good will not be privately produced in a competitive market; individuals will rely on others to pay so they can freely enjoy its benefits. Moreover, at the theoretical optimum, the level of production should be such that the marginal production cost is equal to the additional social utility (the sum of the marginal willingness to pay for the good from all individuals). But when the good is non-rival, consumers have no interest in revealing their willingness to pay.

Three implications stem from this simple discussion. First, a typology develops based on the degree of “purity” of public goods, namely the extent to which their production is non-rival and non-exclusive. Second, as Kolm (1987) has shown, the optimal solution will be based on a consensus negotiated between the beneficiaries and the producer(s) regarding the type and amount of the public good to produce and what



each beneficiary will contribute to its financing. As soon as a public good exhibits some exclusion—those who might benefit without paying—it can be produced by the private sector on its own volition and according to market laws. When non-exclusion applies, however, negotiations will suffer from a lack of clarity and credibility, requiring outside (government) intervention to avoid a situation of suboptimal production.

Third, even though a public good can be privately provided, government intervention will generally—at least when there is no possibility of exclusion or exclusion is very costly—be necessary to deal with the free-rider problem and the transaction costs of any decentralized solution. Government action is called for to tax, spend, regulate, enforce contracts or distribute property rights. Options—with different financing requirements—differ by the distribution of the costs of providing the public good to the taxpayer (consumer) or to the producer of a negative externality (such as pollution). It is important for governments to internalize externalities so that market-based solutions can lead to adequate provision.

Moving to GPGs, there is an immediate difficulty. No entity at the global or multinational level is likely to take role that a government plays at the national level. Collective action must emerge from international cooperation and is subject to some difficult questions about efficiency, equity and legitimacy. Financing arrangements are only one aspect of these difficulties, and financing alone will hardly suffice. It is useful to think of financing GPGs as part of a package that includes rules, division of labour, monitoring devices, technical assistance, capacity building and redistribution mechanisms.

### *Production-based typologies*

Recent literature on GPG finance has sought to identify the production and financing modalities adapted to different kinds of GPGs (see Sandler 2001; Sweden, Ministry for Foreign Affairs 2001). The geographic spread of the externalities determines the geographical framework of financing and production (Sandler 2001). The subsidiarity principle applies: the production of the good, according to its characteristics, must be carried out at the appropriate level (country, multicountry union, region) that will be able to produce it more efficiently or that will produce “pieces” that could lead to the setting up of compensatory financial flows.

Within the appropriate geography, we now turn to four possible typologies. First, it is useful to characterize a GPG as to whether it re-

quires regulation of externalities or production of additional goods and services. Second, as mentioned before, GPGs can be ranked by their degree of “purity” in terms of non-rivalry and non-exclusion. Third, the nature of the production process (discrete or continuous) provides useful insights. Fourth, GPGs can typically be grouped according to different “aggregation technologies” (summation, weakest link, best shot, weighted sum).

### *Regulation versus production*

A government can choose to regulate the production of externalities (such as pollution) or to finance the production of additional goods and services, which, in many cases, requires specific financing mechanisms.

- For regulation, the government defines a goal and sets up a mechanism that will force or encourage agents to achieve it. Taxes or user payments might provide the necessary incentives for gaining control of the negative externalities or congestion effects while generating resources for producing the GPG or for compensation payments (“double dividend”). Such an approach is particularly well suited for protecting common goods, especially the environment. The government can then focus on creating or strengthening markets to re-establish an efficient climate of private incentives—property must be defined and allocated, and transparent regulations implemented. Although there is no direct financing requirement, resources will be needed to organize compensation towards those who are perceived to support an undue share of the costs and to cover the unavoidable administrative and transaction costs (such as inspections to ensure compliance with the preset standards).
- For production, additional goods and services are more demanding in terms of financing. The general recommendation is to distinguish finance from production. While financing must be provided by governments (local or national), production need not be undertaken by the public sector. Once the coverage of production costs has been solved, actual production can be transferred to the private sector. Various forms of public-private partnerships can be envisaged (standard concession, management contract or leases). As far as club goods—a category of public goods allowing exclusion—are concerned, the role of the public sector is reduced. It can intervene to

ensure access to the good and to avoid suboptimal rationing (possibly caused by the price imposed by the private supplier). The production of the GPG, however, remains solely private in nature, financed by the users.

#### *Pure versus impure*

A second typology distinguishes between “pure” and “impure” GPGs—useful to determine the kind of public action needed to secure the good. A pure public good combines non-rivalry with non-exclusion. Free-riding is the greatest risk to pure public goods: all are free to benefit from the good, but it is in nobody’s interest to help finance it. In this case, deliberate public action is required. Impure public goods exhibit partial rivalry or exclusion. The following conclusions emerge from the existing literature (see Sandler 2002).

- The possibility of at least partial exclusion invites private participation. Indeed, the possibility of total or partial club-type exclusion opens the way for financing (and independent production) by the private sector. According to the degree and the costs of exclusion, public action could take charge of part of the production to provide wider consumption possibilities. Institutional arrangements can strengthen the benefits linked to exclusion and the role of the private sector.
- Rivalry factors (such as limited resources faced with extinction) call for a regulatory framework that determines the rights of use, avoiding overconsumption spurred by rivalry. Purely financial aspects are not necessarily the main priority, but are important in terms of effort sharing.

#### *Discrete versus continuous*

Barrett (2006) focusses on production processes, which can be continuous, discrete or binary. A continuous process occurs when the result depends on all of the additional actions of the countries involved. A discrete process, such as the discovery of a vaccine, moves forward (relatively) chaotically and is more likely to succeed if it is bolstered by a continuous effort. A binary process includes a level beyond which the good is provided and below which it is not provided, such as with disease eradication. A binary process is at first continuous and later becomes discrete as it reaches its success threshold.

- For discrete and binary processes, the international community should amass large sums to produce the GPG as rapidly as possible. Such investment makes it possible to cancel all social, economic and environmental costs, present and future, that are the result of GPG non-production. Examples include: major regional works (such as canals), rehabilitating endangered heritage, vaccination campaigns against major diseases, emergency interventions in war-torn areas (which shifts the emphasis from long-term actions to peacekeeping) and research to identify new vaccines or treatments (assuming that the likelihood of finding a vaccine is positively correlated to the amount of research towards its discovery). The challenge for the international community is to prevent the international public bad (as the result of non-production) from surging out of control. Financial resources should be mobilized as soon as the production cost is less than the sum of the benefits gained by the countries (or companies) most encouraged to produce it. It is desirable to open all possibilities of contribution—private and public, including public-private partnerships. To this end, a global fund fulfils three tasks: receiving targeted resources, facilitating donor coordination, allowing easier monitoring of the global effort and its results and facilitating accountability in the use of funds thanks to its specific objective. The situation becomes more complicated if the production cost is markedly higher than the financial abilities of potential beneficiaries.
- Continuous GPGs (and some particularly complex binary goods) require long-term efforts from different actors. This often implies decentralized actions and numerous targets, making different modes of financing possible, which is why they are considerably more difficult to finance and produce. Two types of continuous GPGs are distinguishable by the nature of the associated externalities: public goods that call for changes in behaviours to limit negative externalities and those that require deliberate action to provide additional services to exploit positive externalities. Fighting global warming and protecting the ozone layer clearly belong to the first category. Maintaining existing international regimes and diffusing knowledge belong to the second.

Conclusions on the degree of urgency of collective action must not be drawn from this classification. In particular, we do not mean that be-

cause production is technology based (continuous or discrete), nothing is to be lost by waiting (though at times it might be advisable to wait in order to amass more information on the costs and benefits of production). For example, the fact that the struggle against global warming is continuous and not discrete does not mean that delaying action is an acceptable option—the damage caused by waiting is often irreversible (see Guesnerie 2003).

### *Aggregation technology*

Hirshleifer (1983) distinguishes four production technologies:

- Summation—goods result from the sum of all actions undertaken to produce them.
- Weakest link—goods are determined by the least active producer.
- Best shot—goods require only one producer and are set by the best producer.
- Weighted sum—individual contributions possess weights, reflecting the marginal impact that a unit of a contributor's provision has for total provision of the GPG.

This distinction is useful in thinking about incentives to produce GPGs. Summation requires collective action, while weakest link and best shot call for a concentrated effort. In the weakest link case (and provided the negative externalities are large enough), everyone has an incentive to help improve the level of production.

### *Mixed public goods*

Many public goods, however, exhibit several classifying properties. GPGs such as the fight against climate change involve many interventions, ranging from the local level to the global. They lead to actions directly oriented towards producing the GPG and complementary actions<sup>9</sup> that often come from the production of national public goods (construction of socio-economic infrastructures), large-scale one-off actions and long-term actions (support, maintenance). Direct GPG production is necessarily bolstered by many complementary actions, which can, in some cases, come from official development assistance. The fight against HIV/AIDS is another example, including actions by all victims to eradicate the pandemic (weakest link good) together with a discrete effort (finding a vaccine and eradicating the illness) and a continuous effort

(developing performing national health systems). Actually, most GPGs mix a need for a major effort over the short term and an additional and continuous effort for maintenance operations or aid activities. It is not enough to provide for short-term financing needs, for example, through specific funds set up for that purpose. Longer term recurrent needs should also be provided for.

### *The fight against HIV/AIDS*

The fight against HIV/AIDS is not yet covered by international treaties, but is partly financed by the Global Fund to Fight AIDS, Tuberculosis and Malaria.<sup>10</sup> It implies both prevention and cure. Prevention is a continuous component, and cure is urgent and discrete. But as long as a vaccine does not exist and prevention is partial, the fight against HIV/AIDS is a continuously discrete GPG because a cure will be continuously needed.

This GPG also encompasses a variety of elements of health care that can be defined as public goods: access to treatment, discovery of a vaccine and access to an effective health care system. The global or national nature of the various elements determines the nature of the action to be taken to produce them. The establishment of health care systems thus belongs to the realm of national policy and is funded by national budgets or official development assistance. On the other hand, funding of the “direct” fight against major pandemics is in the province of collective resources, whether global or decentralized.

Global collective action to mobilize and coordinate resources is only one aspect of successfully fighting HIV/AIDS. In particular, success hinges on consistent efforts to improve national health systems. It is not enough to make treatments available. They need to be administered and monitored, which requires trained staff and efficient public health systems. Public health spending barely represents 1.2% of GDP (less than \$6 a person) in low-income countries and 3% of GDP (\$60 a person) in middle-income countries. Compare that with 6.7% of GDP (\$1,307 per person) in Western Europe (WHO 2004). Governments of the hardest hit countries simply cannot control the epidemic and strengthen their healthcare systems without external funding. The relationship between a GPG and sectorwide efficiency considerations stands at the heart of the development process. Besides the Global Fund, official development assistance for health sector equipment and capacity building is crucial, both for development and for fighting HIV/AIDS.

Crucial to the fight against HIV/AIDS—in order to allow for eradication and to transform the GPG into a discrete, binary public good—is the development of a vaccine. It requires substantial financial resources that the private sector is not ready to commit spontaneously because the solvency of the market for the future vaccine is uncertain at best. There is room to commit public resources to improving incentives and to commit some official development assistance resources to improving the solvency of developing countries' markets for such a vaccine. Proposals, notably by Kremer (2002), have been made to that end.

According to Sachs (2001), the total additional annual cost of responding to AIDS will reach \$26 billion in 2007 and \$46 billion in 2015.<sup>11</sup> The Global Fund (2004) has mobilized substantial resources: a little more than \$3 billion, and \$5.4 billion pledged up to 2008—with 95% coming from developed country governments. By 1 August 2005 the Global Fund had signed agreements for 316 grants in 127 countries. In little more than 30 months, it has disbursed more than \$1.3 billion, or 55%, of grant commitments. It also largely contributes to the coordination and harmonization of programmes to combat HIV/AIDS, thereby reinforcing these programmes' combined effectiveness.<sup>12</sup> But its weaknesses in maintaining and renewing necessary commitments limit its efficiency.<sup>13</sup>

Private sector participation opens promising opportunities, as demonstrated by initiatives taken by large firms in Sub-Saharan Africa, where Daimler Chrysler developed a programme to fight HIV/AIDS among its workers. And there is much more potential to tap through innovative uses of official development assistance—public-private co-financing schemes, public subsidies to extend the coverage provided by private healthcare centers, partial subsidization of individual costs.

### *The fight against global warming*

Global warming is a global public bad. Climate stability, a global public good, is non-exclusive and non-rival, thus private actors are not prompted to invest for benefits that everybody will be able to enjoy freely—and free-riding should be expected. There is wide scientific consensus that global warming can be attributed to human activities and will continue with widely varied effects (Intergovernmental Panel in Climate Change 2001).

Fighting global warming is an additive and continuous process, calling on many national and international actors from the public and pri-

vate sectors. Developing countries are reluctant to bear the burden of managing a global challenge that is historically not of their making. But they will likely be the hardest hit. And fast-growing emerging countries such as Brazil, China and India are becoming major producers of greenhouse gases.

The fight against global warming requires:

- Collective action—the more countries contributing to reducing emissions, the more effective global action will be.
- Sustainable action—a continuous process.
- Action at different levels—global, national and local, under the subsidiarity principle.
- Equitable action—to take into account the specific situation and development needs of developing countries.
- Swift action—at first sight, immediate action may appear more costly than a delayed action that would incorporate new scientific data, avoid accelerated obsolescence of the capital and take advantage of technological innovations. But these arguments must be counter-balanced—low-cost measures could be swiftly adopted, the risk of irreversible damage is high. (Uncertainties prevail, but they do not justify inaction as an irreversible climate change with daunting consequences could happen before we have sufficient proofs of warming and information on its causes and consequences.)<sup>14</sup>

The Kyoto Protocol, a limited cooperative framework ignored by the United States, is based on commitments by industrial countries to reduce greenhouse gas emissions. In order to partially offset inevitable flaws in the initial individual commitments, minimize the costs of implementation and enlist developing countries, the protocol has introduced a system of tradable emission permits (article 17) and allowed countries to register reductions in emissions resulting from an investment made in another industrial country (joint implementation) or from an investment in a developing country (Clean Development Mechanism). The World Bank leads in shaping the Clean Development Mechanism and acts as the manager of carbon credit purchaser funds and arranger of projects that generate carbon credits.<sup>15</sup> Other donors also help define and implement Clean Development Mechanism projects at different levels.<sup>16</sup>

It is likely, however, that more resources will be needed to promote clean development in developing countries. This task is carried forward by the Global Environmental Fund, the financial instrument of the cli-



mate convention.<sup>17</sup> This challenge provides a powerful reason why even emerging countries like Brazil, China or India need and deserve development aid. There is a good rationale, however, to direct aid towards GPG provision and, of course, to push for an increase in global aid levels.

Industrialists are increasingly environmentally conscious. This awareness, combined with reputational stakes, society's pressures and more binding regulations, are prompting manufacturers to invest in cleaner production techniques and equipment that treats downstream pollution (Vittekk 2000). But such an investment, when less profitable than existing technologies, requires outside incentives or specific support.

Overall, countries, donors and private actors are still learning. Current mechanisms are quite cumbersome—the market for carbon credits needs to be created from scratch. Despite difficulties, useful projects can be built, and a potentially promising learning process seems to be in place.

### *A political economy perspective*

Any collective action at the international level needs to recognize the difficulty of dealing with GPG financing without considering the position of the United States. To the extent that the production of a GPG requires either a single action by the United States or collective action implying its participation, one can distinguish four kinds of circumstances:

- “*What is good for the United States is good for the world.*” The United States engages in the provision of the GPG because the expected return for its national interests is perceived to justify individual action. It then invites other countries to share part of the burden. Consider the Montreal Protocol. The United States stood to gain a great deal, even as simple producers, but encouraged other nations to take part in the collective effort. Thus as long as the interests of the leader nation are at stake, financing does not present a problem: solutions will be found. Sharing the burden comes only as a secondary issue, but can remain a controversial matter for a long time.
- “*What is good for the world is good for the United States.*” The United States will not take the lead but may be willing to participate. This is a standard case of collective action. In this favourable scenario, the discussion is efficient; financing is a question of national and international politics, of diplomacy and international negotiations, with the best instrument and

best approach an issue ever in the background. Shared interests make collective action desirable but not necessarily easy to achieve goals, as Olson (1965) amply demonstrates.

- *“What is good for the world is not good enough for the United States.”* More problematic, this case concerns public goods for which other countries see some value, but for which the United States sees no utility. These GPGs will be produced only if US participation is not a necessary condition. In the case of summation goods with a large impact from US behaviour, production by others will be inefficient. Again, consider the Kyoto Protocol. Any attempt to reduce greenhouse gas emissions without US participation will have limited effects.
- *“Neither the world nor the United States knows what is really good for it.”* The demand is only partially revealed because the need has been poorly identified. What, for instance, is really known about conflict emergence or conditions for maintaining peace? In this case, work to understand the phenomena and work to convince must be initiated. At this point the question of financing might seem secondary.

Of course these observations do not seek to restrict GPG financing to the US position alone, but rather remind us that international politics remains a crucial factor.

## Financing implications

The previous section has suggested that there will be no such thing as an “optimal” GPG financing instrument. Instead it is worthwhile to focus on the characteristics of GPGs to be financed and adapt instruments accordingly. Beyond political will and a proper institutional framework, financial engineering is crucial to the future of GPG finance.

- The nature of providing a given GPG: Does it imply the additional production of specific goods and services? Or does it rest on incentives to change behaviours, through regulation or taxation? While additional production requires additional financing, incentives imply mainly institutional and political economy challenges (appropriate regulation or taxation).
- The degree of purity or impurity of a given GPG determines if and how the private sector will be involved in its provision and who will bear the costs.

- Aggregation technology determines how best to share the provision of different GPGs and what kind of international action is needed.
- Directly influencing the type of instruments to be used is whether a given GPG is discrete or continuous. Continuous GPGs require predictable financial resources. Discrete GPGs require an immediate and possibly massive mobilization of resources.

### *From typology to financial schemes*

To foster further brainstorming, we propose a simplified diagram of GPG provision and financing (see figure 2.1). A few boxes remain empty because of inconsistencies between GPG characteristics. Our classification is at best tentative, notably because a number of socially constructed public goods escape consistent classification. For example, information dissemination could be considered a pure public good. But it is a difficult and occasionally technical process, likely to exclude many potential users, and is classified here as an impure GPG. This diagram suggests that four broad and loosely defined categories of GPGs stand out in terms of their financial implications:

- *Private provision GPGs.* Club goods can typically be financed by the private sector. Public financing is limited to ensuring access and avoiding suboptimal rationing.
- *Leader-led provision GPGs.* In some cases a simple cost-benefit calculation provides an incentive for a country to act alone as a leader, notwithstanding later efforts to share the burden. Even when provision has clear national net benefits, global financing may be necessary when the potential leader faces a financing constraint. Political economy and diplomatic considerations will play a clear role in reaching any sort of agreement.
- *Behavioural GPGs.* When the externalities can be internalized, a GPG can be financed by consumers (or producers) through mechanisms that make them accept all the costs (or benefits), notably in terms of changes in behaviours of provision. Some negative externality GPGs such as fighting climate change belong to this category. And positive externality GPGs can be provided through adequate regulatory and taxation policies and through the implementation or strengthening of a prop-

erty rights system (essentially on pure GPGs produced using a best shot technology). These are basically “no-cost” GPGs, but proper incentives through adequate compensatory mechanisms are needed. Moreover, producing continuous effort GPGs means seeking out the active participation of the private sector, beyond taxation and regulation setting. For example, a series of incentives set up within the framework of the Kyoto Protocol encourages private actors to invest in greenhouse gas emission savings.

- *Additional production GPGs.* These require additional finance. Here, a crucial distinction needs to be made between continuous and discrete GPGs. Discrete GPGs depend on immediate funding availability (for example, through a fund set up specifically for that purpose), whereas continuous GPGs require sustainable and predictable funding.

### *Instruments and ideas*

Since the UN Millennium Summit in 2000 and the Monterrey Summit in 2002, there has been a consensus, further confirmed at the UN Millennium Development Goals Summit in 2005, that financial resources for global issues have been insufficient. Various ideas have been raised for providing additional resources and increasing proposals’ efficiency (see Atkinson 2003). Additionality is important to this discussion. Although probably useful for collecting resources, new instruments might simply substitute for older ones, without any significant net effect. In themselves, financial techniques do not generate a net willingness to pay. Increasing the perceived utility of providing a GPG is likely to increase the willingness to pay, thus generating additional resources. Scientists and civil societies are in the driver’s seat to help build the perceived utility of GPGs.

### *Voluntary contributions*

Several ideas for increasing voluntary contributions have recently been floated. A casual observation of people’s behaviours suggests a substantial willingness to pay for GPGs that is not naturally exploited. This willingness stems from a growing sense of global citizenship, from concerns about biodiversity, from growing feelings of global solidarity. Non-governmental organizations are particularly important in identifying and

Figure 2.1 Global public good provision and financing

Provision of GPG at no cost (taxation mechanism or regulation)	Pure	Public push to build a financing scheme based on capacity to pay rather than willingness	Summation	Fight against climate change	Incentive mechanisms with a monitoring capacity (such as the United Nations Framework Convention on Climate Change) Transfers from developed to developing countries	Tax/Market Long-term public resources dedicated to compensations and innovation support (including official development assistance)	Coordination and emergency measures financed with public resources (funds, foundations, international institutions)
	Impure (with rivalry or exclusion)	Setting up a regulatory framework	Weighted sum	Fight against acid rain Protection of fish resources	Whether there is a leader nation or not, action will either be centralized or coordinated to be undertaken where it is most effective	Long-term public resources to finance compensations and support private initiatives (including official development assistance)	Discrete financing by the leader nation; in case the most beneficiary country cannot finance the good by itself, international institutions could help (funds, foundations)
Provision of additional goods and services	Pure	Public subventions to finance part of the production process	Summation	Endangered species census World heritage protection	Depending on the national interest—global interest ratio, national or global financing with public and private funding	Perennial resources (international institutions, foundations, public-private partnerships, official development assistance)	Coordination and emergency measures financed with public resources (funds, foundations, international institutions)
			Best shot	HIV/AIDS vaccine Green revolution	Coordination is necessary to avoid wasted efforts Developing countries will be helped by developed countries (official development assistance) Some developed countries may be helped by others through production or financial partnerships	Leader nation or discrete and massive resources with potential private financing or official development assistance	
	Weighted sum	Research	Leader nation or support from developed countries	Leader nation or perennial resources (international institutions, foundations, official development assistance, public-private partnerships)			

National, with global impact	Public financing necessary	Summation	Health system building Vaccination campaigns International finance systems building	Developing countries financed by developed countries	Long-term and predictable resources such as official development assistance or public-private partnerships	Discrete and massive funding might be brought by official development assistance
Impure (with rivalry or exclusion)	Voluntary financing by the countries and constitution of club-like structures	Summation	Information dissemination Antimissiles shields	Partial exclusion allows for voluntary financing and dissemination of information helped by public subventions	Long-term resources (international institutions, official development assistance)	Coordination and emergency measures can be financed with public resources (funds, foundations, international institutions)

Official development assistance
Private financing
Public resources (short term)
Public resources (long term)

mobilizing such willingness to pay and have been very active in many GPG dimensions. This must be encouraged. Global funds targeted to specific GPGs (such as ecosystem preservation funds, carbon funds or health funds) are particularly well suited for transforming a latent willingness to pay into actual resources if their transparency, effectiveness and accountability stand beyond doubt.

Governments can also help mobilize willingness to pay—for example, by allowing earmarked taxes or tax deductions for donations to a global cause. Both options are relatively simple and allow existing systems to collect GPG resources. But earmarked taxes are controversial in that they compromise fiscal sovereignty and the power of national bodies to decide how resources are spent. Another possibility could be to generalize a system of voluntary contributions when paying with credit cards and using teller cards. Regular contributions could be linked to recurring bills for essential services (water, electricity, telephone) and targeted towards helping developing countries finance these services. A link between the collection of resources and their destination is probably important for mobilizing willingness: “I have access to water, thus I help others to have access as well.” Along those same lines, another idea might be to harvest resources from medical consultations.

A lottery has also been the subject of several proposals (Morgan 2000; Reisen 2003). Generally an important share of the income from national lotteries goes to the state or to projects of general interest (30% in the United States). This revenue share, in the case of a world lottery, could provide substantial funding for international objectives, easy to affect to a specific cause. Unlike voluntary contribution schemes, the lottery banks on the interest the individual shows in the system (admittedly high risk). It thus makes it possible to combine risk-taking and hope of gain with philanthropic finance.

These options share the goal of facilitating and coordinating the philanthropic impulse towards financing GPGs and are valuable as such. But the same concern of additionality must be kept in mind. Already in each country is a vast array of methods to channel the willingness to pay for common causes. What is needed is to increase that willingness, not to rechannel it by diverting it from existing mechanisms (such as voluntary contribution to non-governmental organizations) to new ones. But how can consciousness and the willingness to pay for global causes be raised? How can the voluntary collection of resources be effectively and efficiently organized at the national level?

*International taxation*

The idea of an international tax has increased in momentum over recent years. A first proposal was made by Zedillo (2001), in addition to the proposal to set up a council of heads of state in charge of world governance missions. The supranational vision implied by the Zedillo report, however, appears beyond current political feasibility. World taxation is indeed an extension of national taxation, but in the absence of a world government new ideas on how to move beyond national taxation are needed. For example, one could think of pooling resources from national taxation through formal, possibly legally binding, agreements calling for national governments to jointly implement well identified national tax mechanisms (which might vary from one state to another) to earmark resources for financing a specific global objective. For effectiveness and legitimacy reasons, the proposed use of such pooled resources should be made very explicit and verifiable so that the use of taxpayers' money, even at the international level, remains fully accountable.

The challenge is politically formidable. At the technical level, the choice of base is an important issue. As in traditional public finance, there are three sometimes conflicting objectives to take into account:

- Minimize tax-induced distortions (preserving the benefits from globalization).
- Maximize tax revenue.
- Use taxation in a Pigovian sense—internalize negative externalities and change behaviours accordingly.

Minimizing distortions and maximizing revenue lead to the choice of a small, uniform tax rate on a wide tax base. The Pigovian approach opens the possibility of a “double dividend”, allowing for both raising revenues and fighting a negative externality. But there is a contradiction between the objective of raising revenue, best reached through the taxation of a weak demand elasticity tax base, and that of changing behaviour, which supposes that the tax base somehow melts away.

In 2004, a working group on international taxation, chaired by Jean-Pierre Landau (Landau 2004), was instructed by French President Jacques Chirac to explore the possibilities of securing additional resources for development. Five countries—Algeria, Brazil, Chile, Germany and Spain—publicly backed the initiative of developing innovative financing mechanisms to help finance the Millennium Development Goals.



A significant move forward has now taken place. Three countries—Chile, France and the United Kingdom—announced in September 2005 that they would implement a “solidarity contribution on airplane tickets” by the end of 2006. This first international solidarity levy will come into force in France on 1 July 2006. At the Paris March 2006 Conference on Innovative Development Financing Mechanisms, 41 countries joined the pilot group set up to review the technical aspects of the mechanism; 14 countries stated their intention to institute such a levy. Technically, this form of contribution is equivalent to a nationally based tax; the contribution would be paid when boarding an aircraft departing from a participating country. In practice airline companies would be responsible for collecting the contribution, which would be added to the fees and charges already part of a ticket. Revenues will be fully allocated to official development assistance and earmarked for spending on health.

#### *New emission of special drawing rights*

Created in 1968, special drawing rights (SDRs) are units of account and reserve holdings maintained by the International Monetary Fund (IMF).<sup>18</sup> The relevance of a new allocation is the subject of an unresolved discussion between member countries. Some expect a positive effect on development in developing countries. Others fear the impact on global inflation. In 1997 the IMF Council of Governors suggested setting up a special SDR allocation. This proposal, which would double the SDR 439 billion volume, received the approval of more than 125 members representing more than 75% of votes. US agreement is the sticking point for the entry into force.

In 2002 George Soros suggested that the United States approve this allocation and that developed countries make a donation (SDR 18 billion of SDR 27 billion, broadly speaking) to create a fund for financing GPG production, which would be managed by a “Council of Wise Men” at the world level. This proposal has been echoed many times and has become the foundation of positions, including that of Joseph Stiglitz, in favour of new emissions of SDRs for financing GPGs or aiding poor countries. There are two broad options to consider. One is to aim at a new amendment of the IMF statutes in order to allow for SDR allocations that would not be proportional to quotas and that would specifically target developing countries or GPG provision. The other is to use the system as it is, reinterpret the need for global liquidity by

taking into account not only balance of payments constraints but also development and GPG needs and negotiate an arrangement through which developed countries automatically transfer any new SDR allocation to funds earmarked for development and GPG finance. Using the current system seems more feasible from a political economy perspective. It involves a few technical difficulties concerning interest payments on SDR allocations. It is also unclear what the specific, technical or political economy advantages of SDR allocations would be over other financing mechanisms.

### *The International Finance Facility*

The International Finance Facility (IFF), proposed by the United Kingdom, will generate a higher volume of resources by securitizing increased official development assistance flows pledged at Monterrey, thus frontloading official development assistance disbursements towards reaching the Millennium Development Goals. Governments have committed to regularly increasing official development assistance. But this increase is progressive, while there are major needs now. When economic and social benefits of well targeted aid are expected to be higher than borrowing costs, there is a case for concentrating the present value of future commitments through a frontloading mechanism.

The IFF will receive formal, multiyear, irrevocable commitments to future contributions and, on this basis, issue bonds and use the resources thus raised to finance development in developing countries. Donors commit to providing financing at a later date without having to transfer funds or make budgetary commitments in the present (with the possibility of making legally binding commitments off the budget—essential for governments subject to the budgetary discipline of the European Growth and Stability Pact). These commitments are used as collateral to issues bonds on private financial markets. Given the quality of the issuers, these bonds are presumably rated AAA. The product of bond issues is used in existing bilateral and multilateral programmes. Upon maturity, bonds are paid back by the participating donors.

Governance conditions and the distribution of funding could push the burden onto future generations. And the problems of absorptive capacity experienced by many developing countries can make the frontloading of future official development assistance payments hazardous. The IFF does, however, present a twofold interest. Financial engineering innovations can make it possible to enlist private markets to gener-

ate large volumes of resources. And the constraint on public spending should not be used to justify short-term gaps in financing objectives that the international community has agreed on. It also allows separating the collection of official development assistance funds from spending. Thus the IFF initiative is the extension, at the international level, of both public debt and taxation.

The IFF has attracted the support of more than 80 countries, including Brazil, China, France, Italy, South Africa and Sweden, as well as from religious leaders, the business community and non-governmental organizations. On 9 September 2005 the United Kingdom, in partnership with France, Italy, Spain and Sweden, launched a pilot International Finance Facility for Immunization (IFFIm). Contributions from the Bill & Melinda Gates Foundation will be provided with the resources from donor governments. This initiative will use the frontloading mechanism to ensure the provision of an additional \$4 billion over the next 10 years in support of the work of the Vaccine Fund and the Global Alliance for Vaccines and Immunization. The IFFIm is largely meant to demonstrate the technical feasibility of the larger IFF scheme.

### *Frontloading or phasing in?*

Discrete GPGs require a swift mobilization of adequate funding. All possibilities of contributions need to be harnessed—from voluntary private and from public sources, including public-private partnerships. A global fund is a typical vehicle, fulfilling three tasks:

- Act as a recipient for targeted resources and facilitate donor coordination.
- Allow easier monitoring of the global effort and its results.
- Facilitate accountability in the use of funds thanks to its specific, visible objective.

The IFF is precisely targeted to short-term massive needs. While it has not met with global agreement, the idea behind it might be extended to smaller initiatives targeted towards financing several identified discrete public goods (for example, the search for vaccines against developing countries' pathologies). Such an instrument would not create new financing resources, but rather act as a coordinating mechanism and, presumably, frontload future official development assistance commitments to cross a given immediate threshold in GPG provision.

Continuous GPGs are considerably more difficult to finance and produce because they require ongoing attention and effort. For con-

tinuous GPGs based on internalizing negative externalities, provision is more a problem of appropriate regulation and taxation than of generating additional resources. Financial resources will need to cover administrative costs. They will also go towards compensating those who are perceived to support an undue share of the costs. Providing such GPGs therefore involves some sort of global redistribution.

For continuous GPGs associated with exploiting positive externalities, sustainable and predictable financial resources are necessary. An occasional one-shot levy cannot provide long-term needs. This problem is akin to taxation in countries, where periodic collection of a compulsory levy finances lasting needs. Multilateral institutions are financed through a compulsory contribution from member states, which is as close as one can get to international taxation. One of the reasons for further examining global taxation schemes stems precisely from the lack of instruments designed to finance the provision of continuous GPGs despite a growing perceived need to do so.

The need for core predictable and perennial funding can be met if all donor countries honour their commitment of setting aside 0.7% of GDP for development aid. But, as we know, the political economy constraints faced by most donors have made it impossible to fulfil that promise. Notwithstanding a renewed commitment by many countries to increase official development assistance at the 2002 Monterrey and 2005 UN development summits, this is a major reason to study alternatives—such as global taxation schemes—in order to anchor donor countries' commitments into a more conducive political economy context. There has been a very significant political move towards global taxation under French President Chirac's 2004 initiative. Implementing a global taxation scheme would indeed be a major turning point in global governance. Paradoxically, given the political symbol it would represent, it would also somehow depoliticize in the short term the collection of resources earmarked for development assistance and GPG provision because it would protect these resources and the needed budgetary trade-offs from the vagaries of domestic politics. There is no international treaty establishing a global tax base, so global taxation schemes need to be understood as internationally coordinated national tax efforts.

Some GPGs will be both direct and continuous, thus requiring complementary financing commitments. There is a risk that the discrete component will receive the most attention because it creates a short-term concern, sometimes with a sense of urgency. The continuous aspect is simply ignored for later consideration. For example, financing

the creation of protected areas is worthwhile, but providing for the long-term stream of financial resources needed to protect biodiversity in a developing country where budgetary resources are clearly inadequate will be key to reaping sustainable benefits. This problem echoes that of infrastructure finance in developing countries: the physical capital needed in the first place requires massive immediate financing. The value of the infrastructure, however, rests on the quality and sustainability of the flow of services it generates, and that requires ongoing resources for maintenance and administration.

### *Official development assistance—legitimate and indispensable*

Four aspects of our analysis point to the notion of a GPG development nexus (see Severino and Jacquet 2002) suggesting that official development assistance can be a major financing instrument for GPG provision.

- GPGs often cannot be distinguished from local public goods. The GPG production chain goes from the local level to the global. For example, the fight against major pandemics cannot be dissociated from the efficiency of local health systems. Development is a necessary condition for GPG production. Aid agencies are particularly well placed to contribute by promoting local development.
- The relationship between the local and global aspects of GPGs may vary. Some public goods are clearly considered both local and global. Consider the preservation of fish resources. Fishermen will agree to limit catches and take into account stock preservation only when presented with economic alternatives allowing them to combine higher income with lower catches through cost control. This is a standard area for official development assistance.
- The local component of some GPGs is weak or perceived as absent, leading to a perceived contradiction between the local development objective and the GPG. Consider the management of forest resources in forest-abundant developing countries. Local priorities point towards exploitation, while global considerations may point to conservation. The developing country needs to be compensated for any contribution to biodiversity conservation. This can be done through a fund to support protected areas or through locally negotiated sus-

tainable management programmes that official development assistance may help put in place.

- There are local public goods without a global component. This is a more classic case for official development assistance.

Several recent studies have examined the risk of official development assistance misappropriation to the detriment of development and to the benefit of GPGs.<sup>19</sup> Some fear that it will negatively affect development financing and criticize this diversion as being unethical because it would cut resources for poverty reduction and inefficient because the kind of institutions and knowledge developed through development assistance may not be appropriate for delivering GPGs (Anand 2002). Without ignoring all risks for resources earmarked for development, these critiques are misleading. What they suggest is not that official development assistance is an inappropriate vector for GPG provision, but that financing resources for development and for GPG provision are insufficient. They point to a problem with additionality.

## Conclusion

Global financial resources must be substantially increased to take into account the requirements of collective action, including official development assistance, at the global level. The official development assistance framework is particularly well adapted to contribute—both financially and in terms of local management capacity—to development and GPG provision. And the GPG–development link may help effectively bring home that the interests of developing and developed countries are tightly linked. This can help strengthen the willingness of developed countries’ taxpayers to sustain the development assistance effort. Of course, such a reinterpretation of official development assistance—widening its scope to that of a global policy central in global governance—makes it all the more important to effectively focus on aid effectiveness.

*Development and provision of GPGs are joint processes.* The relationship goes both ways, and this is actually what sustainable development is about. First, public goods in general and GPGs in particular are necessary ingredients of any development strategy. This is particularly obvious for the fight against contagious diseases, but local populations also increasingly realize the relevance of biodiversity and natural resource preservation for sustainable development. Second, genuine development—a sustainable increase in populations’ standard of living—is necessary both

to allow the country to devote sufficient resources to GPG provision and to make it acceptable to the local populations to consider longer term objectives.

*Official development assistance is also one of the major policies available to successfully address GPG financing and provision.* This does not mean that we should divert scarce resources to finance goods for which there is no demand in developing countries. Instead it means that the public policy of official development assistance and its institutions are the proper locus to consider the relationship between developed and developing countries in GPG provision. For some GPGs the only way to enlist developing countries is to create a global development package allowing the beneficiary to achieve its original objectives at no extra cost. For example, carbon-saving investments may be in the global interest, but what developing countries need now is energy. The extra costs implied by the objective of reducing carbon emissions must be paid by developed countries and must not become a reason to slow local development. This use of official development assistance brings it closer to an incipient global policy of redistribution. In many cases GPGs are strongly seen as both local public goods and part of local development strategies. It is thus fully legitimate to consider their provision using official development assistance finance. In many cases GPG provision also requires complementary goods and services—including technical assistance and capacity building—that are part of any development process and that official development assistance should finance as well.

The preceding remarks suggest neither that the current level, structure and instruments of official development assistance are adequate nor that specific additional financing targeted to a given GPG outside the official development assistance apparatus would be unwelcome. It is essential to develop innovative financing mechanisms and associate the private sector and non-governmental organizations in providing certain types of GPGs. There are two broad ways to generate increased financing resources for development and GPG provision:

- Highlight specific, urgent needs and call for generosity and self-interest to produce given discrete public goods (such as the fight against HIV/AIDS).
- Frame official development assistance as one of the central collective policies of globalization, bridging the interests of developing and developed countries. But this will be credible only if multilateral and bilateral aid agencies can prove that they effectively use public money towards development. With-

out being the exclusive concern, GPGs have a crucial role to play. How could one explain to developed countries' taxpayers that their money is used to finance projects or programmes that generate global public bads?

*GPG provision does not always require substantial additional financing.* In some cases it rests on internalizing externalities through regulation or taxation, shifting the costs to private agents (beyond transaction costs linked to negotiation, implementation, enforcement, tax collection and monitoring). In other cases it entails the production of specific additional goods and services and requires financial resources. From a financing perspective, the distinction between discrete and continuous GPGs is particularly helpful.

- For discrete public goods, successful provision depends on the ability to generate and engage substantial resources. Global funds are a useful instrument. But current budgetary constraints suggest that thinking along the lines of the recent IFF initiative might be useful. The idea would not be to create a new all-purpose vehicle, but to “invent” a process of international public borrowing to finance specific GPGs. Of course this would necessarily amount to committing future taxpayers' resources. Similarly to some local public goods, GPGs carry long-term interests that will benefit future taxpayers, while current inaction could also be highly detrimental to their welfare.
- For continuous public goods, the lack of predictable, continuous financing instruments acts as a constraint. In some cases this constraint has been overcome. For example, the whole apparatus of international institutions is financed through compulsory contributions from member states based on the ability to pay. It is, however, a characteristic trend of globalization that the necessity of continuous, sustainable collective action becomes increasingly clear and that one has to think of ways to finance it, not on a one-shot basis, but as an ongoing feature. Current debates on global taxation should be carried forward.

*GPGs exhibit several characteristics simultaneously—notably a discrete and a continuous component.* It is indeed difficult to generate the resources needed to address the discrete component of any public good. And it requires a capacity both to generate and harness the necessary willingness to pay and to use innovative financial instruments. It is even more difficult to go beyond the discrete aspect and focus on sustainable GPG provision, which requires considering the continuous component. We



invite policy-makers to focus their attention on the longer term, recurrent needs and to look at global taxation as a way to identify and set aside the necessary financial resources.

## Notes

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1. According to the “polluter pays” principle.
2. Kindleberger (1986, p. 2) has noted that providing public goods is “a more serious problem in international political and economic relations in the absence of international government.” See the literature on cooperation and international relations in Kaul and others (1999, chapter 1).
3. See Kaul and others (1999, chapter 2) and Kaul and others (2003, chapters 12 and 13). See also Barrett (2006, p. 20), who states: “When countries are strongly asymmetric, cooperation may make one kind of country worse off, even while it makes another kind substantially better off. In these situations, cooperation will require more than enforcement to stand. It will also require money transfers—in the jargon of economics, ‘side payments’. Usually, these are compensating payments.”
4. See Sweden, Ministry for Foreign Affairs (2001, p. 45).
5. See Kaul and others (2003, chapters 12 and 13).
6. The French Development Agency, for example, has had success in such programmes, including an experiment in sustainable forestry management in the Congo Basin and a sustainable shrimp-fishing programme in Madagascar. These projects typically involve the local populations in design, monitoring and implementation.
7. States’ capacity to pay is a fundamental criterion for determining their UN contributions. It is determined through the use of verifiable and comparable data and re-examined every three years in order to adjust for new statistics and changes in revenue.
8. See Raffer (1999); World Bank (2001); te Velde and others (2002); Reisen (2003, 2004). See also Zedillo (2001).

9. According to Sagasti and Bezanson (2001, p. 7), “It is necessary to differentiate between the *core component* of the delivery system, which should be taken care of by the international community, from the *complementary* activities that are the primary responsibility of the national and local entities, for its provision and existence.”
10. The Global Fund was created following the Special Session on HIV/AIDS held by the United Nations General Assembly in June 2001 and the G-8 Summit in Genoa in July 2001. It began operations in January 2002. Its aim is to collect, manage and dispense additional financial resources, acting on a large scale to reverse the spread of the AIDS, tuberculosis and malaria pandemics.
11. Adding the necessary spending for upstream management of local services, an improvement in absorption capacity (management and control) and salary increases to attract and motivate health professionals, the total adjusted additional costs amount to \$57 billion in 2007 and \$94 billion in 2015. By comparison, health spending in the countries concerned, deriving from internal resources and official development assistance, came to \$106 billion in 2002.
12. This procedure is in various stages depending on the country—for example, there are currently 14 separate bilateral and multilateral projects in Burkina Faso. But it is globally progressing (discussions and information exchanges, division of labour between the World Bank and IMF).
13. The Global Fund operates on voluntary, irregular payments, which are not guaranteed beyond 2008. In the absence of substantial new commitments, it will lack the resources to extend action beyond the renewal of the operations currently under way (\$8 billion over 5 years). The participation of the private sector in financing the Global Fund has been limited beyond donations from the Bill & Melinda Gates Foundation (\$150 million). The involvement of pharmaceutical companies has not been successful either.
14. For a discussion, see Guesnerie (2003).
15. The World Bank oversees three such funds: the Prototype Carbon Fund, the Bio-Carbon Fund, focusing on forests and carbon sequestration, and the Community Development Carbon Fund, set aside for small projects with strong societal connotations.
16. For example, a project to collect methane emitted by the municipal dump of Durban, South Africa, is being co-financed by the local government and the French Development Agency. It involves converting methane to electricity and was turned to profit through its Clean Development Mechanism dimension. Profits come from the sale of carbon credits to

the Prototype Carbon Fund. In this type of project where commercial and country risks are limited, the Prototype Carbon Fund takes all the carbon risks. The carbon funds invest in a portfolio of projects eligible for the Clean Development Mechanism through futures trading agreements for the carbon credits generated by these projects. The investors are paid in carbon credits in proportion to their stake in the fund.

17. Between 1991 and June 2003 the Global Environment Fund co-financed 722 projects in 140 countries (medium- and full-scale projects). The 2,600 micro-credits awarded to non-governmental organizations and local groups in 60 countries should also be counted. The Global Environment Fund has been criticized for costly and highly complicated procedures, inadequate financial resources and sometimes questionable value added. It is trying to revamp its methods of intervention.

18. The value of special drawing rights is based on a basket of international currencies. They are allocated proportionally to IMF quotas by a three of five majority of member countries representing at least 85% of voting rights. They can be used without consulting the IMF and with no conditionality whenever countries encounter problems of financing balances of payment, after exchanges against other currencies and providing a payment of an interest rate. Two SDR allocations have been granted (the last in 1981) in the framework of general allocation decisions that can be taken every five years and which must be based on a clearly established need to complement the existing level of reserve assets in the world.

19. See Raffer (1999); World Bank (2001); te Velde and others (2002). Estimates from these studies claim that diversion of official development assistance for GPG provision may be important and crowds out aid for conventional development.

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# Review of Lead Institutions for Global Public Goods

## 3 Chapter

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*This paper assesses the institutions which have the responsibility of leadership for each of the five priority global public goods addressed by the Task Force: the World Trade Organization (WTO) for trade, the UN Security Council for peace and security, the International Monetary Fund (IMF) for financial stability, the United Nations Environment Programme (UNEP) for the global commons and the World Health Organization (WHO) for communicable diseases. While responsibilities in each area are spread among many agencies and organizations, lead agencies should be responsible for ensuring that three core functions are carried out: managing the setting of standards, policies and guidelines; overseeing surveillance, monitoring and reporting on implementation; and ensuring that an agenda for addressing emerging and future problems permits timely action by the international community.*

*Institutions are assessed on six key features: the clarity of their mandates on relevant global public goods (including in relation to competing institutions), institutional governance, mechanisms for international monitoring and surveillance, adequacy of budgetary resources, independence of management in hiring and firing staff and existence and strength of an independent evaluation mechanism. A summary review is then made of each institution's legitimacy, credibility and likely effectiveness in managing global public goods (see table 3.1).*

The WTO, UN Security Council, IMF and WHO have the strongest mandates in the three core functions. UNEP's mandate is the weakest—but in concert with others, and relying on clusters of organizations, it could lead in global public goods for the environment.

Despite weaknesses, in terms of implementation the IMF is probably the most effective institution—its mission is focused, its funding is independent and its management's discretion over hiring and firing staff is strong. The WTO is sharply constrained by the political judgements



**Table 3.1 Analysis of the lead institutions for global public goods**

	Clarity of mandate	Institutional governance	International monitoring and surveillance	Budgetary resources	Independence of management in hiring and firing staff	Independent evaluation mechanism	Bottom line
World Trade Organization	Strong—except on non-trade issues	Satisfactory—Establish exec. comm., strengthen secretariat	Satisfactory—strengthen monitoring	Satisfactory—strengthen secretariat	Strong	None	Satisfactory—build secretariat, establish independent evaluation unit
UN Security Council	Strong—although unclear on “soft” issues	Satisfactory—legitimacy issues due to membership	Satisfactory—depends on members	Weak—understaffed and underfunded	Weak	None	Satisfactory—reforms and more political support needed
International Monetary Fund	Satisfactory—many partner institutions involved	Satisfactory—legitimacy issues due to quota issues	Strong	Strong	Strong	Strong	Satisfactory—governance issues most important
United Nations Environment Programme	Weak—many competitors	Very weak—not a specialized agency, poor location	Weak	Weak	Weak	None	Weak—must rely on clusters and partners
World Health Organization	Satisfactory—broad mandate, but others involved too	Satisfactory—partnerships a strength, but also a drain on staff	Satisfactory	Weak—problem in regular budget, too dependent on donors	Satisfactory—strong in regional offices	Weak— inadequate programme evaluation	Satisfactory

of its member governments (as is the UN Security Council) and the lack of authority of its secretariat. The WHO demonstrates welcome strength in certain areas, but its governance structure creates weaknesses in its regional and country-level work. UNEP is the weakest given its mandate, structure and staffing difficulties. Severe budget constraints are a problem for all but the IMF.

In terms of legitimacy the WTO is probably the least challenged, although it is marked by an imbalance of power towards the rich countries. The UN Security Council faces challenges to its permanent membership and the IMF to its history-based quota shares. UNEP's authority has been greatly circumscribed since its inception. The WHO has many other entities that impinge on its areas of supposed responsibility.

All the proposed lead institutions provide some degree of country operational support, mostly in the form of technical assistance to help build countries' capacity. But does this work crowd out focus on global public goods? Or does it strengthen focus by building local capacity to assist in surveillance, monitoring and other important tasks?

All these agencies (except the WTO) have some kind of an evaluation system, but only the IMF's newly created evaluation function is truly independent of senior management.

Without lead institutions important issues and actions needed to support global public goods will suffer from inadequate follow-up. Lead agencies cannot do everything, but they can help to ensure that critical tasks gain appropriate attention.

## Comparative framework

There are vast differences among these organizations—how they operate, what functions they perform. Thus different issues are addressed in each case. It is not possible to apply a cookie-cutter approach to the lead agency function. This examination assesses where we are today, where we would like to be and what is practical, bearing in mind that a phased approach to change may be necessary, especially in light of the need to build political support.

There are three essential features a lead agency (or set of agencies) for global public goods needs to carry out.

- Managing the intergovernmental processes whereby standards, policies and guidelines are agreed internationally.

- Overseeing surveillance, monitoring and reporting on the implementation of the agreed policies and standards, and, when possible, managing the process whereby sanctions for non-compliance are implemented.
- Looking ahead—in light of lessons learned from operational experience and research and related developments and trends—to ensure a relevant agenda that anticipates emerging problems and allows the international community to take action in a timely and cost-effective manner, whether through the development of new policies and standards or otherwise.

These are very demanding criteria, and no institution will be able to meet them fully. Thus three clarifications are important before proceeding. First, these three core functions need not be contained in the same institution. The lead organization may “subcontract” one or more of these functions to another institution or may rely on work carried out elsewhere, including voluntary networks.<sup>1</sup> But there must be a lead institution for each of the global public goods, and the sections that follow judge how well each organization is able to perform these roles. In addition, for certain global public goods the Task Force may wish to consider that a cluster of international organizations or one or more networks could complement a lead institution (especially helpful in the case of the environment, for example.) In each case the question to be answered is how best to strengthen the lead agency to ensure the successful delivery of the three functions set out above.

Second, a lead agency may carry out additional functions, such as operational support to help countries comply with relevant international agreements or capacity-building support to strengthen critical ministries. Such activities are judged by how well they contribute to the three core functions. An operationally effective link to country-level implementation may be important for keeping the agency grounded in the real-world challenges at hand, but it may also distract staff and management from the institution’s critical responsibilities. A careful assessment will thus be needed to consider whether the grounding is best established by the organization’s actually implementing projects and programmes directly or, for example, through its surveillance and monitoring function with actual implementation left to others, perhaps organized in a network or cluster of key partners.

Third, the Task Force Secretariat has also developed a preliminary list of six key features it believes important in assessing the capacity of a proposed lead institution.

- Clarity of mandate on relevant global public goods (including existence of competing institutions).
- Institutional governance—board of directors, voting principles, power of management.
- Mechanisms for international monitoring and surveillance.
- Adequacy of budgetary resources.
- Independence of management in hiring and firing staff.
- Existence and strength of an independent evaluation mechanism.

A summary assessment of each institution's legitimacy, credibility and effectiveness in managing global public goods is also provided. These assessments are, of course, not the product of a scientific formula, but individual judgements based on these reviews. While they are intended to guide the Secretariat's consideration of these issues, it is well recognized that others may come to different conclusions.

## **World Trade Organization—promoting the gains from world trade**

The WTO is well suited to manage the intergovernmental processes, monitor performance and set the future agenda for the environment.<sup>2</sup> But it would be stronger if key changes were introduced. The agreement reached by WTO members on 31 July 2004 on the next steps in the Doha Round was an encouraging sign of their willingness to compromise in the interest of improving the effectiveness of the world trading system, although subsequent negotiations have proven very difficult and leave little room for optimism.

### ***Background***

The international trade regime embodied in the WTO is designed to promote the global gains from trade across nations by providing a forum for negotiations leading to firm commitments on an agreed set of rules, along with instruments to encourage governments to exchange market access commitments and ensure effective implementation. The WTO is the obvious choice as the lead institution for trade. However, as Staiger (2004) points out, while the WTO is a global public good, its use by its members is not. With greater erosion of the non-discrimination principle the WTO is now largely an international private good. Staiger (2006) and

Michalopolous (2006) propose strengthening WTO instruments such as transparency, trade policy reviews and dispute settlement procedures. Thus, in considering the WTO's current capacity and what can and should be done to strengthen it, their recommendations need to be addressed if the WTO is to increase its effectiveness as the lead agency for trade.

### ***Clarity of mandate***

The mandate of the WTO is clear and broad:

The WTO is the only international organization dealing with the global rules of trade between nations. Its main function is to ensure that trade flows as smoothly, predictably and freely as possible.... It does this by administering trade agreements; acting as a forum for trade negotiations; settling trade disputes; reviewing national trade policies; assisting developing countries in trade policy issues, through technical assistance and training programmes; and cooperating with other international institutions. ... At the heart of the multilateral trading system are the WTO's agreements ... the legal ground-rules for international commerce. Essentially, they are contracts, guaranteeing member countries important trade rights. They also bind governments to keep their trade policies within agreed limits to everybody's benefit (WTO 2005).

The WTO does, of course, work closely with others such as the IMF, World Bank and United Nations Conference on Trade and Development (UNCTAD), but no other institution's mandate is as strong.

### ***Institutional governance***

The WTO's 149 members account for more than 97% of world trade. Some 30 additional countries are currently negotiating membership. Decisions are made by the entire membership, typically by consensus. A majority vote is also possible, but used rarely—generally only in committees on non-substantive issues. The WTO's agreements have been ratified in all members' parliaments. Its top decision-making body is the Ministerial Conference, which meets at least once every two years. Below this is the General Council (normally ambassadors and heads of delegation in Geneva, but sometimes officials sent from members' capitals), which meets several times a year at the Geneva headquarters. The General Council also meets as the Trade Policy Review Body and the Dispute Settlement Body. The Goods Council, Services Council and

Intellectual Property Council report to the General Council. Numerous specialized committees, working groups and working parties deal with individual agreements and other areas such as the environment, development, membership applications and regional trade agreements.

The secretariat comprises about 560 staff, only about a third of whom, mostly lawyers and economists, have substantive involvement in the WTO's work. It is headed by the director-general. Because decisions are made by the members, the secretariat does not have the initiating and decision-making role that other international bureaucracies have. Its main duties are to supply technical support for the various councils and committees and the ministerial conferences, to provide technical assistance for developing countries, to analyse world trade developments and to explain WTO affairs to the public and media. The secretariat also provides legal assistance in the dispute settlement process and advises governments wishing to become members. The director-general does not have the authority to initiate a dispute settlement case, no matter how blatant the violation of rules.

### *Mechanisms for international monitoring and surveillance*

“The WTO is unique both in the extent of its contractual obligations and in the enforcement mechanism built into its system for solving disputes. ... At the end of an integrated dispute settlement process ... there lies, if all else fails, multilaterally authorized trade sanctions” (Blackhurst 1998). As Barrett (2006, p. 35) points out, the “WTO is a multilateral agreement, but trade is a bilateral activity, and [the] WTO rather ingeniously relies on the bilateral nature of trade to effect enforcement of its multilateral rules.”

Often the only way to monitor whether commitments are being fully implemented is by requiring countries to notify the WTO promptly when they take the relevant actions called for in many WTO agreements. Information available to the secretariat is incomplete because only about half the membership supplies it. The WTO is working with UNCTAD, the World Bank and the International Trade Centre to compile a comprehensive and consistent database. It periodically reviews trade policy and foreign trade regimes of members—including those of the largest Organisation for Economic Co-operation and Development (OECD) markets—through the Trade Policy Review Mechanism in an effort to improve members' adherence to WTO rules and disciplines and to achieve greater transparency in, and understanding of, prevail-

ing trade policies and practices (Hoekman and Kostecki 2001). In addition, the WTO has established an appellate body to consider appeals to decisions of its dispute settlement panels. The seven-member body comprises experts in law and international trade. They are appointed to four-year terms and may be reappointed once (WTO 2005).

### ***Adequacy of budget***

The WTO's total 2005 budget is about \$135 million, the bulk of it devoted to staff salaries (WTO 2005). Despite growing demands, the budget has not grown to keep pace with needed services. Most of the annual budget comes from members' contributions (according to a formula based on share of world trade). Miscellaneous income is derived from rental fees and sales of print and electronic publications. Michalopoulos (2006) estimates that an additional \$25 million would be required to expand and strengthen the secretariat as needed. The WTO also manages a number of trust funds contributed by members. These support special activities for technical cooperation and training designed to enable least-developed and developing countries to make better use of the WTO and to benefit from the multilateral trading system.

### ***Independence of management in hiring and firing staff***

The director-general has considerable authority in staffing. Job applications are equally welcome from women and men. An applicant for a professional post should be a national of a WTO member country and less than 62 years old. The organization is relatively small, and staff turnover is limited. Vacancies are subject to open competition and advertised in vacancy notices posted on the WTO's Web site and distributed to all WTO member governments. They are also occasionally advertised in the press. After the director-general's approval, an offer of appointment is sent to the selected candidate (WTO 2005).

### ***Independent evaluation mechanism***

The WTO does not have an independent evaluation mechanism in place. This absence is a major gap in its structure.

### *Overall assessment*

Trade policy—more than other global public goods—is highly political because decisions have a significant distributional impact in each country. It is important to be realistic about how much authority the WTO can amass to create and enforce rules. Rules must be fairly non-specific and generic. And they must be consensual. The WTO has the mandate to be the lead agency, but its capacity should be strengthened. Among the suggested changes:<sup>3</sup>

- Establish an executive committee or board, similar to that of the IMF and World Bank, with country representation through a carefully designed constituency system. Collier (2006) has further suggested forming negotiating “blocs”. These suggestions would achieve speedier resolution of important issues. Some experts doubt that these proposals would be acceptable to the membership, given the importance of sovereign decision-making. Because the WTO makes rules that governments must obey, agreements would require consensus. A less drastic approach is to establish an executive committee to deal with administrative issues only. In any case, the consensus approach must be strengthened.
- Strengthen the director-general position and the secretariat, giving them more independence. The director-general could make proposals and call meetings of the governing council or ministers to consider proposals. The secretariat is focused almost entirely on negotiation. As a result, WTO research is very limited. In fact the IMF, World Bank and UNCTAD conduct much more research on trade than does the WTO. Thus another branch of the secretariat is needed, free of political pressure. At the end of the Uruguay Round, a group of six or eight economists was hired to strengthen WTO research but was soon disbanded. The United States and the European Commission—both with considerable research capacity—do not favour strengthening the secretariat’s research capacity. But strengthening research is very important, for developing countries in particular, and would strengthen the WTO’s capacity to facilitate trade negotiations between its members. The WTO should also establish an independent evaluation unit to assess performance.



- Address major non-trade issues, such as the environment and labour standards. Some have suggested that these areas be included in the WTO's mandate. Others believe such a step would weaken the WTO by enlarging its scope of work beyond its capacity. Although the WTO is not ideally staffed or situated to reach optimal solutions to non-trade issues, it is not feasible in today's political environment to ignore them. Thus these issues must be dealt with either outside the WTO in appropriate forums or brought into WTO negotiations in a realistic and practical way.
- Enhance the effectiveness of dispute settlement procedures for developing countries. The process establishes a very powerful judiciary even though the written law is somewhat ambiguous. But without a practical way to amend this law, the panel will likely get a highly political case, causing a lot of trouble. Thus a political safety valve would be helpful, allowing amendments to the WTO's mandate. Although difficult, such a change is needed. A vote of the entire membership would be required.
- Provide more resources for monitoring the implementation of WTO agreements, for example, by focusing on developing in-house capacity (perhaps by a financially strengthened Trade Policy Review Mechanism) to measure and quantify the links between market access levels and national policy choices and by increasing the frequency of reports made available to WTO members (see Hoekman and Kostecki 2001).
- Promote the availability of systematic and consistent cross-country micro-information on crucial dimensions of disagreement on the international trade regime.
- Monitor and report on the performance on various actions designed to enhance developing countries' capacity to prepare national trade policies, participate in international trade discussions and implement international trade agreements.
- Extend WTO agreements in ways that could strengthen the international information-sharing system without excessively departing from the agency's essential trade-policy function. One way to do this is to negotiate a treaty on access to basic science and technology. Another way is to work within the General Agreement on Trade in Services framework to expand temporary visa allocations for permitting technical and

managerial workers from low- and middle-income countries to work in laboratories, universities and enterprises in rich countries. Again, the advantage of the WTO approach lies in its ability to achieve cross-issue bargaining outcomes that could facilitate these ideas (see Maskus 2006).

## **UN Security Council—preserving peace and security**

The UN Security Council is the appropriate institution for managing the intergovernmental processes of setting standards, policies and guidelines for international peace and security. As with many other parts of the UN structure and procedures, reform is urgently needed. Various proposals are being debated at the United Nations, including specific recommendations designed to strengthen management and oversight capacity. In addition to administrative reforms, such as enhancing the budget and staff of the Secretary-General and meeting the funding requirements to support peacekeeping operations, it is especially important to enhance the Security Council's political legitimacy. Expanding its membership will better reflect the global situation while retaining a forum of manageable size. (Current negotiations, however, are not promising.) It is also important that the implementation of agreed policies and standards—as well as their oversight, monitoring and reporting—should be focused at the most appropriate level. This means relying on other UN agencies, regional organizations and, of course, national governments—and these relationships need to be clarified. The UN Security Council is also well suited to consider the future agenda in a timely fashion, if member states wish to use it for that purpose.

### ***Background***

For this global public good, the Task Force needs to be particularly concerned with three critical areas: traditional state-to-state aggression, new threats, such as proliferation of weapons of mass destruction and the spread of terrorism, and national threats, such as genocide, civil war and failed states.

These tasks are daunting. What is the best way to address them? The logical approach may be to emphasize a multitiered approach, relying on a response at the scale and level most appropriate to the problem. For example, a regional approach may be most appropriate to contain the

spillovers from civil war and genocide. It is critical, however, to clarify the hierarchy of responsibilities, with the United Nations the key institution to coordinate diplomacy, relief and peacekeeping. The UN Security Council is the logical lead agency for this function and to promote multilateral action to counter these threats. The report and recommendations of the secretary-general's High-Level Panel on Threats, Challenges and Change (UN 2004) provide valuable advice for the Task Force on the role of the Security Council and of the United Nations more broadly, as does the secretary-general's *In Larger Freedom* (Annan 2005). But the ongoing debate on UN reform does not suggest major advances are likely to occur in the near term.

### ***Clarity of mandate***

Under the UN Charter, the functions and powers of the Security Council are to:

- Maintain international peace and security in accordance with the principles and purposes of the United Nations.
- Investigate any dispute that might lead to international friction.
- Recommend methods of adjusting such disputes or the terms of settlement.
- Formulate plans for the establishment of a system to regulate armaments.
- Determine threats to peace or acts of aggression and recommend appropriate action.
- Impose economic sanctions and other measures not involving the use of force to prevent or stop aggression.
- Take military action against an aggressor.
- Recommend the admission of new members.
- Exercise the trusteeship functions of the United Nations in "strategic areas".
- Recommend to the General Assembly the appointment of the secretary-general and, with the General Assembly, elect judges to the International Court of Justice.

Given the flexibility of the UN Charter, this mandate provides what is needed to address interstate and intrastate conflicts and to help deal with the problems of countries in imminent danger or those that have recently emerged from conflict. The problem is not so much the mandate as how it is used. For example, according to Dervis (2004) "the

legitimacy of any international military action that goes beyond immediate self-defense requires broad international approval ... which can only be provided by the explicit, up-front approval of the Security Council". Fearon (2006) explores the dilemma the United Nations and the secretary-general face in trying to implement such an approach: "An international institution for peace and security can foster the rule of law only if the strongest states see enough benefits to working through the institution in general that they are willing to submit to important collective decisions they don't like on some occasions". It is in the non-military areas of conflict prevention and post-conflict assistance where it will be especially important to rely on other entities to supplement the role of the UN Security Council, as those needs rely heavily on implementation of humanitarian and development programmes. In this connection, it is encouraging that the United Nations has addressed these "soft" threats to peace and stability as well. "Economic and social threats, including poverty, infectious diseases and environmental degradation", are in the first cluster of six threats highlighted in the secretary-general's High-Level Panel report (UN 2004, p. 24ff). Regional organizations can also play an important complementary role.

### *Institutional governance*

The UN Security Council has 15 members: 5 permanent (China, France, the Russian Federation, the United Kingdom and the United States) and 10 elected by the General Assembly to two-year terms. Each member has one vote. Decisions on procedural matters are made by an affirmative vote of at least 9 of the 15 members. Decisions on substantive matters require nine votes, including the concurring votes of all five permanent members. Under the charter, all members of the United Nations agree to accept and carry out the decisions of the Security Council. While other organs of the United Nations make recommendations to governments, the Security Council alone has the power to make decisions that member states are obligated to carry out. The presidency of the Security Council rotates monthly. Staff support is provided by the secretariat.

Membership and governance is where much debate has long been centred. The Security Council's legitimacy has been called into question given the especially powerful role played by the original "big powers" and by the absence of certain other large nations among the permanent members. The secretary-general's High-Level Panel recommended the

expansion of the Security Council from 15 to 24 members based on one of two options: involving six new permanent members with no veto or based on new four-year renewable seats that would be regionally distributed (UN 2004). Others have different views. For example, Dervis (2004) recently wrote that the Security Council can be truly effective in providing global governance in security only if a system of weighted voting with global representation replaces the current system. Fearon (2006) has postulated founding a new and quite different United Nations, starting with the General Assembly, or moving towards weighted voting, each designed to increase the United Nation's credibility and its value for the most powerful states.

The secretary-general has proposed that the Security Council should be "broadly representative of the realities of power in today's world" (Annan 2005, p.60) and has urged member states to consider the two options presented in the High-Level Panel report, "or any other viable proposals in terms of size and balance that have emerged on the basis of either model" (Annan 2005, p. 61). Meanwhile, Brazil, Germany, India and Japan joined to lobby as a group for Security Council membership, but have dropped the condition of having veto power. The United States has indicated its strong support for Japan's membership, but has placed a low priority on Security Council expansion in its list of preferred UN reform measures. So, while it has been said that "everyone is agreed that if the council's decisions are to have greater political clout, they must be given greater legitimacy" (*The Economist* 2004), in practice the recent debate on reform suggests that enlarging the Security Council membership is encountering very stiff resistance from some quarters and that no change is likely soon.<sup>4</sup>

### ***Mechanisms for international monitoring and surveillance***

Through various channels, appointments of special envoys and sending of UN peacekeeping forces, the secretary-general has the capacity to monitor and report on conflict situations if the Security Council grants the needed authority and resources to do the job—and if nations cooperate fully with Security Council resolutions. The secretary-general starts out at a great disadvantage, however, in that his intelligence staff is miniscule. As a result, the High-Level Panel has recommended that a second UN deputy secretary-general be appointed for peace and security, supported by a professional staff of 15 (UN 2004). Of course

the secretary-general's special representatives and UN agencies—the World Food Programme, United Nations Development Programme (UNDP), United Nations High Commissioner for Refugees—are important sources of information and public pressure in imminent crisis and post-conflict situations. The role of the International Atomic Energy Agency in monitoring and reporting on weapons of mass destruction is an important complement to the overall responsibilities of the Security Council. But, in the end, UN clout comes only with action by the Security Council.

### *Adequacy of budget*

The United Nations is often asked to take on demanding and expensive responsibilities without the assurance of adequate funding. When, on occasion, such efforts fail, blame is nevertheless often placed on the UN organization rather than its members, leading to future difficulties in gaining necessary public support and funding for priority actions.<sup>5</sup> Due in part to this vicious circle of underfunding and ineffectiveness, the United Nations is always faced with stringent budgetary constraints, both for regular administration and for such extrabudgetary requirements as peacekeeping.

If the Security Council or other bodies were to assume additional lead agency functions, more funds would be needed for UN Political Affairs Department staff support for the Security Council. The High-Level Panel has called for an additional 60 posts to carry out necessary secretariat functions—a less than 1% increase (UN 2004). On the extrabudgetary side the shortfalls are very large. For example, the approved 2005/06 budget for 14 peacekeeping operations is \$3.2 billion. However, with the additional requirements of new and recently expanded missions, as well as the possibility of new operations, that amount could grow by \$1.8 billion (Reuters 2004). All UN members are legally obliged to pay their share of peacekeeping costs under a complex, self-imposed formula. Despite this, they owed approximately \$1.73 billion in current and overdue peacekeeping dues as of 30 June 2005; in operational terms, the Peacekeeping Department only had cash of \$1.74 for every \$2.05 of liability as of 30 June 2005 (UN 2006; see also Barrett 2006, pp. 31–33). Thus any proposals to add to these responsibilities or to expand other functions should also find a more reliable method to raise the necessary additional resources.<sup>6</sup>

### *Independence of management in hiring and firing staff*

Secretariat staff members are part of a huge bureaucracy that includes many dedicated, experienced and competent individuals recruited from around the world. Recruitment and retention are, however, subject to pressure from member governments. Firing staff is not easy, and political factors inevitably influence some staffing choices. To strengthen staff, the secretary-general's budgetary constraint needs to be reduced.

### *Independent evaluation mechanism*

The Office of the Under-Secretary for Internal Oversight Services “combines worldwide monitoring, inspection, evaluation, internal audit, investigation and management consulting in one independent oversight capacity” (see UN 2006). In-depth evaluations in the past 10 years have addressed various aspects of UN work, but of these only peacekeeping operations seem to be directly under the Security Council, and, as is clear from its list of functions, evaluation work is only a small part of the Office of Internal Oversight Services annual programme. As recently pointed out by the Volcker Commission—appointed by the secretary-general to dig into implementation of the Iraq Oil-for-Food programme—urgent action is required to establish much stronger management oversight and auditing capacity in the United Nations (Volcker, Goldstone and Pieth 2005).

### *Overall assessment*

The Security Council is an absolutely essential element in addressing international conflicts. But it is only as good as all its members want it to be. An expanded and more representative membership would make it more attractive to most UN members, though perhaps less so to the permanent members. But even with expanded membership, the Security Council must rely on nation states, and groups of nations, to ensure that its resolutions are implemented. In particular this means funding peacekeeping operations. Only in the most extreme circumstances will military action be taken—and there, too, member governments are the key to success. When it comes to addressing conflict or post-conflict countries, attention to humanitarian and economic development assistance will be extremely important. In these areas regional organizations and the international financial agencies will also have an immense role in implementation.<sup>7</sup>

## International Monetary Fund—preserving financial stability

There is little doubt that the IMF is the appropriate lead agency for preserving financial stability. In almost every technical area the IMF is well suited to the task, including managing intergovernmental processes, implementing surveillance, monitoring and reporting, including levying sanctions, and helping to set the agenda for future actions. There are, however, important governance issues that challenge its decision-making legitimacy, as well as certain substantive areas that deserve increased attention.

### *Clarity of mandate*

The IMF's mandate is to promote the stability of the international monetary and financial system—the system of exchange rates and international payments that enables cost-effective and efficient commercial and financial transactions between countries. Its stated goals: to promote economic stability and prevent crises, to help resolve crises when they do occur, to promote growth and to alleviate poverty. It meets these objectives through surveillance, technical assistance and lending.

The IMF's statutory purposes include facilitating the balanced expansion of world trade, promoting the stability of exchange rates, avoiding competitive currency devaluations and helping to correct countries' balance-of-payment problems. Moreover, it interprets its mandate flexibly, adding to its instruments when needed. Despite no formal jurisdiction over capital flows and no mention of "financial stability" in the Articles of Agreement, "the Fund's role covers most . . . of the broad range of components needed to deliver global financial stability" (Peretz 2006, p. 33).

### *Institutional governance*

The IMF is governed by a board of governors representing each of the 184 member governments. Daily business is conducted by the executive board, a managing director, three deputy managing directors and a staff of international civil servants. The 24-member executive board—each member representing from 1 to 23 member countries—is the permanent decision-making organ. Intensive collaboration among the executive board, management and staff has been a basic feature of IMF governance from the outset, as has decision-making by consensus.<sup>8</sup> Qualified majorities of the total voting power for certain decisions are



important to ensure that major decisions command wide support (van Houtven 2002). But there is growing concern that the executive board has become less independent of capitals and more intrusive in management of the IMF, eroding the value of the staff's surveillance work and contributing to bad lending decisions (Peretz 2006).

Over the years, the system of quotas and voting power in the IMF has created distortions, producing an inequitable situation and potentially undermining its legitimacy. A group of 24 industrial countries controls about 60% of the voting power, while the other 160 members control only about 40%. To meet the capital requirements of the institution, quotas attempt to reflect the economic and financial importance of members in the world economy. But quota revisions have not kept pace with world developments. A more equal distribution of quotas and votes would enhance the IMF's governance and credibility. At the same time, the IMF must maintain the confidence of creditor countries. A consensus is needed, but so far an acceptable formula to revise quotas has not been found, despite many attempts. As a result, many emerging market economies are significantly underrepresented. Another sore point is the selection of the managing director—traditionally a European. Pressure is mounting for this selection process to be opened (van Houtven 2002; Buirá 2003a; Peretz 2006; Portugal 2005).

### *Mechanisms for international monitoring and surveillance*

According to Guitian (2001, p. 40), “the IMF is primarily a surveillance institution. All other institutional functions and responsibilities derive their legitimacy from surveillance.” The Articles of Agreement call for the IMF to oversee the international monetary system to ensure its effective operation and to exercise firm “surveillance”—that is, oversight, including monitoring and analysis—over member countries' exchange rate policies. This involves a comprehensive analysis of the economic situation and policies, domestic and international. At the country level, this takes the form of so-called article 4 consultations, supported by many other complementary studies, reports and advisory activities.

Measures have been introduced in recent years to strengthen surveillance—the heart of IMF efforts to help prevent economic and financial crises. For example, in 1999–2000 the IMF, together with the World Bank and member governments, adopted two initiatives as part of the international community's strategy to improve the stability of the global financial system: the standards and codes initiative and the

Financial Sector Assessment Program. But further suggestions have been made, including strengthening multilateral surveillance of exchange rates and making article 4 consultations and related surveillance documents available to the public (see Peretz 2006; Eichengreen 2006, section 4). Rhodes (2004) agrees on the need to strengthen article 4 consultations through greater transparency and by working more closely with the private sector. El-Erian (2004, p. 16) suggests “it is time for greater emphasis on the IMF’s multilateral surveillance role”, while continuing to maintain “a central role in financial crisis prevention and crisis management/resolution”.

More needs to be done in the analysis and debate on capital account liberalization now that the IMF has backed away from its aggressive promotion. As the sovereign debt restructuring mechanism seems unlikely to become operational, the importance of encouraging voluntary inclusion of collective action clauses in bond issues increases. Equally, with the expiration of the contingency credit line facility, the IMF needs to expedite work on precautionary standby arrangements and other instruments for helping well performing countries hit by crises. It also needs to further strengthen its collaborative measures to contain money laundering.

### *Adequacy of budget*

The IMF’s administrative budget for the year ending 30 April 2006 was \$937 million (IMF 2005). Not dependent on appropriations from member government administrations or parliaments, the budget is much more reliable than those of most other institutions. Senior management is usually reluctant to take on new duties without assurance of adequate budgetary resources, although during crises staff members have been under high pressure due to heavy workloads. After careful review, the resident board has generally been quite supportive of management’s budget proposals.

Available lending—currently about \$150 billion—helps members ease balance of payments and other crises. This amount is probably adequate, barring a new crisis of immense proportions. However the former IMF chief economist has suggested that the IMF get out of the lending business altogether. He believes funds are insufficient to deal with a deep financial crisis but enough to induce excessive borrowing (Rogoff 2004). Whether the IMF would be able to influence members’ policy choices without lending is no doubt a matter of much debate. Meanwhile, Rhodes (2004, p. 17) suggests “another important issue for

the Fund is how to retain its credibility as an anchor of the global financial system and subordinate its special interests as a creditor, especially in circumstances where the Fund has significant exposure.” Bundesbank Vice-President Jurgen Stark (2004, p.13) writes that “the IMF should concentrate on efficient surveillance of macroeconomic policies and help strengthen financial stability at national, regional and global levels. The financial assistance it offers should be short term and clearly limited.”

Interestingly, Eichengreen (2001, p.163) states that “neither the IMF nor the official community as a whole possess the resources needed to design and monitor compliance with detailed international standards in all relevant areas. For the IMF to carry out this function satisfactorily would require a significant increase in staff and a radical change in expertise.” In any case the IMF already works with other agencies on many issues. Supporting and complementing its work in the overall financial architecture are a number of more specialized groups focusing on particular issues, including setting standards, sharing lessons of experience and identifying and solving emerging problems. Key groups and agencies include the Bank for International Settlements (Basel Committee), Financial Stability Forum, Group of Twenty, International Association of Accountants and Auditors, rating agencies and so on. In 1989 the Paris Economic Summit established the Financial Action Task Force on Money Laundering, originally focused on drug trafficking but expanded in 2001 to cover terrorist financing. There are also recurrent controversial proposals that regional monetary funds (particularly in Asia) be set up to complement—or perhaps even substitute for—the IMF.

### ***Independence of management in hiring and firing staff***

The managing director appoints a staff whose sole responsibility is to the IMF and whose efficiency and technical competence are expected to be of the highest standards. The IMF’s principal expertise is in macroeconomic policy, and it has strengthened its capacity in several other areas—for example, banking regulation and private capital markets. It adapts well to new and changing roles and relies on other, more specialized agencies as needed. New methods of working in partnership require changes in IMF culture, however. “A willingness and ability to cooperate well with other institutions—relying on their judgements and expertise where necessary [is] crucial to the Fund’s effectiveness” (Peretz 2006, p. 35).

### *Independent evaluation mechanism*

The Independent Evaluation Office (IEO) was established in July 2001 to conduct objective and independent assessments of issues of relevance to the mandate of the IMF. The executive board has expressed great enthusiasm and support for the IEO's work and accomplishments (IMF 2004b). Along with further development of the IEO, more needs to be done to develop procedures for regular internal review and evaluation (Peretz 2006).

### *Overall assessment*

With the proper mandate, authority, surveillance capacity, management structure, staff skills and budget, the IMF is the best lead institution for financial stability. But there are specific areas in which it needs to strengthen its capacity. A major issue is its legitimacy in terms of governance, given the board's structure and quota issues.

## **United Nations Environment Programme Plus—preventing adverse environmental spillovers**

For the global commons, no agency can meet the demands of being the lead organization. UNEP has many strengths, but also many weaknesses, requiring that it share major roles with other organizations. Thus to enhance governance for environmental global public goods and to strengthen regional and national links, it will be necessary to build on existing organizational strengths of UNEP—and others—while working towards a new global environment organization, or some mix of alternatives, as noted below.

### *Background*

The most difficult issue is how to deal with climate change. But many other issues—protection of water supplies, forests, biodiversity and so on—demand attention as well. Some are best dealt with at the national or regional level. Others are truly global in scope and importance.

Because governance is highly diffuse, it will be important to explore a variety of options for developing lead institutions. The logical choice to lead is UNEP, but it has had only partial success—and many

detractors—so far (Ivanova 2006). Summing up the assessment of many others, Esty (in Speth 2003, p. 71) writes: “Hampered by a narrow mandate, a modest budget and limited political support, UNEP competes with dozens of other bodies.” The conclusions of observers as to next steps range widely: strengthen UNEP to fulfill a wide range of functions; strengthen it but concentrate on its narrow mandate; or replace it with a global environment organization. For a comprehensive assessment, see Ivanova (2005).

It is important to keep in mind the role UNEP has played in the past. Take, for example, its pivotal role in the success of the Montreal Protocol. In 1991 US State Department official Richard Benedick (1991, p. 6) wrote:

UNEP commanded respect for its commitment and its sensitivity to national interests, especially of developing countries. UNEP was indispensable in mobilizing data and informing world public opinion ... during the negotiating and implementing phases. It was UNEP—inviting, cajoling and pressuring governments to the bargaining table—that broadened the protocol to a global dimension. UNEP also provided an objective international forum, free of the time-consuming debates or irrelevant political issues that have often marred the work of other UN bodies. ... In sum, UNEP went far beyond a traditional secretariat function; it was a model for effective multilateral action.

It is also important to bear in mind that UNEP is not an independent UN agency, but part of the UN Secretariat. As a programme it has far less status and independence than UN specialized agencies, such as the WHO.

### *Clarity of mandate*

Despite a broad mandate, UNEP has little authority. As its mission statement puts it, UNEP seeks to protect the environment by “inspiring, informing and enabling” (Barrett forthcoming). The main functions and responsibilities of the UNEP governing council are:

- Promoting international cooperation in environmental issues and recommending appropriate policies.

- Providing general policy guidance for the direction and coordination of UN environmental programmes.
- Receiving and reviewing the periodic reports of the executive director on the implementation of UN environmental programmes.
- Reviewing the world environmental situation to ensure that emerging international problems receive appropriate and adequate attention by governments.
- Promoting contributions from international, scientific and other professional communities to the acquisition, assessment and exchange of environmental knowledge and information and, as appropriate, to the technical aspects of the formulation and implementation of UN environmental programmes.
- Reviewing the impact of national and international environmental policies and measures on developing countries and any additional costs incurred by developing countries in the implementation of environmental programmes and projects. Ensuring that such programmes and projects shall be compatible with the development plans and priorities of those countries.
- Reviewing and approving use of Environment Fund resources (UN 1975).

Chambers and Green (2004) explore options for reforming institutions of environmental governance and propose establishing a world environment court and a UN environmental security council with binding enforcement powers and expanding the UN Security Council mandate to include environmental security. Esty (2006, p. 9) notes that “some observers—including French President Chirac, former WTO Director-General Renato Ruggiero, and *The Economist*—have argued for a new architecture centred on a full-fledged global environment organization that would bring together various aspects of the existing regime, including UNEP, the Council for Sustainable Development, various treaty secretariats and perhaps other bodies.” He further notes that some favour strengthening UNEP as the best way forward, while still others focus on “clustering” several organizations and treaty secretariats to achieve greater synergies. In certain instances relying on a major non-governmental organization, such as the World Conservation Union, might be a viable alternative. Some critics also believe that UNEP is spreading itself too thin and needs greater focus.

It must cut project work in dozens of countries (where it is competing with better staffed and better financed institutions such as the UNDP and the World Bank) while increasing attention to essential policy, monitoring, assessment and early warning functions.<sup>9</sup>

### *Institutional governance*

UNEP is not a specialized agency, but part of the UN Secretariat. Its Governing Council, established by the General Assembly in December 1975, reports to the General Assembly through the Economic and Social Council. The General Assembly, concerned with equitable regional representation, elects 58 members to the council for four-year terms. More recently, the Global Ministerial Environment Forum was created in July 1999. It meets annually to review important and emerging environmental policy issues, with the Governing Council its forum in regular or special sessions. The Committee of Permanent Representatives comprises member government ambassadors to Kenya, few of whom have any environmental knowledge or expertise. The responsibilities of the Committee of Permanent Representatives, which maintains constant oversight of UNEP's operations and of the Governing Council, must be clarified.

Various proposals suggest how to improve UNEP's governance. In a recent study Forss (2004) considers universal membership in the Governing Council and Global Ministerial Environment Forum to help solve such problems as an insecure financial base, asymmetry in governance and unequal representation in decision making and agenda setting. He concludes that while "combining universal membership in the [Governing Council and Global Ministerial Environment Forum] with a smaller executive board may be difficult to win support for, it has many long-run advantages", including "more effective capacity development and technical cooperation, better strategic management of UNEP, balancing of standard-setting and operational functions of the organization and in the governance structure, and additional managerial resources to UNEP and prospects for securing required levels of financial support." But he also concludes that "a governance system depends not only on the structures and processes that can be designed in advance, but also on the quality of representation, decision-making capacity and wisdom of the people who serve the member states in the organs that are created."

In short, the governance structure of UNEP has many weaknesses—more than are mentioned here. These structural problems limit UNEP's ability to set the international agenda and manage policy processes.

For example, UNEP lacks a priority-setting strategy document, and its work programme is limited to two years. It has played a key role in the establishment of an extensive system of international law reflected in the many treaties and agreements it helped to put in place. But UNEP loses any significant responsibility on these agreements once they are set in place. Thus a need for greater coherence and coordination has clearly emerged, probably through a much strengthened Environmental Management Group (Ivanova 2006).

### ***Mechanisms for international monitoring and surveillance***

UNEP has a mandate to collect environmental data and information and to provide policy advice based on the best scientific and technical capabilities available. It does not perform any direct monitoring and surveillance, but draws on the work of others. It is considered relatively effective in its assessment of global environmental issues, particularly as reflected in the *Global Environmental Outlook*. One of its key limitations, however, is a lack of comparative data across countries. The fragmentation of responsibility within UNEP and among other agencies has limited its effectiveness and kept it from being a true anchor institution. Limited budget, inadequate staffing and dispersed focus mean UNEP's capacities need considerable strengthening for it to perform the level of monitoring and surveillance needed (Ivanova 2006).

### ***Adequacy of budget***

UNEP's annual budget of about \$215 million depends on voluntary contributions by governments. Contributions to the Environment Fund have dropped 36% in the past 10 years, while earmarked funds have increased dramatically, constraining UNEP's flexibility. UNEP considers itself underfunded given its range of responsibilities. "UNEP's unreliable and highly discretionary financial arrangement compromises the financial stability of the organization, its ability to plan beyond the current budget cycle and its autonomy, thus instilling a risk-averse attitude within the organization's leadership" (Ivanova 2006, p. 21).

### ***Independence of management in hiring and firing staff***

UNEP is subject to many constraints, especially given its lower status as a part of the UN Secretariat. It has the added complication that its



location in Nairobi makes it far less appealing to highly skilled potential staff. As a result, political considerations are substantial, and many staff members are drawn from the country bureaucracies represented by the Nairobi delegations.

### *Independent evaluation mechanism*

Through the internal Evaluation and Oversight Unit (EOU), reporting to UNEP's deputy executive director, evaluations are conducted either by persons not directly connected with project implementation or by EOU staff or project management. Strengthening is essential.

### *Overall assessment*

UNEP is too weak to be the lead environmental agency—by itself. Creating a global environment organization, however, will take time. “Simply upgrading UNEP into [a UN organization] ... will not suffice. Reform should be multifaceted and layered, focusing on the core functions of effective global environmental governance and devising appropriate institutional arrangements. In some cases they will build on existing frameworks, in others new approaches may need to be developed” (Ivanova 2006, p. 28). Thus a staged effort should be considered, bringing changes to UNEP while considering complementary or alternative options, including relying on individual non-governmental organizations and networks and clusters of organizations.

UNEP bears at least two major burdens not of its own making: its subservience in the UN hierarchy and its location in Nairobi. Both limit its influence and reduce its effectiveness. For example, country projects are managed from Nairobi or regional offices, not from country offices. If a serious effort is to be made to strengthen UNEP, these problems must be addressed. One option is for the Task Force to support proposals to make UNEP a specialized agency. And while it is unrealistic to move UNEP headquarters, it should be possible to establish key offices in Geneva or New York, just as its Division of Technology, Industry and Economics has been established in Paris. Various treaty secretariats managed by UNEP are also located in Europe and North America. Thus it should be able, with adequate budget, to attract the personnel needed to support the operations of an anchor institution. This is what the first head of UNEP, Maurice Strong, proposed many years ago as “focal centers” (Christofferson 2004).

Others propose establishing a global environment organization.<sup>10</sup> Esty (2006) has usefully listed the key features of such an organization.

- Collection and dissemination of the data needed for good environmental decision-making.
- Support for national science and analysis to gauge risks, assess costs and benefits and evaluate policy options.
- A mechanism for identifying and leveraging financial resources, including private sector funding, in support of international environmental programmes.
- Means for improving the efficiency and outcomes from global environmental efforts, including tracking compliance with international commitments as well as measuring performance and benchmarking.
- A negotiation forum to support policy dialogues, cooperation initiatives and rule-making at the global level.
- Procedures to promote public—non-governmental organizations, research and academic institutions, the private sector and communities—involvement in policy debates.
- Capacity-building programmes, including a “best practices” clearinghouse to disseminate cutting-edge thinking on policies, technologies, systems and training.
- A dispute settlement mechanism.

A major question is whether, in light of UNEP, there would be viable political support for a completely new organization, no matter how desirable.

El-Ashry (2001, p. 2) recommends that the “tension must be removed between UNEP as an operational entity and as a service provider of good science, policy analysis and information of operational relevance”. He adds, “UNEP should have a key role in monitoring and assessing the state of the world environment and in identifying gaps and challenges. ... UNEP can mine the wealth of information available worldwide ... and disseminate scientific findings, best practice, estimates of costs and benefits and available technologies, to name a few”. On this point, Esty (2006, p. 10) seems to agree: “The current regime has gotten bogged down carrying out projects in dozens of countries. While independently worthy, these local-issue-oriented activities are better undertaken by national governments supported by UNDP or the World Bank.” Ivanova (2006) also agrees, recommending that UNEP focus on a “clearinghouse” role, which might include regional training

and awareness-raising functions. Others, however, believe neither the UNDP nor the World Bank is able to provide the kind of technical assistance to environmental ministries and networks needed for essential capacity building. This range of disparate views reflects the difficulties of reaching agreement on how to organize environmental priorities.

El-Ashry (2001) also proposes additional “clustering” of organizations with shared environmental responsibilities.<sup>11</sup> For example, “a water cluster would include UNEP, the World Meteorological Organization, the IOC [Intergovernmental Oceanographic Commission], the IMO [International Maritime Organization] and the Food and Agriculture Organization of the United Nations” (p. 5). The premise is that the combined effort would lead to greater results than would be possible by a single agency. UNEP could also cluster institutions on climate. It is worth considering whether the World Conservation Union, whose expertise is unrivaled, is the most appropriate anchor for biodiversity. UNEP will need to shuffle some funds and gain additional financing to be the overall anchor and coordinator for these clusters or networks. UNEP will also need to attract high-quality staff, reinforcing the idea that offices should be located in Europe, not Nairobi, which should be a condition of any enhanced UNEP role.

Perhaps the best course would be to focus UNEP’s work in several key areas, establish clusters of organizations for specific issues, with UNEP or another appropriate institution acting as the secretariat, rely on non-governmental organizations for at least one priority issue and set the stage for the establishment of a global environment organization. “Whatever option is chosen, any effort to revitalize global environmental governance must ensure greater focus. ... The international environmental regime should give priority to addressing the need for international-scale problem-solving, including management of the oceans, atmosphere and other global commons resources. First steps might focus on some of the core functions discussed above, including data collection, a science-oriented knowledge exchange mechanism and the ‘best practices’ clearinghouse” (Esty 2006, pp. 10–11).

Ivanova (2006) reviews this issue in great depth for the Task Force, making several practical and sensible recommendations.

There is a need for a much stronger global voice and conscience for the global environment. UNEP offers a potentially strong comparative advantage in environmental monitoring, assessment and information sharing and is the natural forum for the creation of a

coherent international system in this area. UNEP could also lay the foundation for a policy forum where various clusters of agencies and networks convene to negotiate and exchange experience. Its leadership in the Environmental Management Group could grant it the policy space for such an initiative. UNEP has undertaken many projects to support national environmental efforts and has developed an understanding of key needs. A more strategic, prioritized and long-term capacity development approach drawing on UNEP's work as an information clearinghouse and a policy forum, rather than an operational agency, could facilitate implementation of key agreements (pp. 3–4).

To ensure the necessary functions of a lead agency are fulfilled, Ivanova (2006) recommends:

- *Initiating an assessment of global environmental governance* to clarify the mandates of the numerous existing organizations, elaborate a substantive vision, identify priority issues and outline ways of doing so. It could provide a template for similar assessments of the other global public goods and lay a solid foundation for UN reform.
- *Creating an information clearinghouse* to provide a comprehensive and consolidated information source with comparable data on all environmental issues, trends and risks around the globe. It could build on UNEP's comparative advantage in environmental monitoring, assessment and information exchange.
- *Creating a capacity clearinghouse* to track and plan technical assistance activities, match the supply and demand of services and highlight best practices on a wide range of projects. This institutional mechanism should draw on the comparative strengths of both operational (UNDP and World Bank) and normative (UNEP) agencies, as well as on the expertise and resources of the Global Environment Forum.
- *Clustering institutions* to combine efforts of agencies according to their comparative advantage. A different agency could take the initiative for a specific issue—such as biodiversity, climate change, fisheries, desertification and other existing and emerging issues—and form clusters around it. The Environmental Management Group could be a useful platform.
- *Initiating a strategic review of UNEP* to compare actual performance to expected results, verify key constraints and oppor-

tunities and identify ways to measure impact. An independent review would help collate reports on the status of reform efforts, prioritize short- and long-term goals and establish time frames to complete reforms.

- *Consolidating financial accounting and reporting* to indicate expenditures in terms of mandated functions or by environmental issue. Through more coherent financial reporting, UNEP could better build and maintain the confidence of its donors.
- *Restructuring organizational governance* to ensure effective prioritization of global environmental needs and effective internal management. An inclusive structure, such as the Global Ministerial Environment Forum, and a smaller, more efficient executive board should be created for these two separate functions.

## **World Health Organization—preventing the spread of communicable diseases**

Despite the need for more resources to better face the challenges of advocacy, developing norms and standards for the control of communicable diseases, epidemic surveillance and response and potential political pressure in the event of an epidemic, there is no effective alternative to the WHO for the anchor institution for disease control.<sup>12</sup>

### *Clarity of mandate*

The WHO Constitution clearly sets out a broad mandate, which Kremer (2006) has usefully summarized into six core functions:

- Articulating health policy and advocacy positions.
- Managing information and promoting research and development.
- Providing technical and policy support, both nationally and internationally.
- Negotiating and sustaining national and global health partnerships.
- Setting norms and following up on implementation.
- Stimulating the development and testing of new technologies, tools and guidelines for disease control, service delivery, healthcare management and risk reduction.

While other international agencies play major roles in combating communicable diseases, none does so with the broad mandate of the WHO. Moreover, the WHO has political legitimacy and credibility with ministries of health because of its technical capabilities. Given the unique breadth of its mandate, the issue is whether it is capable of focusing on key priorities and structuring functions well enough to be the lead agency. One approach may be to structure separate functions as quasi-independent organizations working closely with the WHO—as is the case with the Tropical Disease Research programme, for instance.

### *Institutional governance*

The World Health Assembly is the decision-making body of the WHO. Usually convening in Geneva in May each year, it is attended by delegations (usually led by ministers of health) from all 192 member states. Its main functions are to approve each two-year budget and to set WHO policies. It appoints the director-general, supervises financial policies and reviews and approves the proposed programme budget. It considers reports of the executive board, which it instructs on matters that might require further action, study or investigation.

The executive board comprises 32 members elected from each region for three-year terms. Its main meeting, at which the agenda is set and resolutions adopted for the forthcoming World Health Assembly, is held in January, with a second shorter meeting in May for administrative matters, held immediately after the World Health Assembly. The executive board plays a critical role in governance, reviewing in great detail the WHO's budget and technical work (Murray 2006). Its functions are to advise the World Health Assembly, to implement its decisions and policies and to facilitate its work.

The WHO is staffed by some 8,000 health and other experts and support staff on fixed-term appointments working at headquarters, in six regional offices and in countries. Some 2,000–3,000 staff are based in Geneva, depending on the administration and availability of extrabudgetary functions, where most of the global public goods activities are performed. The director-general is appointed for a five-year term by the World Health Assembly on the nomination of the executive board. Regional directors are elected by member governments of that region. The resulting independence of regional offices can create problems for effective delivery of WHO poli-

cies and programmes. The relationship of headquarters with regional and country offices is an important problem of structure that needs attention.

Former director-general Gro Brundtland's international recognition and status gave her the ability to move ahead on major initiatives without bringing many controversial issues to the World Health Assembly. Under her successor there has been more open debate among government representatives. The executive board, previously made up of people technically qualified in the field of health but representing only themselves, now comprises members acting as representatives of their governments. While reportedly this does not normally interfere with action on technical issues, it does mean more time spent debating broader UN issues (such as certain political issues).

The WHO enters into several important partnerships as a way of achieving greater results than would be possible through acting by itself, especially given the size of financing requirements. These partners include the Tropical Disease Research programme; Roll Back Malaria Partnership; the Joint United Nations Programme on HIV/AIDS; Stop TB; the Global Fund to Fight AIDS, Tuberculosis and Malaria; the Bill & Melinda Gates Foundation; and others. The Tropical Disease Research programme, for instance, is subject to the procedures of the WHO, but is structurally independent, under the overall governance of the World Health Assembly. This model works quite well, but there is a risk that the proliferation of partnerships spreads WHO resources too thinly, especially with increased funding going to vertical communicable disease programmes such as those supported by the Global Fund (Lele, Ridker and Upadhyay 2006).

### ***Mechanisms for international monitoring and surveillance***

Kremer (2006, pp. 7–8) describes the WHO's capacity for international monitoring and surveillance:

Disease surveillance is important for stemming the spread of some communicable diseases. If an outbreak is caught early in some circumstances, it may be possible to isolate and contain the disease before it spreads globally, assuming the disease's net reproductive rate is not too much greater than one. Surveillance can also be valuable for national disease control efforts, by providing advance notice to governments to prepare for an outbreak, for example, by obtaining appropriate flu vaccines. Thus, while national disease control efforts,

like the provision of drugs or vaccines, usually do not have large global spillover, the information gained from surveillance can provide benefits that are global in scope. However, individual countries have an incentive to free-ride off the surveillance efforts of their neighbors and the international community, without contributing a globally efficient share of the effort. Furthermore, national governments may be reluctant to share information about disease activity due to domestic concerns about adverse publicity and the implications for economic activity. Monitoring problems in China during last year's SARS epidemic highlighted how national incentives may not align with global public interest.

WHO International Health Regulations (IHR) require member governments to report cases (and related information) of cholera, plague and yellow fever in a timely manner. As Barrett (forthcoming) points out, however, the IHR is "largely irrelevant". But efforts are under way to reform it. With many diseases not covered by the IHR, the WHO relies on an informal and voluntary reporting network of health professionals and organizations. Nearly half of the possible outbreaks reported come from non-governmental sources (Murray 2006). Thus notification about new cases and new diseases can be delayed. The emergence of new diseases and the resurgence of old diseases require improved international surveillance—important for identifying new diseases and unusual outbreaks. For example, the US influenza vaccine for 2004 did not protect well against a new strain that became predominant. Better surveillance might have allowed the US Centers for Disease Control and Prevention to respond earlier and more effectively.

With its broad mandate, the WHO is best placed to organize and facilitate surveillance. For epidemic detection and response there is no effective alternative. But it needs to be transparent as it engages partners to ensure analytical work is done well (Murray 2006).

In May 2005 the World Health Assembly approved a new set of International Health Regulations designed to broaden the scope of the IHR from cholera, plague, yellow fever and smallpox to include a wide range of "public health emergencies of international concern", such as SARS, AIDS, malaria and tuberculosis (see WHO 23 May 2005 press release). A notification instrument will help to determine if the event is serious, if it is unexpected and if there is significant risk of international contagion and international restrictions on travel and trade. Surveillance on such threats as new influenza strains—for which active efforts could



contain their spread and provision of early information is essential—has a large global public goods element. While the IHR resolutions are voluntary, countries must opt out if they do not agree, and there is considerable peer pressure to adhere to the rules.

Kremer (2006) concludes that the WHO is best placed to organize and facilitate surveillance, arguing that the revised IHR make it more effective in identifying new diseases and unusual outbreaks. It is clear, however, that the informal systems emerging in recent years, especially with the growth of the Internet, are providing the WHO with a valuable new source of critical information, such as that provided by the Global Outbreak Alert and Response Network.

The WHO's country-level capacity building can help to increase the effectiveness of its monitoring and surveillance activities. Given its worldwide experience and neutrality, it is well situated to help build the capabilities of ministries of health. This "informed operationality" is focused on its unique role. Unfortunately it is also true that the WHO's weakest point is probably its capacity in many of its country offices. One factor in declining performance may be that in recent years the WHO has allocated resources to countries directly rather than to WHO country offices. But new efforts to regain greater direct control by headquarters are under way.

### *Adequacy of budgetary resources*

The WHO's annual administrative budget based on assessed contributions is about \$400 million. Its budget for 2004/05 is \$901 million from the regular budget, plus a \$1.8 billion target proposed (but not being met) for extrabudgetary funds (mostly from bilateral aid agencies). Moreover, the WHO manages several important partnerships, such as the Tropical Disease Research programme, which is separately funded by donors. The Global Fund to Fight AIDS, Tuberculosis and Malaria—now a big player—is funded by donor contributions and, lacking its own staff, draws heavily on WHO staff. Donors addressed this "unfunded mandate" as part of the Global Fund replenishment exercise, and based on UNAIDS estimates some \$166 million was made available to support technical assistance provided by all agencies, including the WHO (see UNAIDS 2005, p. 6). Since 1992 the WHO has had a zero-growth budget, meaning all programmes must seek extrabudgetary funding from aid donors. During Brundtland's tenure as director-general, efforts were made to present

a unified budget, and donors were encouraged to provide funding to the WHO, not to its specialized programmes, in an effort to prevent distortions in WHO priorities. But donors are reverting to previous practice. Because the WHO's donors are development aid agencies, its programme has been skewed towards development activities and away from its core global public goods functions and, therefore, from services especially attractive to OECD members' domestic health ministries. Thus if the WHO is to carry out these critical functions it will need additional core financing, as will the underfunded programmes designed to eradicate specific diseases—as in currently the case for polio.<sup>13</sup> The late director-general, Dr. Lee, was committed to providing regional offices with more resources. And yet “steady reduction of the budget that is spent in headquarters over time seriously threatens the WHO's capacity to deliver [global public goods]” (Murray 2006, p. 12).

### *Independence of management in hiring and firing staff*

The WHO has the capacity to hire well qualified technical staff, particularly at headquarters. But to maintain its strength Murray (2006) believes its recruitment policy must provide greater capacity among more junior staff with practical field experience. An editorial in *The Lancet* (7 August 2004) illustrates a difficult problem deriving from the WHO's governance structure. Its comments on impending changes at the top of the Africa Regional Office put the staffing issue in stark terms, declaring:

... weaknesses are typical of a large organization: ineffective and self-serving central management and demoralized and unsupported rank-and-file staff. At the heart of the regional office's ineffectiveness is its acting as a political rather than a technical agency. Recruitment of senior staff is rarely based on competence or qualification. In particular, appointments of country representatives, who should coordinate WHO efforts in their countries, are often paybacks for political or other favors. The regional office thus has strong, some might say incestuous, relations with African governments at the ministry level, to the extent that senior health ministry officials see [the Africa Regional Office] as their future retirement home. As a result, the culture of leadership within the regional organization tends to be auto-

cratic, excessively bureaucratic and highly centralized—a culture that dismally fails to motivate staff at the country level.

The WHO, in carrying out its operational functions and monitoring and surveillance activities which are dependent on the regional offices, has major problems to overcome. The editorial stresses that the “regional office ... needs solid long-term support from WHO headquarters to allow [the Africa Regional Office] to evolve into an expert technical agency to assist ... large sector-wide programmes”. Perhaps a good first step would be to give the director-general the power to appoint regional office chiefs.

### ***Independent evaluation mechanism***

Like other UN agencies, the WHO does not have an independent evaluation mechanism. The evaluation office reports to the WHO Cabinet. The director-general’s efforts to boost internal evaluation capacity, at first linked to the audit function, are producing few results. Some programme evaluations are carried out using external reviewers, but these are not standard practice. WHO partnership programmes have been evaluated by the WHO’s partners—most recently by the World Bank—but they do not generally address the WHO role directly but focus instead on the sponsoring partner’s performance. Kremer (2006, p. 16) recommends that “the global community should consider creating a new institution, specifically charged with promoting and financing randomized evaluations. This organization would encourage, conduct and finance rigorous impact evaluations and also disseminate both positive and negative results.”

### ***Overall assessment***

The WHO’s handling of the SARS crisis shows the institution’s strengths—when it wishes to use them. SARS is not a typical disease, but as Kremer (2006) concludes, the “WHO plays an important role in promoting global public goods for combating communicable diseases, particularly in setting global norms for disease control, and in developing health policy recommendations.” A strengthened surveillance system is critical, and only the WHO can manage it. The WHO should pursue the polio eradication programme to its conclusion, but it needs to establish clear criteria and financing options before it embarks on another such campaign (Barrett forthcoming). In fact it is an open question as to whether non-govern-

mental organizations and bilateral aid agencies are better placed than the WHO to implement country-level programmes (Murray 2006). National governments, private foundations and other multilaterals also play a role in promoting global public goods for communicable disease control. For example, the success of the Bill & Melinda Gates Foundation in focusing research suggests that the WHO's political legitimacy is not crucial for such critical investments; the WHO can concentrate its limited resources elsewhere (Murray 2006). A strengthened and more focused WHO could be more effective in working with various partner organizations arranged in clusters and networks.

## Conclusion

This paper has sought to assess how well five lead institutions are likely to support critical global public goods. The assessments are based on reviews of individual institutions and are summarized in table 3.1. Many actions are needed to strengthen support for global public goods, but one theme runs through these reviews—the importance of establishing effective monitoring and evaluation systems. Lead agencies need to increase their data collection and analysis, as well as establish a tough and independent evaluation system.

## Notes

1. Voluntary networks—associations of governments, international organizations, civil society and businesses—can be helpful in a number of ways. They help to ensure legitimacy for actions taken in key global public goods and to advocate, monitor and promote political awareness of the need for international action on policies and standards. These networks are not a substitute for governments or international organizations, especially when it comes to enforcement and many of the technical and administrative functions expected of a lead institution. Rather, they are complements to these organizations.
2. For a thorough assessment of the role of the WTO, see Michalopoulos (2006).
3. See Michalopoulos (2006) for a particularly helpful set of proposals designed to strengthen the WTO's role as an anchor institution.

4. *The Economist* (2005) reports that “all plans for Security Council reform are now in tatters and may remain so”.
5. An encouraging signal is the recognition, in the recent US Congress-appointed Gingrich–Mitchell commission’s report, that “too often member-states have found it convenient to lay blame for failures solely on the United Nations in cases where they themselves have blocked intervention or opposed action by the United Nations” (USIP 2005, p. 4).
6. Fearon (2006) proposes that the Bretton Woods institutions—or a new entity—be authorized to fund peacekeeping operations through loans.
7. Stremlau (2006), for example, proposes that regional economic integration will be more important than military alliances, and strengthening institutions—particularly in Africa—might be more productive than relying solely on the Security Council to act as anchor. UK Ambassador Emyr Jones Parry (in a 1 July 2004 brief at the UN reported by U.N.Wire) stressed that the “regional approach is absolutely essential in West Africa” to achieve stability. And Picciotto, in a 2004 unpublished note, has argued that the United Nations be empowered to deal with collective action dilemmas that currently hobble the Security Council. Ways should be found, he believes, to bring together all security and development activities. See also UN (2004).
8. Among many others, Sachs (2004, p. 60) urges a realignment of IMF quota shares, pointing out that “if decisions are made by consensus, it is only because developing countries long ago learned not to lock horns with rich nations on matters of financial diplomacy”.
9. See Esty (2006); El-Ashry (2001); Christoffersen (2004).
10. See Newell and Whalley (1999).
11. Barrett (forthcoming) notes some clustering already exists, and more might be useful.
12. See Murray (2006).
13. Ibid. See also Barrett (2006) and Lele (2006).

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# Regional Public Goods and Regional Cooperation

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*This paper focuses on the prognosis for the provision of regional public goods and the need for regional cooperation. To accomplish this task the modern analysis of public goods and collective action is applied to assess public good provision at the national, regional and global levels. All three properties of publicness—non-rivalry of benefits, non-excludability of non-payers and the aggregation technology (how individual contributions influence the overall provision level)—play a role in evaluating the provision adequacy of public goods. Any two properties may be insufficient for the proper assessment. If, for example, a “weakest link” regional public good benefits nations with similar income and tastes, the prognosis for an adequate regional supply is promising, despite non-rival and non-excludable benefits. Concerns for weakest link regional public goods arise when some nations cannot provide an acceptable level, so that either regional cooperation or outside assistance by multilaterals or other donors is required. For many kinds of regional public goods, the region can meet its own needs through national provision or regional cooperation. For instance, club regional public goods can be provided by member-owned collectives that fund the shared good from tolls that account for crowding. Joint product activities possessing a large share of excludable benefits also have a favourable outlook at the regional level, as does “weighted sum” regional public goods with a large share of provider-specific benefits. Concern arises for best shot and threshold regional public goods when the region lacks sufficient resources and must turn to multilaterals, regional development banks or other entities with larger resource supplies for support.*

*This paper shows that regional public goods present some provision impediments not faced by national or global public goods. For instance, nations have strong incentives to provide their own national public goods owing to direct gains, while global institutions and rich donor nations possess incentives to supply*

global public goods owing to spillover benefits. There is a culture among donor nations, multilaterals and other institutions to support national and global public goods. This same culture is absent for regional public goods, which in many cases do not directly benefit donors who are outside of the recipient region. There is thus a growing need to focus foreign assistance on funding regional public goods. To accomplish this goal regional development banks must acquire greater financial capacity. These banks must, however, alter some practices by supporting more regional public goods and tailoring the loan-grant mix to reflect recipient-specific benefits.

The subsidiarity principle, which matches regional public goods' range of benefit spillovers with the political jurisdiction deciding provision, must not be blindly followed. There are essential offsets to subsidiarity that may necessitate an imperfect match to take advantage of such gains as scale or scope economies that reduce per-unit provision cost. In other instances provision may require a jurisdiction beyond the region to pool resources to provide best shot or threshold regional public goods. Such goods can be bolstered in supply through assistance from charitable foundations, bilateral donors and non-governmental organizations (NGOs). When public goods involve interregional spillovers, networks and partnerships with participants from multiple regions are appropriate for supplying the good. Partnerships take advantage of the participants' comparative advantage and may be appropriate for both weakest link and best shot regional public goods, where capacity is a concern. For best shot and threshold regional public goods, multilaterals can serve an important coordinating function to ensure sufficient investment and the absence of duplication of effort.

Specific regional public good sectors have diverse policy recommendations. For many of today's security challenges a global approach is essential because proactive measures to directly curtail security threats require a response that most regions cannot, or will not, execute. As a best shot regional public good, knowledge creation is associated with effort levels that require assistance from multilaterals, rich countries or other capable institutions. Unless poor regions build up their knowledge infrastructure through outside assistance, their knowledge needs will be increasingly ignored, leaving these regions less able to use or supply global public goods. If pollution patterns can be monitored at the regional level, nations will have improved incentives to frame treaties on a wide range of pollutants owing to the underlying weighted-sum aggregator. Multilaterals need to provide this monitoring capability. Regional public goods associated with communicable diseases adhere to weakest link and best shot aggregation technologies. The former requires assistance-funded capacity upgrades, while the latter means that global institutions and rich nations must bolster the regions' efforts. Best shot action to

*cure region-specific communicable diseases will require help from multilaterals, charitable foundations, NGOs and public-private partnerships.*

Globalization is associated with increased cross-border flows that include goods, services, financial capital and labour. Borders are also porous to pollutants, diseases, terrorism, knowledge, culture, financial crises, political upheavals, conflicts, medical breakthroughs, inventions and computer viruses and worms. These new flows, driven by market globalization and technology, indicate that collective action is needed beyond the nation-state to control an expanding number of transnational public goods. In contrast to national public goods, transnational public goods provide non-rival and non-excludable benefits to people in two or more countries.<sup>1</sup> Some transnational public goods provide benefit or cost spillovers globally—for example, efforts to reduce ozone shield-depleting chlorine and bromide substances improve the well-being of people worldwide. When spillovers are global, the associated good is a global public good. If, instead, the public good's benefits are confined to two or more countries in a given location, then the good is a regional public good whose spillovers may be more confined than transnational public goods.

In recent years interest has grown in the study of global and transnational public goods, beginning with *Global Challenges* (Sandler 1997) and followed by other contributions (Ferroni and Mody 2002; Kanbur, Sandler and Morrison 1999; Kaul, Grunberg and Stern 1999; Kaul and others 2003; Sandler 1998, 2004b). Some studies focus on regional public goods and their associated collective action problems (Arce and Sandler 2002; Cook and Sachs 1999; Estevadeordal, Frantz and Nguyen 2004; Sandler 1998, 2002; Stålgren 2000), while others analyze global public goods and their provision efforts to date. A primary concern is to distinguish transnational public goods for which nations have the proper incentives to contribute from those for which incentives are perverse. Another issue is to identify the role of agents, other than nations, in bolstering provision of transnational public goods.

Yet another focus is the growing awareness of the importance of national and transnational public goods in promoting development. This connection was first made by Sandler (1997), when he coined the expression “free-riding aid” to denote a perceived and growing tendency for foreign assistance to take the form of public goods. Subsequent empirical work by Raffer (1999), te Velde, Morrissey and Hewitt (2002) and the World Bank (2001) document Sandler's conjecture. Based on

data from the Organization for Economic Cooperation and Development (OECD), te Velde, Morrissey and Hewitt (2002, p. 128) show that aid-funded public good support more than doubled from 16.22% of assistance in 1980–82 to 38.19% in 1996–98.<sup>2</sup> Much of this increase was in terms of national public goods; in 1996–98, 29.4% of official assistance funded national public goods, compared with 8.79% for transnational public goods (te Velde, Morrissey and Hewitt 2002, pp. 126–7).

This chapter has five purposes. First, modern analysis of public goods and collective action is applied to assess the effectiveness of support for regional public goods. All three properties of public goods play a role. Factors promoting and inhibiting the provision of regional over global public goods are identified. The level of regional development plays a clear role in the provision of regional public goods; unlike developing regions, developed regions possess the requisite resources or a dominant nation and do not have to rely on external parties. Thus the prognosis for regional public goods may differ between developed and developing regions. Second, factors are identified that support and detract from regional subsidiarity, where the region is the natural unit for providing regional public goods. When subsidiarity fails, interregional networks or global institutions may have to intervene. Third, the role of institutions in fostering provision of regional public goods is analyzed. National, regional and global institutions can contribute to the supply of regional public goods. Fourth, conceptual insights are applied to understanding the provision of regional public goods in specific areas such as peace and security, knowledge, commons and control of communicable diseases. Fifth, the study provides policy recommendations with respect to supporting regional public goods.

The three properties of publicness—non-rivalry of benefits, non-excludability of non-payers and the aggregation technology—indicate where to direct efforts in providing regional public goods. These goods display a wide range of publicness properties and prognoses. Regional public goods may be more problematic than global public goods, even though the number of countries receiving benefits is smaller. Collective action outcomes hinge on a host of influences and cannot be based on a single factor (Hardin 1982; Olson 1965; Sandler 1992, 2004a).

Another finding is that regional institutions, particularly regional development banks, need to change their practices towards regional public goods if they are to warrant enhanced capacity to address the myriad challenges posed by such goods. If their practices are changed, then regional development banks can greatly foster regional public good

provision, as recently demonstrated by the Asian Development Bank support of regional transportation linkages. Regional trade pacts must be key participants in fostering the supply of regional public goods—the case with the European Union (EU). In developing regions trade pacts are even more essential to coordinating efforts to supply regional public goods. New participants (such as charitable foundations and some NGOs) and institutional innovations (such as networks and public-private partnerships) bolster the provision of regional public goods.

Another conclusion is that regional public goods associated with specific sectors differ greatly in their degree of publicness; so policy recommendations must be tailored not only to each sector, but also to the specific regional public goods in a sector. Some must be addressed at the global level, while others can be properly dealt with at the national and regional levels.

This first section presents a typology of regional public goods and its implication for identifying problem areas. The second section contrasts regional with global public goods to assess the relative impediments to the supply of regional public goods. The principle of subsidiarity and its institutional implications for regional public goods are investigated in the third section. The fourth section analyses the role of institutions in furthering regional cooperation on regional public goods. In the fifth section insights developed in earlier sections are applied to specific sectors to assess how each will meet the challenge of regional public goods. The final section provides policy recommendations and conclusions.

## **Regional public goods: a typology and implications**

A regional public good provides benefits to two or more nations in a well defined region. A region is a territorial subsystem of the global system whose basis may be geological (based on earth formations such as a plain or coastline), geographical, political, cultural or geoclimatic. Regional characteristics can influence the extent of spillovers from a public good—for example, language can facilitate or limit spillovers, as can such natural barriers as mountain ranges. Because agricultural research findings are specific to soil and climatic conditions, geoclimatic factors can be the prime determinant of the range of resulting spillovers. Thus knowledge public goods can be regional. Diseases and pests may be indigenous to some region so that defensive measures may yield regional public goods.



The two classic properties of a pure public good give rise to market failures that may require either government provision or some form of cooperation among the benefit recipients. Non-exclusion results in a market failure because a provider cannot keep non-contributors from consuming the good's benefit. Once the public good is provided, consumers have no incentive to contribute because their money can purchase other goods whose benefits are not freely available. Thus the public good will be either undersupplied or not supplied. Benefit non-rivalry means that extending consumption to additional users results in a zero marginal cost. Exclusion-based fees are inefficient because some potential users who derive a positive gain are denied access, even though it costs society nothing to include them. Pure regional public goods include cleansing a local ecosystem, curbing the spread of an infectious disease, curing a region-specific disease and instituting regional flood control.

#### ***Purely public versus impurely public regional goods***

For purely public regional goods, intervention by a multilateral institution, regional organization or other collective is required for provision. Impurely public regional goods may, at times, have a more favourable prognosis. Impurity can stem from partial rivalry or partial excludability. Suppose that impurity is due to partial rivalry alone. An example is a common property resource, such as a regional fishing ground, where access is open to all nations in the region. Rivalry applies because increased fishing effort by one nation limits the catch of other nations through crowding. To haul in the same catch each nation's fleet must exert more effort as that of other nations increase. This problem can be addressed if a regional body restricts fishing efforts to account for the crowding externality. Nations are not anticipated to reduce overexploitation on their own unless a nation has a sufficiently large stake in the fishery or the ability to impose restrictions on others.

Next, suppose that a regional public good is impure owing to partial rivalry and partial excludability. Partial rivalry means that extending consumption has a non-zero marginal cost owing to crowding (for example, treating disease patients, monitoring a disease outbreak or cleaning up an oil spill), so that a crowding toll can be levied without necessarily implying inefficiency. The partial exclusion indicates that some users can be denied entry unless they pay the toll. The lack of complete excludability means that some free-riders still use the good, crowd others and escape payment. Thus the good will be undersup-

plied and overutilized, conditions that worsen as the degree of exclusion decreases.

### ***Club goods***

Club goods are impure public goods whose benefits are fully excludable and partially rival. Regional club goods include regional parks, power networks (such as the Central American Electricity Interconnection System (SIEPAC)),<sup>3</sup> transportation infrastructure, crisis management teams, satellite launch facilities and biohazard facilities. Members can efficiently provide these regional club goods, financed through tolls. If exclusion is complete, there are no free-riders, and only members benefit. The toll charges each user the same fee, which equals the crowding costs associated with a standardized unit of use or visit. Taste differences among members can be taken into account; members with a stronger preference for the club good will use it more frequently and will thus pay more in aggregate tolls. Under a wide range of scenarios, the tolls collected will finance the efficient level of provision (Cornes and Sandler 1996).

Suppose that nations in a region jointly use a satellite launch facility (such as Alcântara in Brazil for Latin America). Each launch is charged the same fee, but countries that launch more satellites will pay more in total charges. Such a club arrangement means that resources will gravitate to their most valued use without the need for outside intervention. Regional clubs can seek loans from multilateral institutions, donor nations or regional development banks to initially finance the club good. Toll proceeds can subsequently repay the loan. Members can be quite heterogeneous and include nations, private firms and other organizations. INTELSAT is a global club that is a private consortium with diverse members sharing a satellite-based communication network that carries most intercontinental phone calls and television transmissions. Clubs represent a low-cost institutional arrangement for collective provision that can be member owned and operated or government provided.

### ***Joint products***

Joint products arise when an activity yields two or more outputs that vary in their degree of publicness. Jointly produced outputs may be purely public, private, a club good or something else. Actions to preserve a rainforest not only yield local public goods (a watershed, eco-tourism

and localized climate influences), but also global public goods (biodiversity and sequestration of carbon). Eliminating a local insurgency not only provides regional public goods in the form of fewer refugees and reduced spread of diseases, but also a transnational public good from a smaller likelihood of a contagious conflict. Regional peacekeeping may offer similar joint products. Foreign aid is also associated with joint products. Conditionality may provide donor-specific private benefits, while poverty reduction in the recipient country can create an altruistic global public good, as the global community benefits from welfare improvements in poor countries.

For joint products the prognosis for effective collective action depends on the ratio of excludable benefit—say, contributor-specific and club good benefits—to total benefits. As this ratio approaches one, the share of excludable benefits grows in importance, thereby enabling markets and clubs to efficiently allocate resources to the activity's provision. If, instead, this ratio approaches zero so that all jointly produced benefits are non-excludable, then underprovision or overutilization will result, and intervention is needed. Because this ratio can assume any value between zero and one, many scenarios are possible. Institutional design can endogenize this ratio so that collective action can be fostered by augmenting country-specific and excludable benefits to provide incentives to potential supporters. For example, tying voting privileges to a donor country's International Monetary Fund (IMF) quota is a way to motivate greater support.

### *A third property of publicness: aggregation technology*

A third property of publicness is the aggregation technology, which indicates how individual contributions to the public good contribute to the overall quantity of the public good available for consumption (Hirshleifer 1983; Kanbur, Sandler and Morrison 1999). This aggregator property influences the incentives that potential contributors possess and, hence, affects the prognosis of supply. Each of the subclasses of public goods introduced above can be further subdivided by the aggregation technology to gain a better perspective on contributor incentives (Sandler 2003).

Traditionally the only aggregator assumed was summation, where the overall level of the public good equals the sum of the agents' contributions to the good. In cleansing a local ecosystem the level of cleanup equals the sum of the pollutants removed, where each agent's removal

efforts add in a cumulative fashion. The measure of the number of diseased patients treated equals their sum. The quantity of regional parks or rainforest preserved corresponds to the sum of hectares protected. A distinguishing feature of summation is that every contributor's efforts are perfectly substitutable for those of others; one nation's unit of provision has the same effect on the total level of the public good as a unit supplied by anyone else. Without exclusion, free-rider incentives are then a prime concern because one nation's provision limits the need for another nation to contribute. When summation is associated with the two classic properties of pure publicness, a regional public good is not likely to be supplied unless some outside party takes over.

A less extreme form of summation is where the overall level of the public good equals a weighted sum of agents' contributions. Thus actions to curb the spread of an infectious disease may differentially depend on individual efforts, where those taken to protect the most susceptible population have a greater pay-off. When reducing sulfur deposits falling on a country, the influence of cutbacks abroad depends on wind patterns, the sites of emission sources and the pollutants' airborne time. Cutbacks in a downwind country can have a greater effect than the same cutback in another country not in the path of the prevailing winds. With weighted-sum technology, provision is no longer a perfect substitute, and so incentives to act may differ among nations. For example, a country that dumps more of its sulfur on itself or else receives relatively large amounts from other countries has strong incentives to sign treaties that mandate cutbacks.

If a weakest link aggregator applies, then the smallest contribution fixes the public good's aggregate level. The effectiveness of actions to maintain the integrity of a network or to monitor a regional disease outbreak hinges on the least adequate measures. A network will fail at its weakest point; the ability to stem an outbreak depends on the least adequate intelligence. With a weakest link public good, matching behaviour is anticipated because there is no gain from providing beyond the smallest contribution level. Contributions above this level use scarce resources but do not augment the overall amount of the public good.

If all nations in a region have similar means and tastes, then nations are motivated to attain an acceptable standard of provision for a regional public good. Free-riding incentives are eliminated; contributing nothing means that the effective level of the good is naught regardless of the contributions of others. With diverse means or income the poorer nations possess insufficient capacity to provide a level of the weakest link

public good acceptable to wealthier nations. But wealthier nations are motivated to contribute in kind to the regional public good to achieve an acceptable level (Vicary and Sandler 2002). If all nations in a region are poor, then rich nations in other regions are motivated to give, provided that the public good has spillover benefits outside of the region. Thus even weakest link regional public goods may present an allocation concern for poor regions if those goods offer little to countries outside the region.

A less demanding form of a weakest link regional public good is a weaker link one, for which the smallest contribution has the greatest effect on the good's aggregate level, followed by the second smallest contribution and so on. Applying prophylactic measures against a regional disease is a weaker link regional public good because action that exceeds the minimum level can achieve additional gains, though these diminish at the margin as the contribution rises (Arce and Sandler 2001; Cornes 1993; Sandler 1998). With a weaker link there is less incentive for matching behaviour because suppliers can somewhat make up for inadequate provision of others; thus the necessity to bolster capacity is attenuated. There is, however, a need to coordinate which nation does more to make up for the shortfall of others.

Another aggregator is threshold, where the benefits of a regional public good are experienced only once the cumulative quantity of the good surpasses a certain level. For example, regional flood control may be effective only after a sufficient level of protective measures is deployed to handle an anticipated flood. Similarly, forest fire suppression may have to exceed some threshold, depending on the conflagration, before any containment can be achieved. A threshold technology also characterizes regional peacekeeping and crisis management squads, where insufficient provision is a recipe for disaster. When a threshold applies, there is a need to pool efforts. Leadership by one or more nations can help meet the threshold. The threshold aggregator limits the incentive to free-ride until the threshold is attained.

A sixth aggregator is best shot, where the largest contribution solely determines the good's overall level, and lesser action is redundant. Best shot regional public goods include curing a region-specific disease, uncovering geoclimatic-specific research, building a regional satellite launch facility and launching hurricane-tracking satellites. Such goods require coordination so that effort is not wasted through duplication. Coordination problems may be tricky in the presence of more than one best shot candidate. In many developing regions this is not a concern

because there is, at most, a single country with the requisite capacity. A greater worry is that some regions may be devoid of any nation with the necessary capability. In these cases the nations will either have to pool their efforts to provide the good or else seek assistance outside the region.

The better shot aggregator is a less extreme form of the best shot one, where the greatest contribution has the largest influence on the amount of the good provided, followed by the second largest contribution and so on. Examples of better shot regional public goods include discovering effective vaccines, cleaning up an oil spill, providing biohazard facilities and bioprospecting. In these instances a second best effort can still provide some benefits, despite the presence of a greater effort. For example, a less effective vaccine may benefit those who cannot tolerate the more effective one. With better shot regional public goods, there is less need to coordinate and concentrate effort.

### *Implications of publicness properties*

A typology for regional public goods along with examples for the 28 categories is displayed in table 4.1. Several implications are essential to understanding the provision problem posed by regional public goods, associated with the three properties of publicness. First, non-rivalry and non-excludability of benefits are insufficient to gauge the prognosis for provision of regional public goods. This is aptly illustrated by a weakest link purely public good, where the classic public good properties suggest a bad prognosis for provision. However, when these properties are coupled with weakest link, the supply outlook is promising if the agents have similar tastes and income (Sandler 2004b). This follows because free-riding is no longer an option. Second, club goods can be efficiently provided by the members when tolls account for crowding. This efficient outcome holds for all aggregators except weakest link, for which externalities from undersupply or poor maintenance may not be fully internalized. Third, joint products' regional public goods can be adequately supplied whenever there is a large share of excludable benefits. This share can be raised through institutional innovations that engineer contributor-specific benefits (Sandler 2004b). Fourth, a weighted-sum technology may support supply of regional public goods whenever there is sufficient weight on the country's own efforts relative to other countries' efforts. Fifth, weakest link aggregators highlight the importance of capacity, while best shot aggregators (including

Table 4.1 **Regional public goods: typology and examples**

Aggregation technology	Pure public good	Impure public good	Club	Joint products
<i>Summation</i> : Overall level of public good equals the sum of countries' contributions.	Cleansing a local ecosystem	Treating diseased patients	Regional parks	Preserving rainforests
<i>Weighted sum</i> : Overall level of public good equals a weighted sum of countries' contributions.	Curbing the spread of an infectious disease	Reducing acid rain	Power network	Eliminating insurgency
<i>Weakest link</i> : Smallest contribution determines the good's aggregate level.	Maintaining the integrity of a network	Monitoring regional disease outbreaks	Air traffic control	Security intelligence
<i>Weaker link</i> : Smallest contribution has the greatest influence on the good's aggregate level, followed by the second smallest contribution and so on.	Applying prophylactic measures against a regional disease	Inhibiting the spread of an agricultural pest	Transportation infrastructure	Internet connectivity
<i>Threshold</i> : Benefits from the public good arise only once the cumulative quantity of the good surpasses a certain level.	Implementing regional flood control	Suppressing fire in a region	Crisis management teams	Regional peacekeeping
<i>Best shot</i> : Largest contribution determines the good's aggregate level.	Curing a region-specific disease	Disseminating geoclimatic-specific research findings	Satellite-launch facility	Remote sensing of hurricanes
<i>Better shot</i> : Largest contribution has the greatest influence on the good's aggregate level, followed by the second largest contribution and so on.	Discovering effective vaccine	Cleaning up an oil spill	Biohazard facility	Bioprospecting

threshold) underscore the importance of coordination or pooling of effort. For both sets of aggregators, less developed regions will have to look beyond their territory for help to bolster capacity or to surpass required thresholds. In some weakest link situations the added capacity may come in the form of an in-kind transfer intended to attain an acceptable provision standard. Sixth, the primary concern arises when these weakest link and best shot regional public goods hold little interest for rich countries in other regions. In those cases there is little choice but to rely on multilateral institutions or new participants.

## Regional public goods versus global public goods

In many ways regional public goods are in a unique position compared with national and global public goods. By benefiting residents, national public goods provide adequate incentives for the recipient nation to assume loans to underwrite the good—that is, sufficient ownership exists. There is no free-riding issue among nations since these goods' benefits do not spill over to other nations. By supplying the social overhead capital required for development, national public goods play a complementary role in setting the stage for developing countries to take advantage of transnational public goods (Arce 2004; World Bank 2001). Global and transnational public goods offer spillover benefits for donor nations outside the recipient region. This last realization suggests that there are considerations that inhibit provision of regional public goods compared with global ones. Many researchers have solely emphasized the supportive factors that favour provision of regional over global public goods.<sup>4</sup>

Regional public goods involve fewer nations than global ones, which can favour collective action at the regional level. By limiting uncertainty, spatial and cultural propinquity foster provision of regional public goods, as compared with global public goods where all cultures are present. The recent rise in regionalism has given birth to regional trading blocs as well as greater regional identity (Kahler 1995; Mansfield and Milner 1999). These trading blocs supply some of the requisite infrastructure to facilitate provision of regional public goods; they can offer collateral for loans, supply regional public goods or coordinate supply efforts. The European Union has been instrumental in coordinating provision of regional public goods in Europe, where it spearheaded action to curb acid rain and other regional pollutants.

Many regional public goods also possess some favourable publicness properties that foster provision. For example, the underlying aggregation technology for curbing surface ozone is weighted sum, in which nations experience the greatest share of their own pollutants, thereby motivating action. Other regional public goods lend themselves to club arrangements that enhance provision without a costly institutional structure. A final favourable influence is that of interactions among regional participants, which mean that defecting from an agreement can result in punishment. Unlike at the global level, nations are in constant contact at the regional level so that short-run gains from renegeing on an agreement may not make up for the long-term retribution.



Other factors inhibit provision of regional public goods relative to global public goods. One regional concern is the absence of a leader nation to coordinate action and to publicize the region's needs. In some cases regional rivalries have worked against a united stance. These rivalries have been fueled by civil wars, of which economic consequences have adversely affected neighbouring nations (Murdoch and Sandler 2004). Since the late 1990s civil wars have plagued many developed countries, hampering growth and the support of regional public goods (Collier and others 2003). These civil wars not only destroy social overhead capital in war-torn countries, but also induce peaceful countries to erect expensive firewalls to limit harmful consequences. Such action curbs the supply of regional public goods. Compared with global public goods, regional ones may experience greater uncertainty owing to insufficient information—for example, many developing regions do not monitor emissions to track sources and recipients.

The special problems of regional public goods also arise from regional institutional considerations. There has been a lack of a global culture to support regional development banks, which has limited their capacity to support regional public goods. Donors have traditionally turned to the multilateral institutions to channel some of their support to developing countries and their public good needs. This culture is changing as regionalism, a localized form of globalization, takes hold. If this transformation is to make a difference, then regional development banks must also change their practices.

One study shows that these banks gave tiny percentages of their foreign assistance in the form of transnational public goods (which include regional public goods) during 1996–98: African Development Fund, 4.18%; Asian Development Bank, 6.86%; and Inter-American Development Bank, 1.97% (te Velde, Morrissey and Hewitt 2002). In contrast, these institutions gave large aid percentages to national public goods during 1996–98: African Development Fund, 34.73%; Asian Development Bank, 47.34%; and Inter-American Development Bank, 69.15% (te Velde, Morrissey and Hewitt 2002). Even more worrying is that the percentage of aid in support of transnational public goods has fallen since 1980. That does not encourage these institutions to bolster support for regional public goods.

In a subsequent study Mascarenhas and Sandler (2005) establish that the regional development banks did not tailor their loan-grant mix to reflect the degree of publicness of supported activities. Loans are more appropriate when recipient-specific benefits dominate, while grants are

appropriate when regionwide benefits dominate. Essentially regional development banks applied a fixed percentage for functional areas—the environment, governance and knowledge—unlike bilateral donors and multilateral institutions, which tailored this mix to publicness considerations. This is additional evidence that these banks must adjust their procedures if they are to warrant enhanced funding. These banks can perform an essential role to address another factor inhibiting provision of regional public goods—that is, the absence of a clear entity to obtain loans, provide collateral and promote a regional agenda. This role must be assumed by either a dominant nation in the region, if one exists, or a regional trading bloc. The regional development banks can then work together with one or both of these entities to fund regional public goods. In particular, the Asian Development Bank is making a real effort in recent years to provide regional public goods in terms of transportation infrastructure. Such efforts are essential for development.

A summary of the factors that favour and inhibit support of regional public goods, compared with global public goods, is in box 4.1. Despite the smaller set of nations involved, regional public goods face many impediments that do not confront global public goods. Many difficulties stem from the lack of the necessary infrastructure and inexperience in supporting regionwide needs. Merely giving more money to regional development banks will not fix the problem unless explicit action is taken to earmark funds to regional public goods. Measures are also needed to prepare regional trading blocs and organizations to represent the region's interest in supplying regional public goods.

### **Subsidiarity and regional public goods**

Subsidiarity indicates that the decision-making jurisdiction should coincide with a public good's region of spillovers. Strict adherence to subsidiarity dictates that multilateral institutions supply global and transnational public goods, regional institutions provide regional public goods and nations support national public goods. Subsidiarity is modeled after the notion of fiscal equivalence (Olson 1969). When the spillover range of the public good extends beyond the political jurisdiction, decision-makers often fail to account for all who benefit, and, consequently, the public good is undersupplied. If, instead, the political jurisdiction exceeds the public good's spillover range, taxes are then imposed on some people (nations) that do not benefit, thus resulting in an oversupply.

- *Factors promoting regional over global public goods*
  - Regional public goods have fewer participants than global public goods.
  - Spatial and cultural propinquity limit uncertainty with respect to provision of regional public goods.
  - New regionalism and the rise of trading blocs can provide the necessary infrastructure to facilitate regional provision.
  - Favourable characteristics of publicness—such as joint products, weighted sum and excludable benefits.
  - Past and ongoing interactions among regional participants.
- *Factors inhibiting regional goods compared with global ones*
  - Absence of donor spillovers owing to regional specificity of benefits.
  - Absence, at times, of a leader nation within the region.
  - Regional rivalries, fueled by local conflicts.
  - Greater uncertainty owing to lack of information concerning some goods.
  - Lack of global culture in supporting regional development banks, resulting in insufficient capacity.
  - Poor past behaviour by some regional development banks—such as not tailoring the loan-grant mix to public good considerations and not supporting regional public goods.
  - No clear entity to obtain loans, provide collateral and promote a regional agenda.

In an ideal world regional institutions coordinate member nations to supply regional public goods. When regions are too poor to support sufficient regional public goods, regional development banks and other donors can underwrite these regional institutions to achieve subsidiarity. By matching political and economic domains, subsidiarity fosters efficiency because the regional public good's marginal benefit (summed over regional recipients) is equated to its marginal cost. Another benefit of subsidiarity is that it limits transaction costs by reducing the number of participants to only those with a stake in the decision. As these participants interact over time, incentives are fostered to abide by agreements, thereby reducing enforcement cost. Repeated interactions also lessen asymmetric information and its associated transaction costs.

Localized regional benefits increase the evolution of regional institutions from shared culture, norms, concerns, experiences and values (North 1990). As in a fiscal federal system, region-based provision may also lead to best practice innovations that can be copied by other regional institutions. Centralized provision at the supranational level inhibits such innovations. Greater reliance on regional institutions avoids mission creep as multilateral institutions take on an ever wider array of activities. Mission creep can impair the performance of these global institutions as organizational communication lines become complex.

Other considerations also detract from applying subsidiarity. Economies of scale can justify having a regional public good provided by an institution whose political domain exceeds that of the requisite region whenever the reduced unit cost offsets any lost efficiency. In a multilateral institution, economies of scale may arise from fixed costs that can be spread over multiple regions. For example, peacekeeping would be more expensive per deployment than UN peacekeeping if each region maintained its own forces and equipment.

Another factor that limits the application of subsidiarity is economies of scope associated with providing two or more transnational public goods in the same institution. Economies of scope come from unit cost savings as common inputs (say, a communication network or administrative staff) are used to supply these goods. Because the spillover range from two or more transnational public goods is unlikely to coincide, the common provision of multiple transnational public goods by a single institution is not expected to satisfy subsidiarity. As the number of jointly supplied public goods increases, the anticipated violation of subsidiarity strengthens.

Another obstacle to subsidiarity may involve the absence of the requisite regional institution or jurisdiction. For example, the available regional institution may not entirely match the spillover range of the regional public good. In the case of river blindness (onchocerciasis), the disease affected three regions—Latin America, Africa and the Arabian peninsula. Either a new jurisdiction had to be cobbled together by linking three separate regions, or else one region had to take up the cause for the other regions. A public-private partnership (the Onchocerciasis Control Partnership) between Merck, the World Health Organization (WHO), host countries to the disease and donors formed. Merck contributed ivermectin to control the disease, and the other partners assisted in distribution.

For some best shot, better shot and threshold goods, the effort may require pooling resources beyond the jurisdiction identified by subsidiarity. This is relevant for actions against communicable diseases in those regions that lack sufficient research facilities and medical personnel. In the search for an HIV/AIDS vaccine, the requisite research infrastructure exists in only a few countries outside the most threatened regions.

Supporting and detracting influences on applying the subsidiarity principle are summarized in box 4.2. The new regionalism should result in more capable regional institutions, as it has in Europe. As regional

- *Supporting factors*
  - Fosters efficiency by equating the good's marginal benefits (summed over regional recipients) to its marginal costs.
  - Limits transaction costs by reducing the number of participants, augmenting repeated interactions and curtailing asymmetric information.
  - Supports the evolution of institutions from shared culture, norms, concerns, experiences and values.
  - Bolsters interregional innovations.
  - Avoids "mission creep" of multilateral institutions.
- *Detracting factors*
  - Economies of scale from reduced unit costs favour allocation by a larger jurisdiction.
  - Economies of scope from reduced unit costs encourage providing two or more regional public goods in the same jurisdiction.
  - The requisite regional institution may not exist nor possess sufficient capacity.
  - Certain aggregation technologies favour jurisdictions beyond those identified by regional subsidiarity.

institutions are strengthened, subsidiarity can be applied to a greater extent; however, subsidiarity is not always desirable. When scale and scope economies are significant or pooled efforts are required owing to best shot considerations, either multilateral institutions must step in, or regional institutions must coordinate efforts across regions. There is an essential role that diverse institutions and innovative institutional forms must assume to further regional cooperation when subsidiarity fails as a guiding principle.

### **Institutions and regional cooperation**

In practice the likely failure of subsidiarity in developing parts of the world is being addressed by myriad participants who foster the provision of regional and global public goods. At the regional level regional development banks can provide funding. Regional trade pacts serve two purposes: they increase interregional trade, and they coordinate efforts to provide regional public goods. When the pacts do not act to support regional public goods, new regional organizations—such as SIEPAC in Central America for power and the Regional Fund for Agricultural Technology (FONTAGRO) in Latin America for research—can be created.

Multilateral organizations are appropriate when subsidiarity has too many roadblocks. Such institutions can pool funds and coordinate responses for best shot, threshold and summation goods or provide ca-

capacity for weakest link goods. Many of these organizations are geared to key regional public good sectors—the WHO and UN Development Programme (UNDP) for communicable diseases, World Trade Organization (WTO) for trade, United Nations for peace and security, World Bank for knowledge, UN Environmental Program (UNEP) for the commons and the IMF for financial stability. When regional public goods possess interregional spillovers and do not fit into a single region, networks—such as the Global Environment Facility (GEF) and Consultative Group for International Agricultural Research (CGIAR)—offer a novel institutional alternative. Networks can pool efforts for best shot regional public goods and bolster capacity for weakest link ones. A network can limit transaction costs by keeping interregional links loose when little more than information and best practices need sharing; thus linked organizations can operate autonomously. The GEF and CGIAR can serve as role models for addressing trade, financial stability and knowledge creation.

The devastating tsunami of 26 December 2004 provides an excellent example where a network of regional participants is required to deploy an early warning system for tsunamis, modeled after the one in the Pacific. The Pacific one was made operational after a tsunami flattened Hilo, Hawaii, in the early 1960s. It is upgraded as innovations arise. Current costs for an early warning system for the Indian Ocean range from \$20 to \$60 million, a small expenditure compared with the tens of thousands of lives or more that would have been saved had sufficient warning been given. The network aspect comes into play because the tsunami caused destruction in Africa and diverse parts of Asia—multiple regions were affected. Had the loss of life been smaller, the cleanup and aid costs would also have been much reduced.

Such an early warning system will require not only participation by coastal nations in the Indian Ocean, but also participation by nations in the Pacific Ocean, so that the infrastructure (satellites and monitoring devices) in the Pacific can be linked to the new system. The link would reduce costs and provide increased protection. The warning system underscores the growing importance of regional networks for transnational public goods. Much of the costs will be paid by the rich countries, whose investment ensures smaller future aid and cleanup expense when another tsunami hits.

Another institutional innovation to facilitate provision of regional public goods is a public-private partnership among diverse participants that may include firms, regional institutions, multilaterals and other en-

tities. Partnerships draw on the comparative advantage of their members and have been popular in providing health public goods. Given their heterogeneous composition, partnerships are especially attuned to addressing problems that cannot be pigeonholed into a single region, such as river blindness, malaria and HIV/AIDS. Partnerships have much to offer for all regional public goods.

Other institutions—charitable foundations, NGOs and nation-based organizations—bolster efforts to supply regional public goods. Charitable foundations and NGOs provide inflows of new funds for health issues, the commons, knowledge and other concerns that do not reduce standard funding sources. For communicable diseases, charitable foundations and nation-based organizations (such as the Centers for Disease Control, National Institutes of Health and Pasteur Institute) focus resources on best shot goods or provide capacity for weakest link ones. Nation-based organizations are particularly interested in diseases that threaten interests at home. NGOs have wider interests and champion many global and regional concerns including refugees (Red Cross and *Médécins Sans Frontières*) and environmental issues (*Greenpeace*). Eight categories of institutions and how they promote regional public goods are summarized in table 4.2.

### **Key regional public good sectors**

In some sectors the prognosis for regional public goods is much better than in others. Efforts must be directed to those where incentives do not support regional or global collective action. Specific sectors differ according to public good properties, institutional capability and provision prognosis.

#### ***Peace and security***

Since the late 1960s the global incidence of civil wars increased until 1988, when it fell somewhat before leveling off at an elevated level (Gleditsch and others 2002). Conflict-torn countries are associated with refugees, trade disruption, poverty, low economic growth, diseases (such as HIV/AIDS and malaria) and financial instability. Civil wars lead on average to a flight of 10% of a country's capital (Collier and others 2003, p. 15). Reducing intrastate and interstate conflict is one activity that can simultaneously contribute to many regional public good sectors. Con-

Table 4.2 Role of institutions in fostering regional public goods

Institutional categories	Purpose/function
Regional development banks	Provide funding for regional public goods in specific sectors. This funding can be in the form of loans and grants, depending on the degree of publicness of the supported activity. Grants are more appropriate when public goods provide regionwide or interregional spillovers. Coordinate action to promote regionwide financial stability.
Regional trade pacts	Promote trade within the region. These pacts can coordinate efforts to provide regional public goods. In some instances pacts can provide collateral for loans structured to secure regional public goods.
Multilaterals: World Bank, UNDP, WHO, WTO	Pool funds for best shot, threshold and summation public goods and bolster capacity for weakest link public goods. Can assist in key sectors with some multilaterals specializing in a specific sector—for example, the WHO in communicable diseases and the WTO in trade. Multilaterals can channel funds to regional institutions to augment their financial capacity.
Networks: GEF, CGIAR	Link interests within and among regions for providing regional and transnational public goods. For example, the GEF addresses regional and global commons issues, while the CGIAR focuses on knowledge. Other networks are particularly suited for supplying transnational public goods that have interregional spillovers. They are also useful for weakest link and weaker link transnational public goods.
Partnerships: Global Fund, Onchocerciasis Control Partnership, Medicines for Malaria Venture	Draw on the comparative advantage of diverse participants. Many partnerships focus on diseases, but other partnerships can form to address other key areas.
Charitable foundations: Wellcome Trust, Bill & Melinda Gates Foundation	Provide inflow of new funds for health issues. Also foster knowledge. Bolster capacity for weakest link regional public goods and pool resources for best shot and threshold regional public goods. Support control of communicable diseases where developed countries may have limited interests. Limit crowding out by bringing in new donors.
Nongovernmental Organizations: CARE, Red Cross, Médecins Sans Frontières, Greenpeace	Address specific public goods—for example, disaster relief, environmental needs, immunization and refugee needs. Champion some global and regional environmental concerns.
Nation-based organizations: Centers for Disease Control, National Institutes of Health, Pasteur Institute	Supply health-related public goods in terms of outbreak surveillance, data collection, disease isolation and vaccine development. These organizations are interested in infectious diseases that may threaten the institution's host country. Except for the US Environmental Protection Agency and the global commons, similar nation-based institutions have not developed for other key areas.

flict may not only spread from one country to the next, but also generate a wide range of negative externalities, of which reduction represents a regional public good. In a recent study Murdoch and Sandler (2004) show that regional wars can reduce a nearby peaceful country's growth by about one half of a percentage point; thus four regional conflicts will



wipe out most countries' growth in the region, because countries in developing regions grow on average by 2%.

Security concerns also arise from terrorism. Although transnational terrorism has fallen since the early 1990s, each incident is now more likely to result in casualties (Sandler and Enders 2004; Enders and Sandler 2006). The four hijackings on 11 September 2001 (hereafter 9/11) underscore that a well planned attack can have significant consequences in lives and economic losses. Transnational terrorism is associated with a transference externality in which increased protection taken in one location transfers the attack to less secure venues in other countries or regions. This suggests that security against transnational terrorism is a global public good necessitating global coordination. For example, attacks against Americans in the Middle East and elsewhere motivate US willingness to bolster defenses abroad if requested. Since the rise of fundamentalist terrorism after 1979, there has been a shift of transnational terrorism to the Middle East and Asia (see Enders and Sandler 2004). This shift was quite dramatic after 9/11 and the subsequent upgrades to US homeland security.

Other security risks arise from the proliferation of weapons of mass destruction (WMD)—as in Pakistan and India—and organized crime. WMD pose a global problem because, once available in a region, these weapons can get into the wrong hands—for example, the transfer of nuclear technologies to other countries by Pakistan's top nuclear scientist. Globalization involves both legal and illegal exchanges so that organized crime in one region has consequences in other regions. In Afghanistan the defeat of the Taliban resulted in a weaker government that has been unable to control poppy cultivation—an unintended global public bad resulting from anti-terrorism action in the wake of 9/11. Thus security actions in one region cannot be isolated from consequences in other regions.

Proactive measures against transnational terrorism, WMD proliferation and organized crime represent a best shot public good. Even if the action is region-specific, the associated threat is mobile and so such measures constitute global public goods rather than regional ones. In contrast, a defensive action to forestall the spread of terrorism, weapon proliferation or crime is a weakest-link public good. Defensive measures also have global implications owing to transference of terrorists or criminals to safe havens and their attacks to soft targets. Most regions do not possess the military prowess to act proactively; hence regions generally resort to venue-shifting defensive actions. At some point the world must realize that much of today's security threats must be addressed

on a global scale by multilateral institutions and alliances when there is a sufficient consensus to legitimize a proactive response. Shoring up weakest links often creates new ones as terrorists or criminals identify new targets of opportunity. Furthermore, actions to shore up weakest links offer free-riding incentives.

A regional approach to transnational terrorism or organized crime is not going to end these threats, because terrorists and criminals move their base of operations. The US-led attacks against al-Qaida in Afghanistan after 12 October 2001 reduced transnational terrorism in the short term, but such attacks are now increasing (Enders and Sandler 2004, 2006). For WMD proliferation, a nation or alliance must come forward with the power to eliminate a proven WMD. The “best shooter” needs a mandate from the global community to act. In many regions there is insufficient capacity to confront a powerful nation determined to acquire WMD. So some form of global coordination is required.

Unlike other security threats, civil wars can at times be addressed at the regional level. In East Timor, Australia took a lead role in peacekeeping. But reliance on regional entities for peacekeeping presents some concerns. First, the peacekeeping country must bring peace without pursuing its own agenda and gain. Second, the region must contain a capable peacekeeping country or a sufficiently strong alliance to bring peace. Third, regional peacekeeping must be economically sensible compared with such action by the United Nations or NATO. Putting too much reliance on regional alliances for localized peacekeeping can result in wasteful duplication of forces, which can increase the unit cost of peacekeeping. Since the end of the cold war, NATO has assumed peacekeeping missions in Europe, while the United Nations has taken on these missions in most other places. This distribution of effort works, even though there is no formal agreement. A more formal arrangement will be difficult to frame because NATO’s articles mandate that any military deployment must be unanimously approved by its allies.

There is also the issue of aid to countries experiencing civil conflict. Recent studies show that war-torn countries experience a flight of capital and low or negative growth rates until peace is restored (Collier and others 2003). Regional aid is more effective if directed to neighbouring conflict-free countries to limit harmful neighborhood externalities. Such action will limit the possibility of conflict spilling over to others. Aid to the conflict-ridden country is best resumed once peace is being restored.

## *Knowledge*

Knowledge is the quintessential best shot or better shot public good; breakthroughs come from concentrating effort and building up research centers of excellence. Best shot and better shot aggregation also means that coordinated action is required; thus research efforts for region-specific knowledge must be orchestrated and funded by a multilateral or regional institution. Knowledge also represents an intergenerational public good that provides non-rival benefits to current and future generations. Because benefits conferred to future generations are unlikely to be fully taken into account by the provider, knowledge will be undersupplied in an intergenerational sense even under the best circumstances. To provide incentives for knowledge production, governments issue patents that confer monopoly rights for a set period to the creator. These patents imply an interesting trade-off—restricted use in the near term in return for a larger number of discoveries. The optimal patent period must balance welfare losses from restricting short-run consumption with the long-term gain of more discoveries.

Knowledge presents some interesting regional public goods issues. First, there is a marked tendency for rich nations to pursue knowledge that primarily furthers their interests. In health this is known as the 90/10 gap, in which less than 10% of US annual spending on health-related research and development addresses the health concerns of 90% of the planet's population (WHO 2002). Similar gaps hold for all forms of knowledge creation. Second, knowledge reflects increasing returns to production where a substantial effort must be mounted before pay-offs are realized. Third, many developing regions must acquire complementary national public goods to take advantage of knowledge created elsewhere. Fourth, many regions have limited capacity to conduct research on the necessary scale. Fifth, owing to specific diseases, geoclimatic conditions and other region-specific circumstances, the regional public goods needs of some regions provide little or no spillover benefits to others. Hence these regions must produce their own knowledge or get funding and other assistance from multilaterals, charitable foundations, networks, partnerships or NGOs.

To address these unique region-based problems, a planned sequence of actions is required. The global community must first provide the complementary national public goods, including improving educational attainment, for poor regions. Networks can then be relied on to pool resources and expertise across regions to achieve best shot break-

throughs and surpass required thresholds. Regional development banks and trade pacts can provide a source of funding; shortfalls can be made up by global institutions. (For example, the Global Fund is financing vaccines and other health-related knowledge searches for malaria and HIV/AIDS.) Region-based research institutions are essential if region-specific needs are not to be ignored. Interregional cooperation can foster scale economies regarding similar research questions.

### *Regional commons*

An essential issue is how far the regional commons can be separated from the broader global commons. Strong separation characterizes pollution issues regarding some rivers, watersheds or airsheds. Thus acid rain emissions in parts of Africa are mainly confined to the region because sulphur and nitrogen have limited transport ranges. In other instances action in a regional commons (say, a rainforest) has global implications and cannot be regionally isolated. When separation is possible, the regional commons should be addressed locally so that subsidiarity applies. If isolation is not feasible, then either interregional interests should be networked, or global institutions must get involved.

For many commons problems, a weighted-sum aggregation applies so that a country may be properly motivated to act whenever it receives a sufficiently large share of the associated benefits. This is true for sulphur, nitrogen, methane and other pollutants (Murdoch, Sandler and Sargent 1997). The trick to motivating treaties and other forms of collective action is to learn the transport pattern of acid rain-inducing emissions, surface ozone and coastal pollution, which requires region-based monitoring analogous to that instituted in Europe. Once nations understand their self-pollution and imported pollution, they can better assess the gains from abatement and treaties. The funding for this monitoring can be partly supported by global interests, justified by any interregional benefits, with the rest of the finances coming from the region. The environment has been a primary sector receiving foreign assistance since 1980 (Mascarenhas and Sandler 2005, figures 1–3). There is thus a tradition for rich nations to support environmental efforts in poor regions. If more support is channeled into monitoring, then regions may be motivated to be more environmentally self-reliant.

A more difficult problem is associated with region-based action regarding global pollution issues such as global warming. When developing countries consider the gains from their action to curb greenhouse

gases, most see little direct benefit but large costs from abatement and reduced economic growth. Benefits are accorded small values because only a tiny share of the associated global gain goes to a developing country that takes action. This is particularly true because global warming has more pronounced consequences in the temperate zone, and many developing countries are in the tropics. Because the value placed on the environment grows after reaching a certain per capita income level (Kahn 2004), many less developed countries are less predisposed to protect the global commons. Consequently, assistance to these developing regions is required to foster efforts on behalf of the global commons. An assessment of the ability of the global community to provide this help will come soon, as the Multilateral Fund of the Montreal Protocol helps developing countries switch from stratospheric ozone-depleting substances. This aid would dwarf similar assistance required to limit greenhouse gases in developing countries.

### *Trade*

With the rise in globalization, there has been a parallel rise in regionalism, where intraregional exchange of goods, inputs and financial assets have increased greatly. Enhanced regionalism is driven by technological change, policy reform and increased public good spillovers. Regionalism is associated with the rising importance of regional trade pacts; more than 50% of world trade now passes through such pacts, with China being the sole major country not party to any pact (Devlin and Estevadeordal 2004). With the rise of regionalism comes the greater need for regional public goods to internalize public good spillovers.

Of the six key areas, trade as a regional public good poses the least difficulty. Trade pacts are clubs whose members voluntarily join because the gain from cooperation outweighs the cost. Exclusion can be easily practised by leaving nations out of the tariff-removing agreements. As more nations are linked, each gains advantages from reduced tariffs and experiences crowding costs from increased competition. An optimal size is achieved when the benefits and costs from an additional member are balanced (Sandler and Tschirhart 1980). While these pacts foster trade among members, they divert trade between members and non-members. This latter negative externality is not internalized by the pact. The next stage is the formation of trade pact networks between regions that will reduce trade diversion. Talks are under way between the North American Free Trade Area and similar pacts in Central and Latin America.

Trade pacts can take advantage of economies of scope by using their administrative and communication mechanisms to provide other regional public goods to members. This is the course taken by the European Union. In so doing, the net gain from membership to each nation is augmented, justifying a larger pact. Trade pacts can also represent regional interests in obtaining loans and grants to finance regional public goods. Finally, trade pacts can bolster provision of regional public goods as part of a partnership designed to link diverse participants.

### *Financial stability*

The East Asian crisis in the late 1990s arose from “premature financial sector liberalization, weak governance and policy mistakes in managing private capital flows” (Rana 2004, p. 295). Competitive arbitrage to lower reserve requirements and weakened regulatory practices left banks and other financial institutions vulnerable to collapse following some imprudent loans. Although the crisis resulted in a spreading instability, this contagion was regionally confined. Much but not all of the negative externalities were regional. Financial stability is a weaker link regional public good because those institutions or countries with the least sound practices have the greatest marginal influence on how the entire region is viewed. Greater effort by some institutions or nations thus can have a marginal pay-off because a crisis does not affect every institution or nation equally when some are more prudent and protected. With weaker link goods there will not be matching behaviour with every institution or nation descending to the lowest level of care.

Increasing capacity through sound practices and surveillance is the key to regional financial stability. This capacity can come from three sources: the rich countries, multilateral institutions and regional development banks. Consider the Basel Capital Accord of July 1988 among the Group of Ten (G-10) nations, which sought to avert a “race to the bottom” in terms of falling reserve requirements and supervisory practices (Reinicke 1998, pp. 103–5). The Basel Accord changed little among the G-10 by codifying best practices and standards that were generally followed. The accord’s main impact was on non-member states, which were compelled to adopt identical requirements and practices to maintain the appearance of solvency to attract capital inflows. Multilaterals, such as the IMF, monitor financial practices among client nations and, in so doing, provide capacity to weaker link and weakest link nations or regions. The regional development banks can also enhance the capac-

ity of member states by overseeing implementation and adherence to financial standards. These development banks can work with the World Bank and IMF to identify questionable practices in member nations' financial institutions, averting future crises.

Bilateral and other donors can help developing countries adopt sound banking practices by financing the necessary infrastructure. Incentives are present for recipient countries to institute sound practices if they are to attract foreign direct investment and other capital inflows, an essential source of savings. Donor nations will assist so as to protect the investments of their citizens. Thus incentives are aligned among all interests to address financial stability; hence financial stability should be a relatively easy regional public good to provide.

### *Communicable diseases*

Regional communicable diseases may or may not present a concern to the global community. In such cases as SARS or bird flu, where a worldwide epidemic may occur, actions to monitor and isolate a regional outbreak constitute global public goods. Obviously, rich nations and their institutions are motivated to offer help to raise capacity to address such diseases. For those regional diseases—communicable or not—where rich nations are not in harm's way, there is less interest in augmenting a region's healthcare ability. Curing, monitoring or ameliorating a region-specific disease is a regional public good with little apparent spillover to the global community. In fact Kremer and Leino (2004) view most public goods associated with communicable diseases as national and regional public goods. This viewpoint, however, misses some indirect links and subtleties. Nation-specific and region-specific infections weaken a host population and make it more vulnerable to other communicable diseases that can travel to other venues. Plane travel facilitates rapid dissemination of acquired diseases. Similarly, an inadequate health infrastructure makes a population more susceptible to diseases that can spread worldwide. The ability to eradicate a disease through inoculation hinges on achieving sufficient immunity. Costly vaccinations must be administered worldwide until herd immunity is attained; hence rich countries experience an externality unless a disease is completely eradicated. Inadequate healthcare responses in any region can have global spillovers.

Communicable diseases are associated with a host of public goods: educating people about transmission, finding a cure, limiting the spread,

eradicating a disease, isolating a bacterium or virus, developing a vaccine and establishing the best treatment regime. Many of these goods are either of weakest links or best shots. For weakest links building capacity is the key because the least effort by a nation in the region determines the regionwide public good level achieved. Thus an inadequate prophylactic by one nation permits the disease to spread and jeopardize the whole region. For poor regions this enhanced capacity must come from bilateral donors, the multilaterals or the regional development banks. If the region does not possess the proper infrastructure to use funds to provide the weakest link regional public good, then the aid must be in kind with the donor supplying the good directly.

At the regional level there is also a need for assistance to provide disease-related best shot and better shot public goods. The need is particularly acute for region-specific communicable diseases that present little concern to rich countries. As with weakest link goods, capacity is an issue that must be supplied by others working either alone or in partnerships. In recent years foreign assistance to the health sector has increased.<sup>5</sup>

Another concern is that developed and developing countries have different needs with respect to diseases. For HIV/AIDS, developed countries benefit from the development of more effective treatment regimes. Developing countries gain more from a vaccine that prevents the disease, owing to the high rate of new infections and the limited funds for costly treatment regimes. Rich countries are more interested in non-communicable diseases, such as heart disease and cancer, than are developing countries, and thus direct more of their research budget to ailments that pose less risk to developing countries where life expectancy is shorter. Pharmaceutical companies heighten this asymmetry by developing drugs for lucrative markets with an emphasis on non-communicable disease. This difference in orientation means that disease-related discoveries and treatments in rich countries have fewer spillovers to developing countries. Thus best shot health-related public goods are not going to come very frequently from rich countries. This emphasizes the need for assistance that accounts for the special health needs of the developing regions—such as funds for preventing HIV/AIDS, tuberculosis and malaria.

Many public goods associated with communicable diseases provide intergenerational spillovers of benefits. Once a disease is cured or a virus is isolated, benefits are conferred on the present and future generations.



These intergenerational benefits mean that undersupply will be significant if both interregional and intergenerational spillovers are ignored when allocation decisions are made.

### ***Interrelationship among the key sectors of regional public goods***

The tendency is to consider each key sector in isolation, but this practice ignores how provision decisions for these sectors are interrelated. Action to promote peace and security limits the spread of communicable disease by young soldiers and susceptible populations in civil war zones. These conflicts not only give rise to rape, but also destroy the health infrastructure. The creation of knowledge provides discoveries to control communicable diseases, to protect the commons and to foster financial stability. An improved environment reduces the incidence of diseases as a population's immune system is less compromised by pollutants. Increased trade can have detrimental environmental consequences if dirty industries gravitate to where regulations are lax. Reduced security and disease outbreaks can influence financial stability as capital takes flight. Efforts to bolster the supply of regional public goods must, consequently, consider multiple areas to adjust for complementarity and substitutability among goods from different sectors. In addition, the sequence for providing regional public goods must be addressed; early provision of goods in some sectors may curtail the subsequent need for them in other sectors. An integrated strategic plan is advisable, one that recognizes the interrelationship of regional public goods requirements among sectors.

### **Conclusions and recommendations**

A key conclusion is that regional public goods pose many collective action difficulties not associated with global public goods. Nations have proper incentives to finance national public goods because of direct gains, while rich nations possess incentives to underwrite global public goods owing to spillover benefits. Neither individual nations nor the world community may have the right motives to fund regional public goods. This conclusion is consistent with recent empirical work that shows bilateral donors, multilaterals and regional institutions strongly favour national and global over regional public goods.<sup>6</sup> Thus there is a

growing need to focus foreign assistance on creating a more adequate supply of regional public goods. To achieve this goal regional development banks must be given greater financial capacity. These banks must, however, change some practices by supporting more regional public goods and tailoring the loan-grant mix to the publicness properties of the supported activity. To facilitate loans for regional public goods, regional trade pacts and other regional institutions need to represent regional interests and provide collateral for loans.

The publicness considerations of regional public goods must assume an enhanced role in tailoring support and institutional design. For example, club goods can be privately provided by member-owned collectives that fund the shared good from tolls that account for crowding. An interregional highway or power grid can be supported in this fashion. Clubs are underused at the regional level; use should be increased to promote regional infrastructure. The aggregation technology is also an essential consideration. For weakest link regional public goods, a variety of participants are needed to boost capacity so that an acceptable level of these goods is attained regionwide. This added capacity can be provided by the multilaterals, partnerships, charitable foundations and regional institutions. For best shot and threshold goods, these same institutions must step in or pool efforts to supply the good.

The subsidiarity principle should not be followed blindly. As shown, offsets to subsidiarity may require an imperfect match to take advantage of other gains such as scale or scope economies. When transnational public goods involve interregional spillovers, networks and partnerships of participants from multiple regions are appropriate for supplying the good. Combining interests from multiple regions may also be necessary for some best shot and threshold regional public goods. In such cases the multilaterals can serve an important coordinating function to ensure sufficient investment and the absence of duplication of efforts.

The key sectors of regional public goods have diverse policy recommendations. For most of today's security challenges, a global approach is recommended because proactive measures require a response that most regions cannot or will not mount. Moreover, defensive regional responses merely divert the threat to another region. As a best shot regional public good, knowledge creation is associated with effort levels that require assistance from global institutions or rich countries. Unless poor regions build up their knowledge infrastructure through outside assistance, their knowledge needs will be increasingly ignored. If pollution patterns can be monitored at the regional level, nations will have

improved incentives to frame treaties on a wide range of pollutants owing to the underlying weighted-sum aggregator. Multilaterals need to provide this monitoring capability as they did in Europe. Trade presents the least difficulty as a regional public good, because trade pacts are clubs in which all members benefit. The negative consequence to non-members in terms of trade diversion is the real concern.

As a weaker link regional public good, financial stability requires best practices as demonstrated by financially stable rich nations through the Basel Accord and its upgrades. The IMF and the regional development banks can monitor a region's adherence to such practices. Like trade, financial stability is easily addressed at the regional level owing to favourable incentives to adopt proper practices to attract capital inflows. Regional public goods associated with communicable diseases adhere to weakest link and best shot aggregation technologies. The first requires assistance-funded capacity upgrades, while the second means that global institutions and rich nations must increase effort. Best shot actions to cure region-specific communicable diseases will require help from multilaterals, charitable foundations, institutions based in rich nations and public-private partnerships.

## Notes

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1. Benefits are non-rival when a unit of the good can be consumed by one agent without detracting, in the least, from the consumption possibilities still available for other agents from the same unit. Benefits are non-excludable when they are available to all would-be consumers once the good is supplied.
2. Estimates by Raffer (1999) indicate that support for public goods varied from 20% to 40% of official development assistance in the 1990s, depending on the classification of public goods used. The growth of aid-supported public goods is further documented in a recent study by Mascarenhas and Sandler (2005). Also see the World Bank (2001) study, which distinguishes between complementary and core activities. Complementary activities lay the infrastructure for developing countries to consume transnational public goods—the so-called core activity. They

require national public goods that prepare the county to benefit from transnational public goods.

3. SIEPAC is a power grid involving Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua and Panama (Arce 2004).
4. Researchers who focus on supportive factors for regional public goods include Barrett (2002), Devlin and Estevadeoral (2004) and Ferroni (2002). A more even-handed approach is taken by Arce and Sandler (2002), Cook and Sachs (1999) and Sandler (2004a, 2004b).
5. See the figures in Mascarenhas and Sandler (2005) and te Velde, Morrissey and Hewitt (2002). This increase has drawn funds away from other sectors such as the environment.
6. Based on OECD data on foreign assistance, see Mascarenhas and Sandler (2005) and te Velde, Morrissey and Hewitt (2002).

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# Regional Cooperation: A Tool for Addressing Regional and Global Challenges

## 5 Chapter

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*This paper explores the usefulness of regional cooperation in addressing regional and global challenges, with a focus on global public goods for trade, knowledge, peace and security, financial stability, global commons and communicable disease control. It develops a four-step framework, which seeks, first, to acknowledge that regionalism has become increasingly complex and heterogeneous in the context of globalization; second, to distinguish between different types of regional cooperation mechanisms; third, to show that effectiveness and sustainability of regional cooperation are contextually specific, but also dependent on institutions; and, fourth, to pinpoint the specific regional and global goods that regional cooperation is to supply. Applying the framework to these global public goods shows that a coherent way of dealing with them could constitute a global public policy, that they are interlinked and mutually supportive, that the contributions from regional cooperation are essential, that the underlying institutional structure for regionalism is uneven and underdeveloped and that providing global public goods requires specific policy measures. Global, regional and national levels should exploit the specific comparative advantages of regional cooperation for each global public good.*

The purpose of this paper is to analyse, in concrete and policy-relevant terms, the usefulness of regional cooperation for the provision of the global public good (GPG) area identified as priority by the International Task Force on Global Public Goods (hereafter referred to as the Task Force). These include:

- Promoting the gains from trade.
- Promoting the gains from knowledge.



- Preserving peace and security.
- Ensuring financial stability.
- Preventing adverse environmental spillovers (protecting the global commons).
- Halting the spread of communicable diseases.

These constitute a framework for a global welfare policy. They are linked in many ways, which must be identified to increase the coherence of a global policy that promote public goods.

The concept of public goods comes from economic theory, traditionally referring to the national economic system, where public goods constitute the essence of nation building by providing incentives for citizenship and the basis for the political legitimacy of the state, particularly the modern welfare state. The current interest in international public goods—regional and global—is a consequence of globalization eroding national sovereignty, territoriality and authority. It raises the difficult question of how public goods can be identified, financed, produced and distributed at regional and global levels, where they are badly undersupplied. Thus the discussion on public goods has moved from the national economy to a transnational world, which is partly why it has become so complex.

The distinction between global public goods and regional public goods is not very sharp, but it is clear that some transnational problems emerge in specific regions or are best managed through regional cooperation. It is growing as a way of dealing with transnational challenges. Regional cooperation is becoming more common, as are the number of diverse institutional arrangements, including comprehensive regional organizations, sectoral regional organizations, regional networks and partnerships and so on. One reason for focusing on regional cooperation is the lack of politically grounded problem-solving at the global level. Despite a more institutionalized global level, many new challenges are neglected, which has resulted in regional cooperation becoming an important tool for addressing both regional and global challenges. This analysis aims to put this trend into context, bring some order to the plethora of regional organizations and assess their effectiveness in dealing with regional and global challenges.

This paper is divided into three parts. First, it develops and defines a framework. Second, it applies the framework to the provision of GPGs for trade, knowledge, peace and security, financial stability, global commons and communicable diseases. Third, it makes policy recommendations for a regional approach to transnational problem-solving.

## Building the framework

The framework is built in four steps. First, it is argued that the phenomenon of regionalism has become increasingly complex in the context of globalization. There is a need to distinguish the conventional, state-led forms of intergovernmental regional cooperation from the recent, more heterogeneous patterns of new regionalism. Second, this paper develops a typology of regional cooperation based on an extensive inventory. Third, it discusses the conditions for the effectiveness of regional cooperation. Fourth, it differentiates regional public goods from global and national public goods.

The point of departure lies in the diverse forms of regional cooperation that have developed due to the new wave of regionalism. Since the mid-1980s new regionalism has changed the structure and content of regional cooperation, making it more complex and varied. Achieving public goods is not only an economic problem, but also a political problem. A broader political economy approach drawing from social science is needed. This is also necessary in view of the extremely varying kinds of public goods selected for this paper. In fact both the public goods quality and the meaning of “regional” differ from one case to another. Trade obviously draws more on economics than does security, which is a key focus in political science and international relations. Health is largely outside social science. However the ambition here is to be interdisciplinary as well as sensitive to contextual specificities.

The regional dimension implies that the problem, whether civil war or contagious disease, can be distinctively regional and, if managed successfully, transformed into a regional public good such as a regional security community or a health control system. To the extent that the problem is exclusively regional, the region is defined by the problem at hand. For example, a river system covering several countries can be both a threat in the form of flooding and a possible benefit in the form of energy and irrigation. But there is not necessarily a coincidence between the range of the regional problem and the regional cooperation mechanism supposed to manage the problem. As Arce and Sandler (2000, p. 13) elegantly state about regional public goods, there is often a “failure to match ... spillover range with a political jurisdiction”.

### *From old regionalism to new regionalism*

It has become somewhat ambiguous as to what a specifically regional problem is and why and when regional cooperation emerges in addressing global problems. This is due to regional cooperation in a context of global transformation, in which the processes of regionalization and globalization are intimately intertwined (Hettne, Inotai and Sunkel various years; Schulz, Söderbaum and Öjendal 2001). Any assessment of regional cooperation depends on the perspective on global transformation.

It is conventional to divide the literature on globalization into three categories: the hyperglobalizers, the sceptics and the transformationalists (see Held and others 1999). Hyperglobalizers believe that people live in a global economy, which the sceptics reject as a myth. The difference is similar to that between *laissez-faire* and interventionism. Transformationalists believe that all states and societies are going through a profound transformation as they adapt to a globalizing world. The distinction between *laissez-faire* and interventionism becomes less obvious. This is also the perspective built on in this paper—the transition from a Westphalian or state-centred world order to a post-Westphalian or post-sovereign world order—making the issue of public goods provision dynamic. Stiglitz (2001, p. xi) underlines how “economic policies contribute to a breakdown in long-standing social relations”, an outcome with adverse economic effects. To restore a balance between the economy and the society is the task of public policy. It is in this perspective that the growing concern for international public goods, regional and global, is understood.<sup>1</sup>

Because of its close relationship with globalization, contemporary regionalism is fundamentally different from the regional cooperation and integration that emerged after the Second World War, which in turn affects how regional cooperation can and should be used to deal with current regional and global challenges. It is therefore necessary to distinguish old, state-centred unidimensional regionalism from the new, multidimensional regionalism (see table 5.1).

Classical regional integration theories from the 1950s and 1960s dealt primarily with European integration. Regional cooperation was dominated by governments and influenced by national interests. The historical context was the bipolar world order, which imposed a cold war logic on regionalization (hegemonic regionalism), not only in Europe but also in other areas where regional integration experiments

Table 5.1 Old regionalism and new regionalism

Old regionalism	New regionalism
Influenced by cold war logic, often imposed from the outside by the superpowers	Influenced by post-cold war logic, developing from within the regions
Introverted and protectionist	Extroverted, linked with globalization
Specific and narrow objectives (mainly trade or security)	Comprehensive and multidimensional objectives (economics, politics, security, culture)
Exclusive in terms of membership	Inclusive and open membership
European phenomenon, modelled on the European communities	Worldwide and heterogeneous phenomenon
State-centred and state-dominated, especially within intergovernmental regional organizations	Involves state, market and civil society actors in many institutional forms

were initiated. The idea of spillover, heavily emphasized by the neofunctionalists, is perhaps more relevant today. It is important to consider the impact of regional cooperation from one issue to another. However it is necessary to understand the differences between previous regionalism and the contemporary phenomenon.

Since the late 1980s there has been an explosion of various forms of regionalism and regionalist projects all over the world. The development of the European Union is perhaps the most debated example of this trend. Many other regionalization processes can be observed in other parts of the world, made visible through the (re)emergence, revitalization or expansion of regional projects and organizations such as the Association of Southeast Asian Nations (ASEAN), Economic Commission of West African States (ECOWAS), Southern Common Market (Mercosur), North American Free Trade Agreement (NAFTA), Southern African Development Community (SADC), South Asian Association for Regional Cooperation (SAARC) and the like.

It is essential to recognize that this renewed and worldwide trend of regionalism is not confined simply to formal interstate regional organizations and frameworks (Hettne, Inotai and Sunkel various years; Schulz, Söderbaum and Öjendal 1999; Söderbaum and Shaw 2003). On the contrary, the new regionalism is characterized by its multidimensionality and complexity. It involves a rich variety of state and non-state actors, which often come together in informal networks and multi-actor coalitions operating at different levels of the world system.

New regionalism is part of a global transformation creating a complex, multilevel system of governance, with vertical and horizontal interaction. With intense relationships between globalization and regionalization—

one of the core characteristics of new regionalism—the solution is not a return to a simplistic past where there is supposed to be an easy choice between either global or regional projects. Although it may still be possible to set one against the other, it is too simple to argue that global and regional cooperation mechanisms are competing (realism) or mutually reinforcing (liberalism). There is a more complex multilevel relationship, and this analysis of public goods will reveal how this plays out.

### *A typology of regional cooperation mechanisms*

An important difference between old and new regionalism, with deep implications for this paper, is the unidimensionality of the old and the multidimensionality of the new, resulting in a greater variety of state-led regional arrangements and non-state or hybrid regional arrangements, networks and governance mechanisms.<sup>2</sup>

This pluralism makes it difficult to categorize regional cooperation arrangements. Global organizations can be categorized as operational agencies (United Nations Development Programme), service providers (World Intellectual Property Organization) or organizations that set international norms and standards and are usually the main arenas for multilateral negotiations (United Nations) (Kaul and Le Goulven 2003). But these distinctions are less obvious among regional organizations, which often show all three characteristics simultaneously. In fact such a combination is often optimal. Although it is fruitful to differentiate between functions, it is important to look elsewhere for categorizing regional cooperation mechanisms.

Perhaps the most fundamental characteristics of regional cooperation mechanisms are captured by two other distinctions: whether it is unidimensional or multidimensional and whether the venture is an organization or a more loosely structured network (see table 5.2). The unidimensional or multidimensional distinction refers to the aims and activities of the regional cooperation mechanism. Unidimensional implies a focus on a specified activity within a given sector, such as trade or transport, or on a particular task, such as financing development projects. A multidimensional regional cooperation mechanism has a wide range of purposes and activities spanning at least two sectors. It owns its decision-making process and can create operational procedures to deal with specific issues.

An organization is commonly defined as involving: membership—a formal, permanent structure—and specified aims, functions and activities (Archer 1992). A formal and permanent bureaucratic structure,

Table 5.2 **Typology of regional cooperation mechanisms**

	Organization	Network
Unidimensional	Sectoral organizations Security organizations Economic integration arrangements Regional development banks	Research networks Public-private partnerships Civil society networks
Multidimensional	Comprehensive organizations River basin organizations UN economic commissions	Growth triangles Cross-border, microregional organizations Development corridors

autonomous and separate from the control of a single member, differentiates most organizations from more loosely structured networks. There are varieties of networks, but many are open, extroverted and inclusive, capable of expanding without (formal) limitations and interacting with new nodes and other networks. Networks are typically decentralized, to a large extent horizontally structured and more cooperative (even egalitarian), as opposed to the hierarchy in organizations. Some networks are not concerned with policy formulation and project implementation, but are focused on increasing communication and interaction or encouraging cooperation.

Networks can emerge within organizations, thus creating hybrid network organizations.<sup>3</sup> Networks and organizations can overlap; a network can be an organization, and an organization is sometimes a network.

### *Unidimensional organizations*

Unidimensional organizations comprise thousands of regional cooperation mechanisms around the world. Most common are functional and sectoral regional organizations, operating in most fields of activity—health, transport, research, education, communications and so on. Examples include the West African Health Organization, Caribbean Environmental Health Institute and Southern African Centre for Cooperation in Agricultural Research.

Security organizations and alliances specialize in security and conflict intervention. They range from organized defence pacts, such as the West European Union, to comprehensive security organizations with military forces, such as the North Atlantic Treaty Organization (NATO). They often develop out of broad-based multidimensional organizations, as in the SADC Organ on Politics, Defense and Security Cooperation or the ECOWAS Monitoring Group. NATO, on the other hand, is becoming a military and political organization.

Regional economic integration arrangements can be of any type of economic integration, ranging from free trade areas to common markets to customs, economic or monetary unions. They often start out as (preferential) trading arrangements. More or less every country in the world is party to at least one such arrangement—an example of the overlap, duplication and lack of implementation of many schemes. Trading agreements may only require a minimal organizational structure, such as NAFTA or the European Free Trade Association (EFTA). But the deeper and more sophisticated they are, the more political and multidimensional they tend to become—the European Union, for example.

Regional development banks, such as the Inter-American Development Bank, Asian Development Bank and African Development Bank, facilitate regional cooperation in many parts of the world. Their mission, however, is to finance and mobilize resources for development projects, which implies that they can be seen as unidimensional organizations. Many regional development banks focus on national projects that concern only a few member states, making the banks poor players of sustaining regional cooperation. In addition, their “regionality” is ambiguous due to their external non-regional membership or ownership, suggesting that they prefer to be understood as multilateral development banks operating in a regional context (Mistry 1995).

#### *Multidimensional organizations*

Multidimensional organizations are important for regional cooperation throughout the world. Although prevalent during the old regionalism, they are more widespread now. Some of the most well known examples are the European Union, African Union, ASEAN, ECOWAS, SAARC and SADC. Characterized by their multidimensionality and centralized, comprehensive organizational structure, these organizations explore the various issues and spillover effects between such areas as security, economics, politics and culture. They are often political, intertwined with economic or security interests. The number of members varies depending on the size of the region and scope of the organization. Over time these organizations develop a unique competence in assessing issues in a transnational context and in effect constitute regional governance, possibly leading to conflicts between intergovernmental and supranational interests, such as in the European Union.

River basin organizations, such as the Mekong River Commission and the Zambezi River Basin Commission, vary in structure. Several

started out with a specialized focus, but became multidimensional to cooperate in all areas related to the river basin, such as navigation, flood control, fisheries, agriculture, hydro-power and environmental protection. There are two interesting features of these organizations. First, they tend to become more organized and institutionalized, transforming from loose committees and agreements to more centralized organizations. Second, they tend to go from focusing on states to including a host of non-state actors and stakeholders, such as donors, local communities and non-governmental organizations, which resembles a network structure.

The UN regional economic commissions—the Economic Commission for Latin America and the Caribbean, the Economic and Social Commission for Asia and the Pacific and the Economic Commission for Africa—aim to promote and facilitate concerted action for the economic and social development of the continents or countries they operate in. They act within the UN framework and are subject to the general supervision of the Economic and Social Council. They are advisory and servicing bodies that support and sponsor national, regional and international projects and programmes. Many of their activities are coordinated with donors, national authorities and other regional organizations, helping to promote regional cooperation around the world.

### *Unidimensional networks*

Many networks operate within a specific sector or to fulfil a particular task such as research or training. Examples include regional research networks and regional power grids such as the Nordic Energy Pool and the Southern African Power Pool, which comprises national power authorities and private energy operators. Other examples include civil society networks and organizations such as the Hemispheric Social Alliance in the Americas, the Social Justice Network in Mercosur, the West African Network for Peace and so on. Some may become multidimensional while taking on qualities of an organization.

Public-private partnerships are a particular type of network. Partnerships between public and private actors are often formed for specific purposes such as building a road or a port. The main role of public actors, often central or regional government, is to provide the legal backup, whereas private actors carry out tasks and manage programmes. The involved actors meet in various committees in the network, which are often temporary, designed to dissolve once the task is achieved. Public-private partnerships have quickly become important for the provi-



sion of certain public goods, such as infrastructure. They are likely to continue to increase in importance and become ever more regional.

### *Multidimensional networks*

Networks tend to be unidimensional, requiring less organization. But there are exceptions, often related to different kinds of microregions. For example, the Øresund Network AB is owned by central governments and provincial and local political bodies in Denmark and Sweden, with more than 200 companies, organizations, public authorities and institutions as members. Its aim is to market the Øresund Region, locally, nationally and internationally and to collaborate with other private and public players in the microregion. It is a network organization that coordinates information about investments, company establishments, public sector works or activities.

Growth triangles are another prolific example of multidimensional networks. They use endowments of countries, exploiting cooperative trade and development opportunities. The Southern Growth Triangle, also known as SIJORI (Singapore, the Johore state of Malaysia and Riau Province of Indonesia), was formed in 1989 and covers a population of some 6 million people. Singapore has focused on becoming the technology centre, sending labour-intensive operations to low-cost Malaysia and Indonesia. The private sector provides capital for investment. The public sector provides infrastructure, fiscal incentives and the administrative framework to attract industry. Growth triangles continue to drive growth in Asian economies.

The spatial development initiatives and development corridors in southern Africa are short-term targeted attempts to stimulate economic growth by creating globally competitive spatial entities through new investment, infrastructural development and job creation. They reject full-fledged regional organizations and are designed to bring together experts and policy-makers in small, introverted policy networks with few links to people and stakeholders on the “outside” (Söderbaum and Taylor 2003).

An inventory of regional cooperation mechanisms tells us nothing about their relevance in producing international public goods. Regional cooperation should meet the same criteria as other international public goods—net global benefits, net national benefits and net poverty benefits (ITFGPG 2004). Obviously net global benefits are needed for an action plan for international public goods. But in the case of regional

cooperation there must also be net regional benefits. And there must be enough net national benefits to guarantee financing and avoid free-riding, but states are not the only actors. Non-state actors are becoming more involved in the provision of regional and global public goods and are not necessarily influenced by national interests. Most important are net poverty benefits, which are derived from the normative strand in the public goods tradition, stressing justice, fairness and a productive relationship between developing and developed countries. It should be stressed that net poverty benefits seem to be particularly relevant for civil society actors. And net poverty benefits may not be compatible with the net national benefits. Even if these criteria for provision are fulfilled, the question of effective implementation—the production process—in the regional context remains.

### *The effectiveness of regional cooperation*

This paper's framework emphasizes institutionalization because the regional level is less institutionalized than the national and the global levels, where many organizations and institutions operate. But these institutions are ineffective in dealing with many current global and regional challenges. In fact many new challenges are neglected at the global level, whereas the seriousness of certain problems, such as political disintegration or epidemics, are harder to disregard on the regional level since many regional actors are immediately affected. This push effect is often described in terms of "discrepancies between the global nature of a growing number of policy issues and the fractured nature of public policy-making along country, sector, actor and other conventional dividing lines" (Kaul and Le Goulven 2003, p. 378). The degree and quality of institutional reform is thus a key factor in explaining the effectiveness and relevance of regional cooperation.

To determine the effectiveness of a given regional cooperation scheme is certainly not unproblematic. The European Union is the best example of this. There is little doubt that it is the most discussed and analysed regional cooperation and integration mechanism in the world. However there is little consensus on its effectiveness in addressing transnational challenges. And if it is effective, it is as difficult to agree on what makes it so. Thus, although the European Union is often referred to as a model of regional cooperation, its content and effectiveness remain deeply contested. This is only natural. The European Union is a political project, and any claim of effectiveness depends on theoretical

assumptions. It is worthwhile to distinguish between the effectiveness of organizations, carrying out a mandated task, and the “actorness” of organizations, developing a larger scope of action and room for manoeuvre, in some cases even a legal personality.<sup>4</sup>

Furthermore, any assessment of effectiveness must be contextually specific, and as a consequence the issue of effectiveness will ultimately need to be addressed through empirical analysis. Even if a particular type of regional cooperation mechanism is considered effective in one context, it is not necessarily so in another. Similarly, a particular institution may seem premature but still highly relevant when its time comes—the European Union, for example.

Misplaced and false generalizations are undoubtedly a problem in the study of regional cooperation. Again, consider Europe. The study of regionalism, especially old regionalism, has always been dominated by an empirical focus on Europe, which has led to false generalizations. Breslin and Higgott (2000) point out that the appropriate comparison of regional projects is at similar stages of evolution.

This broad, interdisciplinary framework begs consideration of different dimensions of institutionalization processes, and it allows the generalization that most approaches, however different, emphasize “durable and routinized patterns of behaviour” (Hodgson 1988, p. 10). Institutions imply socialized expectations and predictability.<sup>5</sup> Both shallow and narrow definitions of institutions have a role to play. Even single-purpose organizations and networks, such as regional development banks, can facilitate regional cooperation by enhancing member countries’ sense of being and belonging to a region.

Due to the complexity of issues and the need for cost saving, networked regional cooperation is more common in the new regionalism. An organization and a network have their different comparative advantages. A formalized, clearly defined administrative and hierarchical organization is, for instance, ideal for implementing strategies and policies, especially in a stable environment and where the problem at hand is clearly defined. On the other hand, a decentralized and flexible network structure may be more adaptable in a turbulent, rapidly changing environment and in situations where progress hinges on accommodative, flexible cooperation and more informal and inclusive relationships and communication.

Multidimensional organizations are also harder to evaluate in terms of effectiveness than are unidimensional organizations. It may be difficult to measure spillover effects or benefits of providing a compre-

hensive framework. Unidimensional organizations are easier to assess in terms of effectiveness because they are established to achieve precise objectives.<sup>6</sup>

Institutional reform is pushed by changing problems and issues. Globalization forces national institutions to think in terms of common concerns rather than foreign relations (Kaul and Le Goulven 2003). And it forces regional organizations to build interregional networks and partnerships with a variety of actors (transregional, interregional, multiregional) in response to global challenges. Institutional reform is more reactive than proactive. With better understanding of global issues it should be possible to correct this imbalance. The costs of improvisation are too high.

International organizations and institutions can be ordered according to their scope of action and liberty of decision-making (Kaul and Le Goulven 2003). At the top are organizations that set norms and standards and take part in international negotiations—in this context, multidimensional regional organizations. Here one should talk of actorness rather than effectiveness. They can be improved through a long-term process of trial and error, but it would be hard to say that they have failed and should therefore be abolished. These actors are evolving and are capable of developing their own evaluation mechanisms. Next are operational organizations, which have specific purposes but nevertheless enjoy a certain autonomy in the way they try to achieve their goals. These are unipurpose organizations and networks. Here the level of achievement may be improved by a better-formulated mandate, better leadership and more resources. Last are service providers, with a very precise mandate and little room for manoeuvre on their own. Short-term measures can be taken based on simple criteria of effectiveness.

### ***Public goods and regional cooperation***

Judging from the literature, public goods and services can mean (perhaps too) many things: common resources (air and water), preferred social conditions (health, welfare and peace), common institutions and policies to pursue shared goals and systems of rules by which the common good is peacefully achieved (Kaul, Grunberg and Stern 1999; Kaul and others 2003). The essential meaning of the classical concept is often seen as the public provision of goods, which are non-rivalrous and non-exclusive. Other well known problems concern how preferences are made known (the demand function) and financing, production and distribution. Peace

and security, as well as law and order, are often mentioned as pure public goods, where the sometimes blurred distinction between private and public causes less of a problem. Private provision of health is acceptable, but private provision of security defines a mafia system. There is therefore little doubt about public preferences (publicness). Furthermore, this public good is particularly valuable for poor people, who in the case of other public goods normally experience problems of access—the need to possess private goods in order to benefit from public goods.

The current interest in international public goods is due to the erosion of national sovereignty—caused by globalization—and raises the question of how public goods can be produced and distributed on the global and regional level. The distinction between global public goods and regional public goods is not very sharp, but it is clear that some international problems emerge within specific regions and are best managed through regional cooperation. One reason for focusing on the regional level is the lack of politically grounded problem-solving at the global level. International organizations and institutions operating on the global level are often treaty based and highly dependent on constituent states. Regional organizations, where power is pooled, tend to be more autonomous. This so far is a feeble trend with many setbacks, but it, in a transformative perspective, contains a historical logic.

Regional goods are undersupplied, and resources are undermobilized. Few public goods can be supplied only through the market mechanism. However state intervention might not be the solution. Non-state actors are becoming more involved, and novel forms of public-private partnerships are emerging. But there are other problems. Regional public goods can be exclusive and rivalrous (regional fortresses), as is typically the case with national public goods (from the perspective of non-citizens).

Focusing exclusively on the regional level would be misplaced. Many studies distinguish goods at different levels—mainly national, regional and global levels. Whether goods are regional (with a spillover range confined to a region) or global (with a universal or semi-universal spillover range) is by no means self-evident and depends on a range of factors. Many public goods have national, regional and global dimensions, which can change over time. Kaul (2003) claims that private and public goods are “socially constructed”, and their properties are not inherent in the goods themselves—hence the dynamic and transformationalist perspective. It is important to point out that the concept of regional public goods is problematic. Defining the level (and the spillover

range), which may depend on the nature of the public good, is difficult. Also difficult is discerning whether the region is the geographical origin and scope of the problem, the appropriate arena for intervention and action or the actor itself.

Regional cooperation schemes are also becoming more influential on the global arena and in the provision of GPGs. The European Union, for instance, is an important actor in the global trading regime. This might signal a transition between two trading orders—a transition from the old trading regime of national states to the new trading regime of regional trading blocs (interregionalism). Similar tendencies can be witnessed in other areas such as environmental policy. Thus this paper deals with the relationship between the global and the regional.

By the same token, there is also an intriguing relationship between the regional and the national levels. Regional development banks are designed to achieve national goods, which is the result of their special lending procedures. In the case of SADC (a national actor in practice) the institutional design was decentralized (until 2002), with each member country responsible for a particular sector of cooperation. This institutional structure often resulted because the regional cooperation scheme was used to implement national projects. Other regional cooperation schemes reveal similar characteristics. There must be a more cooperative relationship both between regional and global levels and between national and regional levels.

The importance of interlevel cooperation is one of the main messages of this paper. The principle of subsidiarity has received a lot of attention in the public goods discourse. For many observers and policy-makers subsidiarity suggests that, depending on what level the good is allocated, there is a corresponding first best institutional solution. Some observers emphasize decentralization. Kanbur, Sandler and Morrison (1999, p. 2) state that “subsidiarity dictates regional and sectoral decentralization”. But decentralization should not be carried too far, since many problems require cooperation between levels. Kaul (2003, p. 6) supports this idea: “In the case of regional and global public goods there often is not only a need for ‘horizontal’ cooperation, e.g. between the state and non-state actors, but most importantly, for ‘vertical’ cooperation, i.e. cooperation between various levels of government, at the local, national, regional and inter-regional/national levels”.<sup>7</sup> Thus determining the appropriate interlevel or multilevel mechanisms deserves emphasis. Most public goods have national, regional and global dimensions—links that must be kept in mind.

## *Conclusion*

This framework comprises four steps. First is emphasizing the importance of the ongoing transformation of the international system, manifested also in the transition from old to new regionalism. The transformationalist thesis is that all states and societies go through a profound transformation as they adapt to a globalizing world. This implies a transition between a Westphalian or state-centred and a post-Westphalian or post-sovereign world order. Second is taking inventory and classifying established forms of regional cooperation into unidimensional or multidimensional and organization or network structures. Third is to consider the meanings and sources of effectiveness in regional cooperation. This framework builds on the assumption that certain problems, associated with ineffective public management, emerge within distinct regional contexts and are best addressed at the regional level. At the same time a region, due to the new importance of regional actors, is often transformed from object to subject and assumes a capacity to act (actorness) depending on the coherence and institutionalization of the region. A strong, well organized region—with effective institutions—will contribute to regional and global public goods. Fourth is to identify international public goods and differentiate national, regional and global public goods. The need for interlevel cooperation must be stressed.

## **Applying the framework**

Here the framework is applied to each of the GPG areas identified by the Task Force: trade, knowledge, peace and security, financial stability, adverse environmental spillovers and communicable diseases.

### *Promoting the gains from trade*

Since the mid-1980s there has been a strengthening, deepening and widening of regional trading arrangements, and more or less every country in the world has joined at least one of these ventures, which include the single market of the European Union, NAFTA, Arab Maghreb Union, ASEAN, Caribbean Community (CARICOM), Mercosur, SAARC, SADC and so on.

Many economists consider multilateral free trade as the optimal and “first best” option for promoting the gains from international

trade. The general assumption is that an open and competitive international market is a GPG (Birdsall and Lawrence 1999). Regional trading arrangements are often seen as second best, so they are judged according to whether the arrangement contributes to a closed or open multilateral trading system, embodied in the so-called stumbling block versus stepping stone dichotomy. Many of the regional trading arrangements of the old regionalism in the 1950s, 1960s and 1970s were inward looking and protectionist. When judged by today's economists they are often regarded as failures and stumbling blocks (although at the time they were often considered instruments to enhance industrial production).

Today most economists favour "open regionalism", which prescribes the elimination of obstacles to trade (and to some extent investment) within a region while tying into the multilateral trading system and doing nothing to raise external barriers to the rest of the world (Cable and Henderson 1994). Thus open regionalists seek to promote trade liberalization on regional and multilateral levels. This strategy guides regional trading arrangements in many parts of the world—such as with the Asia-Pacific Economic Cooperation (APEC) and Mercosur. Important actors such as the European Union, United States, World Bank and World Trade Organization (WTO) often favour this regionalization strategy—at least for developing countries (and not necessarily for their own actions). This is, of course, a particular notion of how multilateralism and regionalism (should) relate to each other.

The argument here is different. No government has a clear-cut choice between regional or international trade. Linear developments are unlikely, and regional trade arrangements and multilateral trade arrangements co-exist and are involved in a complex relationship. This is why the relationship between regionalism and multilateralism is so important.

There may be competition between multilateralism and regionalism. Some influential economists, such as Bhagwati, continue to warn against protectionism, arguing that today's regional trade blocs do not promote the gains from trade. This is not unfounded, and protectionism still exists. The EU single market is, for instance, not always accessible for outsiders. However there is often an exaggeration of the costs of regional trading arrangements. For many regions regional trade can be important and provide an effective training ground. There are also important problems with the multilateral trading system.



*Regionalism as a response to asymmetric multilateralism*

When the multilateral trading system is analysed through a public goods lens it appears as a public good in form, but not in substance (Mendoza 2003, p. 455). The welfare gains and net benefits from the multilateral trading system are extremely imbalanced, skewed towards industrial countries. The WTO only passes the minimal “neutrality” notion of fairness but probably fails the two others—“net benefit for all” and “maximum rule” (Mendoza 2003, p. 469). As a consequence, it is neither legitimate nor effective.

From a historical perspective the multilateral trading system is arguably successful. However the General Agreement on Tariffs and Trade has proved unfair, uncertain and ineffective in dealing with the economic and political challenges since the 1990s. Mistry (2003, p. 135) attests that the WTO has been “hijacked” by Organisation for Economic Co-operation and Development (OECD) governments to protect their interests in a world where their economic and military power is challenged by emerging developing countries. Much of today’s regionalism, especially (but not only) in developing countries, has often developed in response to the dominance of the WTO and globalization. Even if multilateralism is the first best strategy for enhancing the gains from trade according to economic theory, regionalism is the first best policy option in practice. Thus the problem with economic theory: it does not automatically lead to good public policy (Higgott 2002). “New regionalism is being embraced because old multilateralism no longer works” (Mistry 2003, p. 136). Regionalism has become the best coping and risk management strategy. The new challenges facing countries cannot be handled through national action, so sovereignty is pooled. Regional arrangements allow the market access that was never realized through multilateral negotiations. Furthermore, many countries have been helped by the unilateral liberalization of neighbours and the commitments undertaken in the context of regional trade agreements.

There is also a proliferation of bilateral free trade agreements all over the world, but especially in East and Southeast Asia and the Americas. This is also happening in the context of frustrated multilateralism and because of low trust in the WTO. One important explanation is that many bilateral trading agreements are emerging because policy-makers want “to create an illusion of control over one’s own policy processes and policy choices” (Higgott 2002, p. 22). There are cases in which bi-

lateralism improves conditions and ultimately converges into regionalism or multilateralism—or both. However it can be seen as a statement of sovereignty, resulting in a fragmentation of both multilateralism and regionalism. One of the more important problems is that strong states want to make bilateral agreements with weaker states. However regionalism implies a rule-based order, which is more inclusive because some countries will not be able to conclude bilateral agreements. There is more strength in the regionalist solution.

There is a comparative political advantage of regionalism over conventional multilateralism. Regionalism is likely to become a stronger force over the coming decades, particularly if the multilateral trading system remains unchanged. Regions may be good vehicles for smaller countries to increase their bargaining power and voice in multilateral trade. Regionalism offers a better approach than nationalism, bilateralism or multilateralism. It can often be easier and more effective than multilateralism, which depends on 200 or more unequal nation-states and is hijacked by the Group of Eight and OECD countries. The most pragmatic and effective solution is a regional multilateralism. Regionalism will cede to multilateralism only when multilateralism is rebuilt on foundations of successful regionalism and a more fair world order (Mistry 2003). There is a risk that the most powerful regional countries may dominate regional arrangements in accordance with their myopic national benefits and at the expense of weaker countries. A fair distribution of costs and benefits is the most decisive but also most difficult factor in economic regionalism. Still, regionalism is more effective in dealing with fairness than is multilateralism.

In this context it should be stressed that the point is not to put regionalism against multilateralism. There is no simple choice between the two, but there should be a more fruitful relationship. The multilateral principles and rules of the WTO could set the conditions for regional trading arrangements—at least to the extent that the rules are adhered to—preventing certain inward-looking and protectionist regional trading arrangements. But if rules within regional trade units converge with multilateral rules, they will reinforce the multilateral system. This means that multilateralism can improve the functioning of regional trading arrangements. The case of anti-dumping exemplifies how the WTO helps to loosen frictions of regional arrangements. Brazil and Chile, usually “victims” of anti-dumping measures, are eager for stricter WTO discipline and the use of such rules as a policing instrument of regional relations (Tussie 2003).

Furthermore, members of regional trading arrangements are increasingly likely to demand new services from the WTO, such as policing regional relations and contributing to healthy regional relations. This need is a severely understated case of “how regionalism is providing a substance to multilateralism” (Tussie 2003, p. 115). Thus regionalism is conducive to a more useful and functional multilateralism. But it goes much further than this; as noted above, regionalism can be seen as a prerequisite for reconstructing multilateralism on a more equal regional basis.

### *Conclusion*

The mainstream argument is that trade integration should precede other forms of regional economic integration, with a narrow focus on trade liberalization. During the past decade the heavy focus on trade liberalization (multilateral and regional) for development has been increasingly questioned. As Rodrik (1998, p. 2) points out, in the mainstream discussion the benefits of trade reforms for economic growth and development are overestimated and “can backfire if it diverts the scarce energies and political resources ... from growth fundamentals”, such as human resources, macroeconomics, fiscal policy and so on. Many scholars and policy-makers have pressed for a more development-oriented approach that emphasizes intervention by political institutions and policy manoeuvre to generate innovative development policies ultimately more important than trade liberalization alone (Mendoza 2003; Mistry 2003). It is interesting to note that there has been a noteworthy convergence between economists and political economists, emphasizing a broader perspective.

Development-oriented regionalism goes beyond static trade benefits that are the focus in conventional thinking. Development is multidimensional, depending on positive spillovers and links between different sectors, which in turn requires a more holistic regional approach, whereby trade integration is coupled with other forms of economic and factor market integration (investment, payments, monetary integration, harmonization) as well as various types of economic cooperation in specific sectors (transport, communications) (Robson 1993; Padoan 2001). This approach is both fair and politically feasible. From a political standpoint, it is easier to liberalize towards neighbours than on a multilateral basis. And it is also easier to deal with distribution issues. Regional trade clubs can deal more effectively with non-trade economic

and political challenges such as environmental protection and migration (Birdsall and Lawrence 1999).

This line of thinking is part of the EU model. It has started to affect different versions in other parts of the world, such as in East and Southeast Asia (ASEAN), Latin America (Andean Community and Mercosur) and Southern Africa (SADC). The strategy is manageable only through multidimensional and comprehensive regional organizations. Such organizations can exploit spillover effects and links between trade and non-trade issues and between economic and political sectors and benefits—considerably more difficult in other types of organizations. NAFTA, for instance, is mainly a trade agreement and will be more difficult to sue to exploit such links. Similarly, most EFTA countries found membership in the European Commission more rewarding. What this shows is the general trend towards multidimensional regional cooperation and towards regional organizations with a higher degree of actorness.

A comprehensive and development-oriented regionalism should:

- *Go beyond trade and trade liberalization.* The benefits of regional trade liberalization are much less significant than what they used to be. Today's world is dramatically different from the world of the 1960s. And GATT's "success" in reducing tariffs—and to a lesser extent non-tariff barriers—somewhat paradoxically results in the need for a broader approach (Higgott 2002).
- *Ensure fairness and positive integration.* The conventional model is heavily centred on "barrier-dropping" and negative trade liberalization. Development-oriented regionalism requires more positive mechanisms to make the regional market more effective and fair.
- *Link trade to other forms of economic integration—especially monetary integration, transport and communication—and to non-economic sectors.* There is a weak link or no link between trade integration and other economic sectors and forms of integration on the early stages of conventional regional economic integration, above all monetary and financial policies integration, which is a deficiency in the current context of globalization and liberalization and growing levels of capital flows and financial deregulation (Higgott 2002).

### *Promoting the gains from knowledge*

Knowledge is necessary in the promotion of all GPGs. Here this paper explores the role of regional cooperation in promoting the gains from knowledge, focusing on regional research organizations and networks in Africa, where the research and higher education systems are the weakest. Research is a specific form of knowledge, with deep public good aspects.

In the past research was often referred to as part of the national interest, but it is becoming globalized and regionalized. Research that creates knowledge—for instance, how to make a vaccine—can be a GPG. For research on regionally focused problems, such as health, agriculture and environmental management, the benefits are often regional rather than global or national (Cook and Sachs 1999). This analysis suggests that research increasingly takes on the quality of a regional public good and that regional research organizations and networks are crucial for promoting its supply.

This is similar to the globalization of the knowledge industry and the speedy development of information technology, which has profound consequences for research and education. Actors increasingly begin to think beyond the national scale. Higher education and research become internationally traded services on a (more or less) global market, implying that universities and institutions have to both compete and cooperate with actors from the rest of the world. This is more a challenge than a problem. The revolution in information technology has removed the disadvantages of distance and cost for many Africans, especially in virtual services such as knowledge. In this globalized condition, African researchers, universities and other research organizations will inevitably begin to form strategic partnerships, networks, strategic coalitions and alliances across national systems. Research networks are most effective when they operate within a regional setting, where there is a clear common ground between the partners (Carden 1995).

#### *Varieties of regional research organizations and networks*

There is enormous diversity among formal and informal research networks and organizations in the world today. Networks may be mono- or multidisciplinary, thematic or broad, involve researchers or policy-makers and so forth. Many African organizations and networks can be

Table 5.3 Varieties of regional research organizations and networks

Organization (hierarchical)  	Research centres	International Centre for Insects Physiology and Ecology International Livestock Research Institute Southern African Centre for Cooperation in Agricultural Research West Africa Rice Development Association
	Research organizations	African Economic Research Consortium African Energy Policy Research Network Council for Development of Social Science Research in Africa Organization for Social Science Research in Eastern and Southern Africa Southern African Political Economy Series
	Research associations	African Academy of Science African Association of Political Science Association of African Universities Union for African Population Studies
Network (decentralized)	Research programmes and projects	Education of Girls and Women in Africa Forestry Sciences Capacity Building Project Marine Science Cooperation Programme Pastoral Network Information Programme Urban Origins in Eastern Africa

categorized as one of four varieties consistent with the typology defined in this framework (see table 5.3) (Söderbaum 1999, 2001).

The four types of regional research organizations and networks differ in their institutional and organizational structure, which range from hierarchical organizations to decentralized networks. According to this yardstick the regional research centres are the most hierarchical and bureaucratic, followed by regional research organizations, regional research associations and regional research programmes and projects, the most informal and decentralized. In many ways this order also reflects their size, budget and comprehensiveness.

Regional research organizations and networks have different purposes and perform different functions, some more oriented towards research production and others towards networking. More specifically:

- A regional research centre is designed and organized to produce research and research results, although it may also serve a host of other closely related functions, such as education, publications, information dissemination and to some extent networking.

- A regional research organization often derives much of its justification through its ability to produce relevant research results while networking, educating and training, building research capacity and disseminating information.
- A regional research (or professional) association is normally not so engaged in comprehensive research production, but designed to link participants together for networking purposes—for example, often to provide a meeting and networking arena for its members.
- A regional research programme or project is often specialized and specific, primarily aiming to build research capacities (often including an element of research training), produce new research results and enhance networking between a limited number of carefully selected participants.

Despite these different functions there is an important and perhaps surprising structural similarity between regional research organizations and networks. In general, many are multidisciplinary, focusing on research production, with a series of other functions such as networking, research and publication, information and documentation, grants and scholarships and training activities. These similarities are interesting because it is unlikely that organizations and networks with so radically different organizational structures are equally effective at carrying out similar tasks and functions. Despite many donor evaluations on specific organizations and networks, there is, however, a pressing lack of research and evaluations from a comparative perspective. The suggestions can therefore be only preliminary.

An outstanding issue is the effectiveness of the gigantic or at least comprehensive regional research centres, such as the International Livestock Research Institute and other similar centres within the Consultative Group on International Agricultural Research. These are sometimes believed to have had a strong positive impact for developing countries, such as in agricultural research (Cook and Sachs 1999). The general justification has been that they produce important research results. Despite being extremely expensive, they are well resourced and tend to live a life of their own—without being integrated into or contributing to national research systems in developing countries. It would also be interesting to compare their cost-effectiveness with smaller, more flexible and less costly structures, such as regional research programmes. The equivalent amount of funds spent on one regional research centre could create a significant number of regional

research projects and programmes all over Africa and in a variety of fields and disciplines.

### *An interlevel approach*

Regional research organizations and networks are frequently assessed by how much they contribute to the notion of national research capacity (Carlsson and Wohlgemuth 1996; Fine 1997; Sida 1998; Eisemon and Holm-Nielsen 1995). They are often seen as coping or complementary mechanisms, enabling institutions for research and learning to develop when national structures are weak. The fundamental problem is that regional research organizations and networks are not assessed for the benefits they create, but in terms of national research capacity. This has many adverse effects, and there is misplaced competition between the national and regional levels.

The excessive focus on national research capacity is misguided and ignores the structural shortcomings of most national systems and the increasing salience of cross-boundary research networks. Regional research organizations networks provide many important benefits that cannot be achieved otherwise. Thus there are important benefits stemming from the pooling of resources and talents, the spread of risks and intellectual freedom and pluralism, as well as more specific benefits related to research production, networking and dissemination of information and knowledge. A more nuanced understanding of the real and potential benefits of regional research organizations and networks is necessary.

Regional research organizations and networks are certainly no panacea. A holistic and interlevel approach to knowledge production and research capacity building is needed. The relationships between the levels (individual, institutional, national, regional and international) need to become mutually reinforcing instead of competitive and counterproductive, which tends to be the case today (Carlsson and Wohlgemuth 1996; Fine 1997).

### *The role of the donors*

Most regional research organizations and networks in Africa depend on donor funding. The fact that they are funded shows an understanding of their necessity. But research reveals that the very structure and ways in which the donors act tend to counteract networking activities. Aid



agencies tend to focus on national research capacity instead of a multi-level approach. Furthermore, donor agencies, especially the large ones, tend to operate in a blueprint rather than a process mode and are relatively rigid and inflexible, preferring standard formulas and approaches. Their main objective is to achieve the goals by which they are judged (Moore, Stewart and Huddock 1995).

A different approach is necessary, including:

- Patience and a long-term outlook rather than short-term, large-quantity spending.
- Flexibility, experimentation and willingness to admit and learn from mistakes.
- A focus on human skills and knowledge production rather than expensive hardware.
- Fewer recipient institutions and closer monitoring of operations.
- More core support for institutions with proven track records.
- Sensitivity to the particular cultural and political environment and context into which the institution is to fit rather than mechanical and instrumental models and rules of thumb (Moore, Stewart and Huddock 1995; Tostensen 1998).

### *Conclusion*

Regional cooperation in the promotion of knowledge has many comparative advantages—especially in Africa, where national knowledge and research structures are weak. Regional cooperation in research is enabling partners to pool resources and capacities. But there is still a need to further assess the cost-effectiveness and relevance of different types of regional research organizations and networks.

The usefulness of regional cooperation for knowledge and capacity building depends on the problem and the capacities at other levels (global and national). Regional cooperation needs to be integrated into an interlevel and holistic approach.

Regional cooperation in research requires a different institutional approach than that taken today. The approach should be built on a long-term perspective, flexibility and willingness to learn from mistakes, core support for regional institutions and sensitivity to the cultural and political environment and context.

### *Preserving peace and security*

Peace and security is perhaps the most frequently cited example of a pure GPG. It is often understood as a single concept—absence from direct violence and freedom from fear and terror. But peace and security is in fact complex—absence of structural and cultural violence and freedom from want. The two components refer to different ambitions and stages in a peace process and should be kept analytically separate.<sup>8</sup>

It is important to recognize that the structural conditions for peace and security are going through a long-term transformation, evident by the rise of intrastate violence and failed states, suggesting a new (post-Westphalian) security problem in contradistinction to the traditional security literature concerned (or obsessed) as it was with interstate relations. This transformation has also changed the objectives and the legitimization of intervention and peacekeeping (the new interventionism).

In the traditional Westphalian order, security within the state is guaranteed by the state's monopoly on violence. In the international system the basic means of protection is national defence, alliances and collective security arrangements, such as in the United Nations. Security threats emerge from different levels—collapsing states, interstate conflicts, which may be and often are regionalized, and global terrorism, which also has its specific regional manifestations. Terrorism is a global phenomenon for both victims and perpetrators.<sup>9</sup>

An external engagement may take place before, during and after a conflict. The comparative advantage of a regional approach will differ in these situations. Here the focus is on peacekeeping.<sup>10</sup> However a general observation is that the three phases should not be isolated from each other, neither analytically nor by policy.

#### *The comparative advantage of regionalism*

The relationship between regionalism and peace and security is multifaceted, and the concrete content depends on the nature of the security situation and the stage of “regionness” of the geographical area in question. A regional security complex is defined by security interdependence, which implies the risk of a local conflict spilling over into neighbouring areas throughout the region. When faced with more widespread conflict, the security complex is transformed into a security community, defined as a stage in political development where positive

interdependencies among a group of states make it inconceivable to use violence to solve conflicts. Classic examples are the Nordic countries and the European Union. The concept has also been applied to such other regions as ASEAN and Mercosur, whereas in Africa the role of regional actors has been to improvise interventions in acute regional conflicts (Adler and Barnett 1998). This reflects low regionness as well as poor institutionalization and actorness.

Regionalism and peace and security can relate to each other in widely different ways. Regional integration is traditionally seen as inherently promoting peace. Regionalization of conflicts may also stimulate regional cooperation with the purpose of preventing spillovers to other countries. Most multidimensional regional organizations have developed some kind of institutionalized conflict mechanism, thereby laying the ground for increased actorness. Regional cooperation has more recently been motivated by global and regional terrorism because terrorist networks regularly move between countries, particularly countries lacking law and order (weakest link). Interregional cooperation may, finally, have a positive impact on world order.

Regions are thus important actors in crises. A regional organization can become the mediator in ethnic conflicts, and, in terms of culture and values, be closer to the parties than global mediators. But there is the risk of taking sides in the conflict or exploiting the situation for material gains.

A discussion of the comparative advantage of regional cooperation must consider the realistic alternatives, the level of regionness and the effectiveness of relevant regional organizations. Consensus building, support structure, engagement in conflict resolution and restraint of third parties must also be considered (Diehl 1994). Furthermore, distinct problems arise, such as resource constraints, organizational weaknesses, lack of neutrality and the role of the regional dominant power. Diehl (1994) concludes that multilateral peacekeeping is more effective than regional peacekeeping. However multilateral peacekeeping is not always forthcoming; and, if it comes, it usually comes late. The optimal solution would be an interlevel operation.

Actorness depends on the level of regionness and degree of institutionalization. However regionalization of conflict can have such dire consequences for a region with weak institutions that intervention has to be improvised as an emergency. Such interventions are often suboptimal, but ineffectiveness may nevertheless be preferable to inaction—at

least there are learning processes involved. Most international and regional (and unilateral) interventions in domestic conflicts have been failures, mainly because of the extreme complexity of intervening in a society in conflict.

### *The conflict circle*

Conflicts are not sudden events, but historical structures that are transformed over time. There are three crucial elements in any analysis of external (including regional) involvement in protracted conflicts: early prevention, military intervention and post-conflict reconstruction. A conflict circle is a simplified way of understanding conflict dynamics, but there is no natural history of conflict in the real world. The conflict cycle could be relatively short, if conflict resolution takes place before the conflict turns violent, or very long, if early conflict prevention fails.

The first phase of prevention precedes the conflict even in its latent form. Called “provention”, it combines the promotion of conditions for peace and the prevention of conditions for violence (Burton 1990). The idea here is to try to end a conflict at the earliest possible stage by dealing with structural root causes, not to wait for it to ripen and show a “mutually hurting stalemate” (Zartman 1985)—hence the importance of development regionalism, which coincides with provention. International development assistance has a preventive role to the extent that a conflict consciousness is mainstreamed into international development cooperation—acknowledged in the new Swedish policy for global development and the Cotonou Agreement between the European Union and the African, Caribbean and Pacific countries.

Intervention usually means military intervention to end violent conflict. Whether it is termed “humanitarian intervention” or not is due to the nature of the crisis.<sup>11</sup> Distinctions can be made among different modes of military intervention in acute regional security crises: unilateral, bilateral, plurilateral, regional and multilateral. Regional and multilateral engagement, preferably in some kind of combination, should be the predominant form of humanitarian intervention in the future to the extent that legality and legitimacy continue to play a role in international relations. Unilateral and most plurilateral interventions violate international law but may sometimes appear legitimate, as in Kosovo in 1999.

A peace agreement is the formal end of conflict and the beginning of reconstruction. There are three forms of conflict resolution in divided societies:

- Constitutional change, modifying the skewed ethnic power structure and establishing a power-sharing arrangement within a particular state formation.
- Dismemberment of the state, an option that remains open when constitutional reform has failed.
- Integration of neighbouring states into a regional formation (ultimately to become a regional security community), a process providing solutions to ethnic tensions simply by downplaying the role of borders.

Post-conflict reconstruction is a new experience of massive social engineering, completely different from the physical rebuilding of war-torn societies—such as in Europe after the Second World War—in which the inner societal coherence is still intact. Of utmost importance is that the destroyed society be reintegrated into the regional economy, communication network and system of resources in a supportive way through regional cooperation. Consider two contrasting cases: the Balkans and West Africa. The outside world initially showed little interest in either case and was largely unprepared for what happened.

### *The Balkans*

The Balkans proved to be a difficult challenge for regional crisis management, and people are still unable to assess the outcome of the attempts at conflict resolution. One can speak of a primitive regional security complex (with high negative security interdependence). People are split among several states. There is no formal regionalism. There are few spontaneous regional activities apart from smuggling. There is certainly no regional civil society. And the region is far from being an actor in its own right. The situation is a major security dilemma for the new Europe because the subregion must be seen as part of Europe rather than its near abroad.<sup>12</sup>

Bosnia and later Kosovo are examples where prevention has been confused and ineffective.<sup>13</sup> The first preventive regional intervention was in Macedonia, which has become a key testing ground for an independent, post-NATO European security policy. Unfortunately no preventive measures—such as removing injustices and balancing the influence of ethnic groups—were taken. Few observers would thus consider the EU response to the Balkan crises (Bosnia, Kosovo and

Macedonia) an unqualified success. The record has underlined the persistent power vacuum in a Europe searching for a viable security order, institutional responses lagging behind the events.

Various attempts at conflict prevention in the Yugoslav crisis were ambiguous and tentative. Ultimately the US pillar of NATO, leading to the Dayton agreement in November 1995, was the single-most effective factor in ending the Bosnian war. In the case of Kosovo, NATO attacked Yugoslavia, a sovereign state, which was terrorizing its own (Albanian) population, and as a consequence part of its territory was occupied and cut off from the rest of the country. This intervention was also of still more doubtful legitimacy in terms of existing international law.<sup>14</sup>

Despite European regionalism being the most advanced, the regional factor was slow in managing the conflict. What forms could a strategy for security regionalism in post-conflict reconstruction in the Balkans take? There are three:

- Formal cooperation by governments anxious to raise the level of regionness.
- Informal cooperation made possible by increasing homogeneity through convergences in terms of externally imposed political regimes, economic policies and security arrangements.
- Passive integration through gradual participation in European structures, with the purpose of long-term integration of the Balkans as a subregion in the European Union.

Cooperation between governments will be bilateral and, as it has in other regions, may turn into regionalism. More likely, there will be hostile alliances, perhaps along religious or other historical lines, preventing overall regional integration in the subregion. Passive integration is not ideal because conditions will be completely decided on and imposed by external actors. It will be a colonial situation or, put more nicely, a protectorate.<sup>15</sup> The most viable option is informal cooperation through spontaneous convergences in various policy areas. The convergence in these policy areas will not, of course, be wholly spontaneous. It will depend on several externally imposed conditionalities associated with participation in European structures, including democracy, human rights, clean government, market economy and non-aggression. Future prosperity and peace in the Balkans will be a European responsibility. It seems necessary, however, to sort out who is doing what in the institutional overkill that characterizes the European integration. Even if the various security organizations declare that their cooperation is excellent, their mandates and objectives are not the same.

The Dayton model confirmed the ethnic cleansing during the war, as very few returning refugees could return to their original homes. The subsequent peace process, which turned out to be longer than was expected (it is still not concluded), was supervised by a complex, improvised plurilateral organization led by NATO (its European pillar) and, in charge of civil affairs, an EU high representative. Subsequent elections with increasingly nationalist outcomes show that the post-conflict reconstruction has been largely fruitless.

### *West Africa*

Africa is similarly plagued by insecurity and conflict. The problem is not defined by the conventional security dilemma, but arises due to domestic factors and the failure of states. During the cold war such intrastate crises were not allowed to escalate, especially not into brutal civil wars, and were seldom regionalized, as has been the case since the 1990s.

Although most conflicts in West Africa are domestic, they quickly become regionalized. This implies that the conventional distinctions between international and domestic and between state actors and other actors have become blurred, becoming largely insignificant. Instead of several isolated so-called civil wars, there are regional war zones. The root causes of the various conflicts can be traced far back in the history and political logic of these countries, including their international connections.

In the wake of the Liberian crisis, ECOWAS established the ECOWAS Monitoring Group (ECOMOG) to keep and enforce peace. It was often met with positive reactions around the world, and many observers claimed that it, in cooperation with the UN Observer Mission in Liberia, gradually helped to resolve the conflict plagued by several years of fighting, turmoil and instability. ECOMOG was sent to neighbouring Sierra Leone as well.

Despite weaknesses, the ECOMOG interventions in Liberia and Sierra Leone are a model for international and regional conflict resolution and peacemaking. But intervention forces often became part of the conflicts, sometimes fueling violence. ECOMOG and various other groups soon lost sight of why and whom they were fighting, becoming embroiled in the warlord political economy logic of the war (Boås 2001). In a situation where violence has erupted, it can be difficult to refrain from the use of military force. But there is consensus that the interventions were certainly not success stories.

There were clearly alternative strategies of conflict intervention and so-called peacemaking in West Africa. The interventions were generally introduced too late and undertaken by the wrong means. As emphasized in the conflict circle, military interventions are often a direct result of the lack of preventive and proventive strategies in the first place. In general the regional interventions were shortsighted. It was thought that conflicts could be solved by quick-fix military solutions and fire-brigade operations, which seek to restore everything as it was, or through peace agreements or multiparty elections. But conflict often resumes soon after a ceasefire agreement is signed. Peace agreements are certainly necessary, but violence tends to erupt again simply because the root causes of the conflict go unaddressed, especially in cases of a deep-seated political economy of warlordism.

The immediate and medium-term challenge in the effort to consolidate security regionalism is to move towards a coordinated, transparent, norm-based and institutionalized structure with proventive and preventive means (Adibe 1997). ECOMOG and other regional intervention projects must transcend fire-brigade operations. This would prevent the security organization from becoming an instrument for political leaders to use for personal interests. There needs to be a change of attitude on the part of politicians and foreign donors and an understanding of conflict dynamics and how to build peace.

Similarly, the UN Observer Mission in Liberia, which was the first organized partnership between the United Nations and a regional intervention force, was a failure. "Those looking for a model of UN burden sharing with regional arrangements should be directed away from ECOWAS and Liberia" (Adibe 1997, p. 84). Despite this, such a model must be developed.

### *Conclusion*

Conflict management usually comes too late and by the wrong means. Provention is problematic because it is counterfactual; its fulfillment should not be that conflict never takes place. Prevention, on the other hand, attracts much more interest. The difference is obvious in terms of material costs and the amount of suffering between a conflict subdued at an early stage and a conflict that is fully developed, not to speak of the costs of post-conflict reconstruction. But prevention efforts usually come too late because the mechanisms for early management of emerging conflicts are embryonic at best. Early warning has not quite



become the instrument hoped for, which is most clearly exemplified by Kosovo. Few conflicts have been correctly forecasted by so many. Similarly, the Liberian crisis erupted with little reaction from the international community. The same is true for the crises in Darfur and Rwanda—two cases of genocide.<sup>16</sup> The real problem is not early warning but early action. For these reasons conflict management tends to be identified with peacekeeping, or rather (as the trend seems to be) peace enforcement.

The Liberian crisis took place in the shadow of the Gulf War. When the global community finally acted by establishing the UN Observer Mission in Liberia, the response was too weak, undertaken for the wrong reasons and had a malfunctioning relationship with ECOMOG. The international community seems to be able to deal with only one crisis at the time. Regional crisis management would mean dealing with multiple crises simultaneously. In Africa crisis management is so far confined to ending warfare. There are too few resources for either prevention or post-conflict reconstruction. Thus international development assistance and global cooperation have an important role to play—to encourage the development of specialized institutions for conflict management, preferably within regional organizations. Over time these institutions must be able to independently assess emerging conflicts—the earlier the better—and have operational capacity. Nevertheless, it is essential that all phases of the conflict circle are kept in mind so as not to repeat the mistakes that led to the crisis.

Finally, reconstruction is a somewhat misleading concept. The purpose must be to find a new role for a particular community in the globalized world—best done by finding a place in the larger region to begin with. Because there are few successful interventions in ongoing conflicts there should be a stronger focus on prevention and prevention than on military intervention. In poor regions this has to be part of the international development aid system and mutually agreed on in partnership arrangements.

### *Ensuring financial stability*

Financial stability is regularly referred to as an essential GPG. More recently it has been mentioned as a regional public good. But experts strongly disagree about the causes and cures of instability. This is particularly the case for regional solutions, which are seen as second best.

The sector most associated with globalization, the financial market, has transformed dramatically in the past few decades. In the post-Bretton Woods deficient international financial architecture, the circulation of capital has been increasingly difficult to control. Confidence crises leading to withdrawal of capital are contagious and result in enormous losses (Europe in 1991–92) but disproportionately affect the weaker regions (Mexico in 1994, East Asia in 1997, Russia in 1998 and Argentina in 2001).

Monetary cooperation can have many objectives—one of them being financial stability, which means the absence of excess mobility. Financial stability refers to “the absence of stress that has the potential to cause measurable economic harm beyond a strictly limited group of customers and counter parties” (Sagasti and Bezanson 2001, p. 125). It is the problem of contagion that is most associated with crisis. Because financial crisis can spread across countries it requires a collective response, but at what level?

Financial contagion is boundless and provokes panic. The exit of international investors from an emerging market transforms a national public bad into a regional and global public bad (Griffith-Jones 2003). Like the trading system of the world, the financial system is asymmetric. Financial stability is a global issue, but global instruments show a bias against the emerging markets, which raises the issue of building regional institutions to protect against excess volatility. The need for regional solutions has been more widely discussed in the developing world, where institutions are the weakest.<sup>17</sup>

Focusing on the 1997–98 Asian financial crisis, this section analyzes regional approaches to financial stability as a public good. However the necessary background to the regionalization of financial policy, or monetary regionalism, is to be found in Europe, where the first regional currency has been established. This is not to say that these lessons can be directly applied to other regions, but the European case can be learned from.

### *Lessons from the European experience*

In the Rome Treaty of 1957 the issue of regional currency was not mentioned, but the possibility of mutual aid in the case of financial disturbances was at least envisaged. The general framework for dealing with such issues was the Bretton Woods system, established after the Second World War—and with October 1929 in good memory (Tsou-

kalis 1997). Monetary stability can thus be seen as both a global and national concern.

Following the breakdown of the Bretton Woods system in 1971 has been a trend of monetary regionalism. The reasons for this are many. The increasing economic interpenetration within Europe led to the need for macroeconomic policy. Other motivations were the vulnerability to global financial disturbances and the dependence on the United States. A monetary union was also seen as a road towards political union. All this required a transfer of decision-making powers from the national to the regional level. The process was slow, winding and full of setbacks. The European Monetary System and the Economic and Monetary Union (including the euro) are successive systems, all with less than full participation (variable speed). They show that a monetary union is a political goal, despite asymmetries, rather than the ultimate outcome of economic integration (reflecting increasing symmetry).<sup>18</sup>

Regionalization of monetary policy in Europe was a consequence of the lack of reform of the international framework. It coincided with a decline in US influence. It was thus considered a second-best solution, and it was shaped by the strongest actor—Germany. This underlines the need for a leader in monetary integration, but also the risk that a national concern (in this case the obsessive fear of inflation) becomes a collective responsibility. But there was still no full participation. No insulation against external instability could be guaranteed. The 1992–93 European crisis proved this. During this crisis policy coordination at the European level showed its institutional limitations (Tsoukalis 1997). More recently the problems of the European Stability and Growth Pact underline the dangers of political divergence within a monetary bloc.<sup>19</sup> Monetary regionalism in Europe is thus no total success story, but it shows the importance of institutional backing and of political commitment and a common approach to economic policy.

### *Asian rethinking*

The 1997 Asian financial crisis underlined the interdependence of East and Southeast Asian countries. It also “exposed the weakness of existing regional institutional economic arrangements” and led to a crisis for both ASEAN and APEC, the two competing regional organizations (Higgott 2002, p. 2). The affected countries were frustrated over the lack of remedies on the global level and the lack of EU and US concern for the problems and interests of developing countries. Developed coun-

tries imposed neoliberal policies in a region known (and criticized) for its interventionism. Before the Asian financial crisis there was little discussion about regional approaches to the management of financial stability outside Europe.

The impact of the crisis was confined to Southeast Asia, with some spillover into East Asia (the Republic of Korea). Therefore the regional dimension seems relevant as far as causes are concerned. Regarding the cure, a regional approach took the form of an Asian monetary fund proposed by Japan but received little support and was resisted by the European Union, IMF and United States. This, however, seems to have undermined the confidence in the soft institutionalism of the ASEAN way and underscored the need for deeper institutionalization and stronger commitments from free-riding countries. In May 2002 the ASEAN Plus Three (China, Japan and the Republic of Korea) met in Chiang Mai to discuss regional cooperation in combating financial crises. This meeting may yet prove to be a breakthrough for monetary regionalism, but it is too early to tell.

However the weakness of ASEAN Plus Three's response indicates a lack of institutional strength, which in turn raises the issue of what the relevant size of the regional organization should be. Looking at the dynamics of the crisis, it is obvious that ASEAN (which is the most developed regional organization) is too small, whereas APEC is too big and has contradictory interests. An appropriate organization, ASEAN Plus Three, is now emerging, which underlines the point that the regional problem affects the organizational development—the attempts to create regional public goods. According to one expert on the region, “there is good reason to believe that the APT will emerge as the key organization in East Asia” (Stubbs 2005, p. 214).

A realistic division of labour must also be developed. The regional level should focus on surveillance and prevention rather than crisis management, which requires sufficient regional funds. If all countries in a region are affected by financial turbulence, there is obviously little scope for bailing out. Regional development banks exist in all regions (Mistry 1995). Another solution might be found in finance, as suggested by Wyplosz (1999, p. 183), “such as the World Bank works along regional development banks, the IMF could operate alongside regional funds”.

Most needed on the national level are financial discipline and transparency. If the national economic policies on this level are diverging, the whole system is undermined. In cases of outright mismanagement, a global (rather than regional) approach is probably necessary.

## *Conclusion*

Monetary regionalism is now appearing as an (at least theoretical) alternative to the existing multilateral institutions, which commonly but exaggeratedly are seen as a global public goods regime.

The major lesson from the European experience is the need to lay an early institutional foundation for financial policy. Furthermore, there must be political will and commitment. The Asian crisis showed this. An Asian monetary fund would have provided soft loans in the interest of the region. The killing of this initiative shows the amount of interlevel policy differences. The best solution is not to replace a global public good with a regional good, but to develop a multilevel order where the relevant levels are mutually supporting. For this to happen, the normative issue of fairness in the global regime must be addressed. As long as interests and values create policy incompatibilities and contradictions between levels, such “cooperation” would be counterproductive. How this can be changed into a harmonious system without a pluralist understanding of economic policy is difficult to see.<sup>20</sup> This is ultimately a world order issue; the quality of multilateralism must be improved and the trends towards unilateralism mitigated.

## ***Preventing adverse environmental spillovers***

This section focuses on the role of a regional organization in dealing with a global problem, preventing global climate change and a regional problem, sustaining the usage of transboundary river basins.

### *Global climate change: the European Union and the Kyoto Protocol*

The 1997 Kyoto Protocol is an ambitious UN-driven attempt to reduce the carbon-dioxide emissions of industrial countries by an average of 5% below 1990 levels by 2012.<sup>21</sup> The underlying assumption is that greenhouse gases, especially carbon dioxide produced by burning fossil fuels, contribute to global warming. One of the most discussed issues in relation to the Kyoto process is that of the United States—the world’s biggest source of carbon-dioxide emissions—and its refusal to ratify the agreement.<sup>22</sup> Also important is the strong EU commitment to the Kyoto Protocol. The European Union has emerged as the leader of the discussions on global climate change—the focus of this section. Its role is interesting for at least two reasons: it is an example of a regional organization dealing

with a global challenge and it illustrates the emerging post-Westphalian order, where regions are becoming actors of the multilateral system.

The European Union, particularly the Commissioner for Environment, Margot Wallström, has been involved in an intense diplomatic game to push and convince other countries to comply with the objectives and targets of the Kyoto Protocol. It has worked on many fronts and with many countries, Canada and Japan for example. Particularly important is the effective dialogue it has developed with the EU accession and associated states, which were not counted as part of the European Union under the terms of the protocol. The climate change policy has been a major focus of the negotiations with potential member countries.

A reluctant Russia, whose participation was required for the protocol to enter into force, was a high-profile issue. But through classic horse-trading at an EU-Russia Summit held in Moscow on 21 May 2004, the European Union promised to back Russia's bid to enter the WTO in return for Russia's ratification of the Kyoto Protocol. The agreement was a diplomatic success for the European Union and led to the entering into force of the Kyoto Protocol on 16 February 2005.

The European Union has also promoted compliance and implementation of its member states. A comprehensive European Climate Change Programme (ECCP)<sup>23</sup> was launched in 2000 to identify and develop all the necessary elements of an EU strategy to implement the Kyoto Protocol and meet its emissions reduction target. The ECCP is a comprehensive programme that fills many gaps of the Kyoto Protocol by developing additional and practical mechanisms. Projections show that the European Union will not achieve the Kyoto targets with the measures currently in place, but could exceed the targets considerably with the additional policies and measures of the ECCP and other EU activities such as the Strategy for Sustainable Development, the Sixth Environmental Action Programme and the European Strategy for the Security of Energy Supply (European Commission 2003).

The ECCP extends well beyond conventional state-to-state relations. It is an example of a hierarchical and bureaucratic organization getting involved and promoting networking (and multilevel governance). It involves a broad range of stakeholders in the consultative and policy-making process. For example, the European Commission is the coordinator, facilitator and motor in converting and translating ECCP results into an EU action plan.

The European Union is in the process of developing a comprehensive post-Kyoto strategy. An important feature of this strategy is the need

for a continuing dialogue with third parties, focusing on key topics and outstanding issues of the protocol and on its implementation, including domestic actions, emissions trading, clean development mechanism, participation by developing countries, helping countries to meet their existing commitments and international monitoring and compliance (European Commission 1998, 2003).

In sum, one of the main reasons for the momentum of the Kyoto Protocol is the leadership and commitment of the European Union. The absence of such strong commitment could easily have killed the process in 2000, when many countries were reluctant to participate and when the process was facing severe difficulties. A new dimension of world politics is emerging as a regional union takes the lead in dealing with a genuinely global public good. The political will and decisiveness of the European Union has served to overcome many of the protocol's weaknesses, both within the EU membership and outside of it. So, where the protocol has set the norms and standards, the European Union has contributed to implementation. And it appears that the European Union will be a crucial actor in setting the norms and standards of the post-Kyoto process. Finally, an intriguing case of interlevel cooperation is taking place between national, regional and global actors, which should be possible to follow in other issues.

*Sustainable use of transboundary waters: the case of the Mekong and the Zambezi*

Some 40% of the world's population lives in internationally shared river basins, people whose survival depends on effective management of these transboundary water resources (Nicol and others 2001). Shared watersheds have local and national dimensions, but they also constitute one of the core regional public goods, usually referred to as a common pool resource good—that is, non-excludable but rivalrous. Such public goods are challenging to supply, and there are huge risks of considerable negative externalities arising from the (unsustainable) use of shared water resources. The increasing strength of environmental principles, such as “green lenses” and the Rio–Dublin Principles, has resulted in the paradigm of integrated water resource management (IWRM), seen as the best way to deal with adverse environmental spillovers and as a more ecologically sustainable use of transboundary water resources. IWRM is founded on the principle that shared river basins are a single ecological unit, whereby natural resources, especially water resources, should be managed in accordance with what is best for the basin as a whole. It is

promoted, at least in theory, by many important actors and donor agencies around the world—the Global Water Partnership, United Nations and US Agency for International Development.

*State-centrism and sectoral segmentation.* Many of the problems and adverse environmental spillovers in the Mekong and the Zambezi river basins are directly related to the failure to deal with two important requirements of the IWRM approach: cooperation among riparian states to prevent individual countries from exploiting common resources and integrated and cross-sectoral water management to deal with sectoral segmentation and compartmentalization (within and between countries).

A similar state-centric logic prevails in both the Mekong and the Zambezi basins. Each riparian state monitors, assesses, plans, develops, conserves and protects the water resources within its own territory with little consultation or cooperation with other riparian states. The diverging policies and plans are usually incompatible, and particularly important is that upstream and downstream users do not consider the problems of each other. “The basin stops at the national border”.<sup>24</sup> This orientation is not necessarily detrimental in every respect, but it increasingly results in waste, ecological mismanagement and unrealized potential because it prevents regional cooperation and is ineffective in that it targets specific groups in society, typically the ruling elite.

The second main obstacle counteracting IWRM is sectoral segmentation. During colonialism and in the immediate decades following independence up until the early 1980s, there was important cross-fertilization between different sectors. Ever since, however, the management and bureaucratic policies of the riparian states (and of donors) have been characterized by a strong sectoral segmentation and compartmentalization.

State-centrism and sectoral compartmentalization are particularly related to the bias towards energy production. In both the Mekong and the Zambezi basins the upstream countries are using their territorial position in order to generate maximum energy production, particularly by constructing as many dams as possible. For example, the Mekong River reached a record low in March 2004 caused by a series of giant dams and engineering works, especially in China. “If all these dams go ahead, the river’s hydrology will be significantly altered, and no one can begin to understand the social or ecological consequences. China can do what it wants with impunity. It is a dangerous situation” (*The Guardian*, 25 March 2004).



Similarly, upstream Zimbabwe shows little interest in the basin-wide Zambezi River Basin Commission or the IWRM approach simply because a strengthening of these initiatives would affect its predominant status within the Zambezi River Authority, which is a limited venture involving only Zambia and Zimbabwe and is heavily geared towards energy production (Turton 1998).

In essence, riparian states are not prepared to make sacrifices for sharing water resources with others or for the benefit of others. Sharing requires a minimum sacrifice of sovereignty and an acceptance of a community interest.

*The future of IWRM and interlevel cooperation.*

Donors and external actors play an important role in the management of the Mekong and Zambezi river basins. In the past many donors have supported and reinforced the countries' projects in both Africa and Southeast Asia. In so doing they have reinforced the nationalist strategies, which have resulted in the division of the river basins in the first place. In theory IWRM counteracts fragmented river basins. However it has not achieved the desired results. It is only strong in certain parts of policy-making circles in developed countries, and it has no strong impact on the management of the two basins (Öjendal 2000; Nicol and others 2001).

Donors are very much to blame for the lack of success. In fact both the prevailing nationalist orientation and the sectoral segmentation have been reinforced by the modus operandi of the international donor community. For example, within Sida, one of the major donor agencies operating in basin, there is a separation and lack of communication between the desk for regional and national water affairs, which clearly has prevented a move towards an IWRM.<sup>25</sup> Most donors lack a coherent strategy for tempering national and regional concerns. The ecologically sustainable and more cooperative basin-wide IWRM approach is often difficult to pursue because few stakeholders, including donors, have the means and mandate to operate outside their national contexts. As an official at a large non-governmental organization put it: "We try to manage our side and hope they manage theirs".<sup>26</sup> It seems that too little emphasis has been placed on the fact that IWRM challenges the same forces and actors that have created the competitive dynamics of state centrism and sectoral segmentation—especially in the basin countries, but also within the donor administrations. Theory sug-

gests it is difficult to promote collective action around a common pool resource. But the failure to do so is detrimental to the environment.

It is problematic that donors spend so little of their funds on transboundary financing. “Major international donors like the World Bank recognize the importance of transboundary management, but still devote relatively few resources to this type of public good. The picture that emerges is that international financial support to transboundary water management is rather piecemeal and scattered” (Nicol and others 2001, p. iii). Regional institutions need to be strengthened. Particularly important is to develop principles for sharing water resources and costs and benefits and for decision-making, participation and enforcement mechanisms to facilitate the common good. Strengthening regional institutions should not be done at the expense of national capacities and institutions (Nicol and others 2001). It is instead necessary to work on a two-pronged, multilevel front in which regional institutions are strengthened hand-in-hand with national capacities.

### *Halting the spread of communicable diseases*

Health, like peace, is often brought up in the discussion of GPGs, and it figures prominently in the new security debate focused on human security. The most relevant aspect of this debate is that it reveals the inadequacies of the old state-centred system and the imperative need for cooperation among states: “in a regional setting, states have a self-interested obligation to their counterparts to act in such a manner as to not threaten regional stability and prosperity” (Curley and Thomas 2004, p. 29). Health is a case in point.

This debate illustrates the transition from Westphalia to post-Westphalia because global public goods for health have been described as a post-Westphalian concept (Fidler 2004). The most obvious reason for this is that germs do not recognize borders. “Germ globalization is permanent, while the borders are the transitory phenomenon” (Fidler 2004, p. 14). In short a borderless public bad needs borderless governance to create a global public good—whether better control over the AIDS pandemic or prevention of further disease outbreaks and the reemergence of such infectious diseases as malaria, smallpox and tuberculosis.

Communicable disease control has been increasingly centralized and globalized over time. Regionally endemic diseases have become pandemic. Paradoxically, the technology of communication has developed

in parallel to or in advance of control. The autonomy of the regional dimension is thus very limited and ambiguous. The focus here is on the transition to a post-Westphalian perspective—that is, international to global health governance. The relevant diseases are AIDS, SARS and avian influenza. However, older epidemics, believed to have been conquered by the Westphalian health system, tend to make a global return. This analysis focuses on the SARS epidemic and the regional context in which the outbreak took place in the spring of 2003.<sup>27</sup>

### *The political pathology of SARS*

As the first post-Westphalian pathogen, SARS provides an excellent case study of the transition of public health governance on infectious diseases from the traditional Westphalian framework to something new. The issue here is whether the new implies global or regional governance, or a combination of the two. This contribution's answer is the latter. In the case of communicable disease the regional dimension is particularly intriguing, albeit in different ways. AIDS is a global challenge that has distinct regional characteristics and therefore should be dealt with globally but with a view to the specific regional problems on the various regional arenas in which the disease appears. The avian epidemic, on the contrary, is a communicable local and regional disease from bird to bird, and from bird to human, but there are uncertainties about the spread from human to human. SARS, which also first jumped the species divide to become a local human disease and then entered an airplane, became a regional challenge with global impacts.<sup>28</sup> SARS is a viral respiratory illness that was recognized as a global threat in March 2003, after first appearing in Southern China in November 2002. SARS travelled to Toronto, where (for being outside the region of origin) a large number of people contracted the disease. During November 2002 through July 2003, a total of 8,422 people worldwide became sick with severe acute respiratory syndrome that was accompanied by either pneumonia or respiratory distress syndrome (probable cases), according to the World Health Organization (WHO). Of these, 774 died.<sup>29</sup>

The outbreak took the world by surprise, and panic was often near. The damage limitation was possible to achieve in spite of rather than because of the current form of international governance in global health. The policy measures were on the whole reactive rather than proactive. The most important national actor actually took measures to hide rather than disclose what was going on. The delay in report-

ing from China was from November 2002 to February 2003. Other countries in the region were more concerned with the damage to tourism than the damage to public health. In retrospect, the outbreak was managed in a very effective way, and the lessons learned are all important for the future development of global and regional public health governance.

### *The limits of Westphalia*

The WHO, an international (rather than global) actor on a national arena, was very frank in its criticism of China—not only for hiding the extent of the outbreak, but also for allocating too little resources for national public health. This “radical break with traditional diplomacy” (Fidler 2004) shows that international actors can take on global roles—that is, to move beyond the Westphalian logic in a situation of emerging crisis when the old rules do not apply. It is hard to find any policy area where national secrecy, justified by sovereignty, is more damaging for all interests involved. To cover up starvation, torture, even genocide may be possible, but communicable diseases are part of the globalized condition. Fortunately this was ultimately realized in Beijing. What if this had happened in North Korea or in a collapsed state, or for that matter in a system (Taliban-type of system) rejecting modern science and a rational scientific approach to public health?<sup>30</sup> The Chinese *volte face* was a genuine embarrassment for the regime, but any alternative to the admitting of the mistake by trying to cover up the outbreak of disease would have been worse.

China is a large country—almost a region by itself—and in many areas the approach would have to be regional, an issue discussed further in this paper. SARS was reported in 21 of China’s 31 provinces. This was at least half the cases of the world, so the disease can be said to be a regional disease. The measures actually taken in China were massive. The type of regime was appropriate at least in this situation (when the danger was realized), or as it has been said: “China is as good at fighting SARS as at hiding it” (Chen 2003). As far as institutional efficiency is concerned, the same can be said about authoritarian countries such as Singapore and Vietnam. If the disease had spread to Africa instead of Canada, the international campaign would have been more problematic. It is paradoxical that the measures (surveillance, isolation and quarantine) were the traditional; it was the organizational (post-Westphalian) approach that was new. China acted

in a Westphalian manner in a post-Westphalian world (Chen 2003, p. 107). But information leaked out (Internet, e-mail, mobile phone). China could not control the flow of information. At the same time it did not, which is significant, act wrongly in terms of international law. This underlines the need for a qualitative transformation of the global health system.

*From international to global health governance*

Infectious diseases are threatening, particularly when they are unknown. This is why relevant actors tend to take on new roles, in this way increasing their actorness. A good example is provided by the WHO. The WHO may be seen as a global actor, but it is by its constitution Westphalian rather than post-Westphalian. It reflects the principle of international governance (between and among states) rather than global governance, which among other things would include other actors than states, such as multinational corporations (MNCs) and NGOs. In the triangle drama between state, market and civil society (a common framework in social science), the WHO represents the state, whereas AstraZeneca and Médecins Sans Frontières can represent market and civil society, respectively. When the WHO was created in 1948 regular relations with NGOs were planned for in its constitution, but this official communication process has by now become anachronistic, as most contacts take place informally in a network type of organization (Fidler 2004, p. 52). The major tension is between NGOs and MNCs, as exemplified by the International Baby Food Action Network and the Campaign for Access to Essential Medicines (organized by Médecins Sans Frontières), both relatively successful. The fact that the major struggle goes on between two types of non-state actors shows to what extent the post-Westphalian logic reigns supreme. On some occasions so-called “public-private partnerships” between state actors and NGOs are created—one important example being the Global Fund to Fight AIDS, Tuberculosis and Malaria (the Global Fund). According to Fidler (2004, p. 55), “the concept and structure of the Global Fund are as un-Westphalian as one could imagine”. It is not a treaty-based organization in contrast with UNAIDS. States do not dominate the arena because of the formal governance participation of the NGOs. The Global Fund redistributes resources from rich to poor countries and uses a vertical

approach, different from horizontal strategies typical for Westphalian public health.

*The potential of regionalism*

What are the implications of this case for regional cooperation? The SARS epidemic has been described as a threat to regional security (Curley and Thomas 2004). The ASEAN was one of the actors of this drama. This is particularly interesting because ASEAN has been seen as the guardian of Westphalian principles of non-intervention. SARS was another eye-opener coming after the Asian financial crisis discussed above (as well as the forest fires in Indonesia—"the haze"). Thus a comparison between AFC and SARS makes sense, not only because of the economic damage to the region. SARS gives an opportunity to study "the effectiveness of the organizational response at the regional level" (Curley and Thomas 2004, p. 21). About this response, it has to be acknowledged that it was feeble and above all late. However, after China admitted its mistake in hiding the disease and changed political strategy, an impressive diplomatic activity began.

Among the countries of ASEAN, Thailand in particular understood the regional nature of the crisis and therefore called for regional responses. These were not as rapid as those taken by the countries in the region, which has to do with the confusion regarding the competence of competing regional organizations: APEC, ASEAN and ASEAN Plus Three (APT).<sup>31</sup> Both AFC and SARS were new types of challenges, and they left behind a new institutional framework to deal with regional crises. In this way ASEAN can be compared to the WHO in the sense that the urgency of the crisis forced it to move beyond the Westphalian framework and to increase its actorness. Lessons were also carried over from the Asian financial crisis to the fight against SARS. One lesson was to find the relevant national network, which was APT, more relevant in terms of composition.<sup>32</sup> A second was to permit an increase in actorness, for the sake of general effectiveness, including the power of putting pressure on slowly and reluctantly reacting countries.<sup>33</sup> A third was to allow for necessary institutionalization—to develop sectoral and intersectoral mechanisms both nationally and regionally. During the spring of 2003 an impressive number of meetings of ministers, bureaucrats and experts were held within ASEAN and APT.<sup>34</sup> It is significant that civil society organizations and business were drawn into the emerging networks

also, suggesting a new style of regional cooperation more in line with what happens in the rest of the world.

### *Conclusion*

The limited SARS epidemic had major consequences for global public health governance and control of communicable diseases as a public and regional good. It revealed the weaknesses in the Westphalian health system, underlying the need for a substantive strengthening of the global infrastructure both in terms of effectiveness and actorness—an autonomous capacity to act independently of the countries constituting the organization. At least the whole is larger than the parts. This also goes for the regional organization. In Southeast and East Asia there are competing organizations; and the SARS crisis not only discriminated between more and less relevant organizations, but also started a process towards increased actorness on the regional level. A good global public health system badly needs effective organizations on the national, regional and global levels—an interlevel structure with relevant degrees of actorness on each level relative to its specific tasks.

In order to be effective regionalism must serve the collective interests of the constituent nations rather than being an expression of their conceived national interests, in which case they will be working at cross-purpose in their attempts to solve problems and respond to global and regional challenges. The cases of EU and security challenges and ASEAN in financial and health crises are illustrations.

### **Policy conclusions and recommendations**

This section develops policy recommendations for how regional cooperation should—and should not—be used to address global and regional challenges. First, it provides general observations and recommendations based on cross-sectoral analysis. Second, it gives specific and operational recommendations for providing each of the GPG area identified as priority by the Task Force. These are based on three fundamental considerations: the comparative advantage of regional cooperation, the provision of goods in ways that take advantage of interlevel links and reduce policy incompatibilities between levels and the design of appropriate institutions to implement policies. Certain forms of regional cooperation can contribute to the solution of global challenges. Third, it deals

with regionalism and world order, putting policy into context. It also points out specific contributions from individual GPGs to the making of a global public policy.

### *General observations and recommendations*

Several observations and recommendations flow from most, if not all, of the global public goods identified by the Task Force. In evaluating the effectiveness of regional cooperation it is fruitful to distinguish between higher order multidimensional (multipurpose) organizations with a certain degree of actoriness—that is, with independent powers to plan and implement regional cooperation for public goods provision—from lower order unidimensional (single-purpose) institutions acting on a mandate and with restricted tasks. Actoriness can be used for quite different and counterproductive purposes other than providing public goods. Most often it does not make sense to weigh regional provision of public goods against global or national provision of public goods. Rather, it is some form of division of labour between them that is optimal. This, however, may change from one good to another.

### *The role of institutions*

Many forms of regional cooperation are desirable but ineffective. Increased effectiveness depends on a range of factors, not simply increasing resources. It is critical to understand the nature of the public good and to improve institutional design. Institutional design is a complex issue because, even with a given public good, the institutions used to facilitate its supply can vary. Yet they need to be effective and facilitate cooperation. Institutions should:

- Accommodate and respond to states' quests for sovereignty.
- Prevent regional cooperation from being hijacked and used for purposes other than providing public goods.
- Decrease the prevalence of free-riding and defection.
- Promote long-term, norm-based interaction rather than short-term, quick-fix solutions.

In many areas the level of institutionalization is far too weak to make regional contributions relevant. On the other hand, the belief in (formal) institutions is a European tradition and probably a bias. Institutionalization is drawing on the European experience, but in Asia, for example, it cannot go much deeper than the Asian model of informal consensus building allows. The result is “soft institutionalization”. The



informal approach of Asia could also contain a lesson showing how to curb the excessively bureaucratic approach of Europe. The growing role of networks shows the way to a compromise between the community method and the ASEAN way.

### *Actorness and effectiveness*

It is necessary to examine the problems of regional cooperation and the underlying interests of involved actors. This is important because regional cooperation does not necessarily occur in order to satisfy public goods, but for several reasons, including the achievement of private goods and more myopic personal interests or regime survival. In fact regional agents might have other preferences than what is stipulated in the public goods discourse—and might not react to typical incentive structures. Under such circumstances, it is misleading to assume that actors will provide public goods only if the correct incentive structure is created. Neither will it be possible to facilitate the provision of regional public goods from the outside (thus implying that certain kinds of regional cooperation do not deserve external support).

Multidimensional organizations with the freedom to manoeuvre must be judged from a normative and political perspective, whereas unidimensional organizations can be replaced or reformed depending on their performance. With deeper institutionalization, unidimensional organizations can be changed into multidimensional organizations.

An ideal situation prevails when there is a balance between the policy dimension, implying a certain degree of independent decision-making and room for manoeuvre, and the operational dimension, implying a task-oriented professionalized machinery for implementation. Too often policy-oriented institutions are simply “talking clubs”, and the more bureaucratic institutions have a narrow mandate and little flexibility. The ideal model thus combines reflexive flexibility and the capacity to act with purpose (actorness).

### *Interlevel mechanisms*

The Task Force defines international public goods (regional and global) as important issues that must be addressed on a collective and multilateral basis. This suggests the principle of subsidiarity. But this principle should not be carried too far, at least if it is understood as “decentral-

ization”, because many issues require cooperation between levels. An interlevel approach implies that the challenge is not to find the appropriate and optimal institutional level as such (at the lowest possible level), but to find the most appropriate division of labour between the levels (since every global public good identified by the Task Force has national, regional and global dimensions).

The comparative advantages of regional cooperation differ from one good to another. In most areas where public goods are underprovided, there is, however, a specific role for regional cooperation within an integrated multilevel or interlevel approach—a system of management in which national, regional and global institutions are interlinked and perform specific functions. In some areas where there are predominantly win-win solutions, such as communicable disease control, environmental protection and knowledge formation, the institutional design is simply one of effectiveness, and those institutions that are lacking must be created or reformed. In more politicized areas—such as security, trade or financial stability—there may be policy incompatibilities between the three levels, incompatibilities that must be removed or at least reduced through a political process. Thus, to be effective in the case of more controversial areas, links between the levels require a higher degree of pluralism in policies.

### *Policy recommendations for providing global public goods*

This paper’s specific and operational recommendations pertaining to each of the GPG areas identified as priority by the Task Force are based on three considerations:

- The comparative advantage of regional cooperation.
- The provision of goods in ways that take advantage of potential interlevel links and reduce policy incompatibilities between levels.
- The design of appropriate institutions to make this effective and sustainable, focusing on organizations that combine reflexive flexibility with purposive implementation.

### *Promoting the gains from trade*

- There is a comparative political advantage of regionalism in trade compared with conventional multilateralism as it is presently being practised. Regionalism might become a stronger

force in coming decades, particularly if the multilateral trading system is not fundamentally transformed. But its full potential can only be achieved through a more comprehensive and fair development-oriented regionalism that goes beyond narrow trade liberalization and provides a link between trade integration and other economic and non-economic sectors.

- Trade regionalism needs to be integrated within an interlevel approach, where regional and multilateral trading arrangements are complementary, not competing.
- Institutional and technical capacities of regional trade organizations in the developing world need to be strengthened—for example, as in SADC, ECOWAS, CARICOM, Andean Pact, Mercosur and ASEAN—in order for them to develop policies and assess consequences of various types of trade relations and negotiations (multilateral, interregional and intraregional).

#### *Promoting the gains from knowledge*

- Regional cooperation in the promotion of knowledge has many comparative advantages—especially in Africa, where national knowledge and research structures are weak. Regional cooperation enables partners to pool resources and capacities for a series of purposes, such as information sharing, networking and economies of scale. There is, however, a need to further assess the cost-effectiveness and relevance of different types of regional research cooperation.
- The usefulness of regional cooperation for knowledge and capacity building depends on the problem and the particular capacities at other levels (global and national). Regional cooperation needs to be integrated within an interlevel and holistic approach.
- Regional cooperation in research requires a different institutional approach than that used today. An appropriate approach should be built on a long-term perspective, flexibility and willingness to learn from mistakes, core support for regional institutions rather than short-term project and programme support and sensitivity to the cultural and political environment and context.

*Preserving peace and security*

- It is important to strengthen the regional actor in different phases of the conflict circle, not only the peacekeeping phase. Post-conflict reconstruction in particular is poorly understood, underfinanced and generally neglected. A regional integration approach is needed to make this process sustainable.
- The optimal form of peacekeeping combines the legitimacy of multilateral (UN) interventions and sanctions with the efficiency of regional interventions. Although they need to be relevant for their own specific types of security threats, there should be some kind of multilaterally acknowledged rule system in order to prevent abuses. The interlevel approach can be sequenced, since multilateral operations take more time to organize than do regional operations.
- The institutional backing for regional conflict management is at best embryonic. There is an urgent need to financially support the establishment of specialized security units within—and firmly under the control of—the emerging regional organizations.

*Ensuring financial stability*

- Regional monetarism is growing in importance due to deficiencies in the global financial architecture. The unprecedented mobility of capital makes an exclusively regional solution impossible. A global approach is essential and should be the ultimate goal. The multilateral system must in fact be multilateralized. However, to the extent that it is asymmetric, there will probably be substitutes developing on the regional level. Thus multilateralism should be combined with pluralism to expand the menu of macroeconomic choices.
- Alternative structures should be compatible with financial stability as a global public good. In other words, the mechanism must be an interlevel mechanism. The IMF could work with regional monetary funds, much as the World Bank works with regional banks.
- Because not enough capital is available at the regional level for supporting countries in financial imbalance, regional organizations should focus on surveillance and prevention of crises. Re-

gional arrangements should cover all relevant national players. For example, in the case of ASEAN Plus Three it is a problem that Taiwan Province of China is excluded for geopolitical reasons.

#### *Preventing adverse environmental spillovers*

Global climate change:

- Regional cooperation can fill the policy gaps and failures of multilateralism and enhance implementation of global public goods. A similar role must be performed for other GPGs.
- There must be cooperation and synchronization between multilateralism and regional cooperation. The national level is also important because regional cooperation mediates global and national mechanisms.
- Regional organizations should coordinate the Kyoto Protocol within their regions, possibly through a strategy similar to the European Union's—through “soft enforcement” and “the open method of coordination” built on best practices and benchmarking.

River basin management:

- Regional cooperation guided by IWRM is necessary to prevent adverse environmental spillovers in transboundary river basins. State-centric regional cooperation or non-cooperation will almost automatically result in adverse environmental spillovers.
- Regional institutions should be strengthened along with national capacities, complemented by the power and expertise of such global institutions and actors as the Global Water Partnership and the donor community.
- Political power and financial and other resources necessary for the development of effective transboundary institutions must be mobilized, particularly emphasizing principles for sharing water resources and principles for decision-making, participation and enforcement mechanisms to facilitate the common good. Most river basin institutions in developing regions need support.

#### *Halting the spread of communicable diseases*

- The potential of regional organizations is largely neglected in the field of health. They can assess the lessons from the SARS

epidemic, encourage the development of a public health dimension to the new regional organizations and clarify the specific roles for different types of regional institutions, particularly the prevention of the spread of contagious diseases.

- A multilevel action system for the provision of global health, specifying the optimal role for each level (local, national, regional and global) must be designed. Early action is essential. A more proactive and independent role for global actors should be further developed. The post-Westphalian informal networks and the new roles for older institutions such as the WHO should be acknowledged and formalized.
- Basic local, national and regional infrastructures are essential for a global health policy. Cross-country networks and organizations with a certain degree of independence must be supported or, where they do not exist, established.

### *Towards global public policy?*

A pattern is emerging among the areas examined in this paper. It has become increasingly evident that shared water resources are mismanaged and used in an unsustainable manner, with implications for public health. This is only one of many links—financial and political stability, security and development, trade and environment, knowledge and health. In fact the areas highlighted by the Task Force constitute a comprehensive global public policy that represents the new meaning of global development and facilitates the achievement of the Millennium Development Goals.

This paper has also shown that regionalism goes far beyond regional cooperation by having an impact on global order. Stiglitz (quoted in Kaul and Mendoza 2003, p. 106) has referred to “efficient government” as a public good. The same should apply to the principle of good governance and, in consequence, world order. Again, the problem is how to move from the national level to the global, where no overall authority exists. There may even be contradictions between levels of governance.<sup>35</sup> A global public policy must minimize such contradictions, which implies strengthening the regional level. The global level is still too disorganized and politically heterogeneous, and the national level is rarely sufficiently responsible from the perspective of the whole.

That one major power can contribute to world order has been argued by the theory of hegemonic stability dictating the need for one

hegemonic leader to provide the rules of the game.<sup>36</sup> In the post-war period the United States has successfully exercised hegemonic power in upholding the multilateral order. Multilateralism as a mode of global governance is, however, currently in retreat. Europe can reverse this unfortunate trend by continuing its pursuit of organized cooperation between world regions. This goal presupposes a rules-based relationship among regional partners or “interregionalism”. This model visualizes a global order of cooperating regions. However distant such a prospect might seem, it is relevant to explore the long-term global implications of the institutionalization of regional and interregional relations in search of order.

The overall purpose of interregionalism is to make the external environment of Europe—that is, the rest of the world—more stable and more predictable from Europe’s regional perspective. The significance of this experience is that interregional institutions have the potentiality of shaping, through intersubjectivity and mutual learning, the outlook of regional civilizations towards compatible patterns of coexistence.

The European regional integration model, due to its strong focus on the role of institutions in Europe’s own integration process and on the importance of institutionalized interregional relations, represents a potential world order. The relevant contrast and currently predominant trend is US unilateralism based on perceived national interests, contradicting basic principles in the EU external policy. The future of regionalism depends very much on the outcome of the struggle between these two contrasting world order models. It is important to note that the differences do not express differences of geography—Europe versus the United States—but are contrasting world order principles held by different political groups existing in both areas.

## Notes

1. The perspective applied here is that of an economic-historical dialectic between the deepening and extension of the market principle and recurrent political attempts to regulate the economy in the interest of society. An expansion and deepening of the market is understood to be followed by a political intervention in defence of society; the expansion of market making the first movement, and the societal response the second (Polanyi 1957, 2001). Stiglitz (2001, p. xi) prefaced the most recent

edition of Karl Polanyi's *The Great Transformation*, observing that "often it seems as if Polanyi is speaking directly to present-day issues".

2. Similarly, the involvement of non-state actors has also become more emphasized in the public goods debate. A broad generalization that seems to make sense is that of "recognizing public goods as multi-actor products" (Kaul 2003, p. 5). In fact, multi-actor networks, and to some extent non-state coalitions, may be more efficient than state actors in producing public goods and addressing transnational challenges. There is a knowledge gap concerning what this really means for the effectiveness of regional cooperation.

3. According to Castells (1996), this is the key to why the European Union is functioning.

4. The concept of "actorness" of the European Union is developed in Bretherton and Vogler (1999). Actorness is closely related to "regionness". When different processes of regionalization in various fields and at various levels intensify and converge within the same geographical area, the cohesiveness and the distinctiveness of the region increase. This process of regionalization can be described in terms of levels of regionness—regional space, system, community, society and regional institutionalized polity. Increasing regionness implies that a geographical area is transformed from a passive object to an active subject—an actor—capable of articulating the transnational interests of the emerging region (Hettne 1993, 2003; Hettne and Söderbaum 2000).

5. Institutions are often confused with organizations. Institutions or, perhaps more precisely, social institutions imply a patterned, predictable behaviour and a system of rules. Organizations may possess or lack these characteristics. They can be created quickly and might not be effective in supplying a good. Institutions, on the other hand, take time to build because they are internalized and created by human thought and practice. Many regional bodies, for example, are simply organizations, but a few are also social institutions because they take on a political life of their own and shape economic, social and political behaviour.

6. Still, the operational experience of unidimensional organizations is rather mixed. They have worked reasonably well in stable contexts and with the help of well resourced participants, but their records are mixed or quite poor in developing countries. This is explained by an often unclear mandate, weak management and lack of funding and commitment by participants. There has also been duplication of activities between various schemes.



7. Cook and Sachs (1999) draw attention to several areas—health, environment and financial stability—that involve real and potential regional public goods. But they tend to move beyond regional public goods and highlight the level as problematic: “In each of these areas public goods arise at all levels of governance: international, regional, national and even local” (p. 440).
8. Alternatively, the security agenda can be substantively broadened to encompass human security, also a current trend.
9. The victims of the World Trade Center terrorist attacks in 2001 were citizens from 62 different countries. The Taliban and al Qaeda combatants imprisoned at Guantanamo Bay in Cuba are from some 30 countries.
10. Peacekeeping as a concept is changing with the transformation of the global system, the geopolitical situation and the world order. Traditional peacekeeping was meant to facilitate a ceasefire by acting as an interposition force. More recently, peacekeeping has taken place in humanitarian emergencies in which a higher degree of actorness is expected from the organization carrying out the operation.
11. A controversial question today is whether a public good such as peace can be imposed by external actors through humanitarian interventions. Although common during the nineteenth century in Europe (with less emphasis on humanitarianism and more on order) and during colonialism outside Europe, such intervention is not consistent with the UN charter after 1945. Despite this there have been repeated cases of intervention not consistent with international law, indicating a change in world order. There is a radical libertarian doctrine of intervention in support of democracy using the public goods argument. This argument gained increasing support during the 1990s, but is now tested—and questioned—in Iraq.
12. The dividing line between Europe and non-Europe is ultimately a political issue. To define the Balkans as non-Europe might be tempting, but it is politically incorrect and dangerous.
13. In the Bosnian crisis every conceivable security organization (the EC troika, United Nations, NATO, Organization for Security and Co-operation in Europe) gradually became involved in a sort of trial-and-error process, ultimately forming an ad hoc group of great powers—rather reminiscent of the nineteenth century type of power-balance politics known as the Concert of Europe—that took over the negotiations (plurilateralism).
14. Kosovo was important for crisis management in Europe and for the changing legal status of intervention in humanitarian emergencies.

The NATO intervention bypassed the United Nations because a veto was expected in the Security Council. The subsequent Independent International Commission on Kosovo took a bold approach in acknowledging the possibility of external intervention by a “coalition of the willing” (here called plurilateral intervention) even without multilateral (UN) sanction. The Kosovo report concluded that this intervention in the light of then existing international law was “illegal” but “legitimate” (IICK 2000).

15. Bosnia and Kosovo are often described as protectorates, whereas Macedonia is seen as walking on its own feet—with significant help from the European Union.

16. The discussion on the Darfur crisis unfortunately repeats earlier mistakes: late reaction, uncertainty about the responsibility to act and so on. The United Nations is going through a period of credibility crisis. The United States is busy in Iraq and Afghanistan. The European Union is divided and passive. The Arab League is reluctant. And the African Union lacks resources.

17. According to Griffith-Jones (2003, p. 448), “such entities are particularly relevant in areas such as regional surveillance, coordination of macroeconomic policies and mechanisms for liquidity provision. Regional mechanisms can also strengthen the bargaining position of developing countries.”

18. “The creation of [the European Monetary System] has never been treated as a narrow economic issue; and contemporary economists are usually ill at ease with questions of power and prestige which do not lend themselves to quantification” (Tsoukalis 1997, p. 163). See also Dosenrode (2002).

19. Barrett (2006, p. 37) observes that “with a single currency, fiscal indiscipline in one state has implications for others.” There might also be a more complicated situation in which there is genuine disagreement about the correct economic policy. Is financial orthodoxy or some kind of neo-Keynesianism the need of the day?

20. The problem of too much orthodoxy and too little flexibility is also problematic within a region, illustrated by current tensions in the Economic and Monetary Union stability pact.

21. As of 15 April 2004, 84 parties have signed the Kyoto Protocol, and 122 parties have ratified or acceded to it—together accounting for 44.2% of total greenhouse gas emissions.

22. The Clinton administration signed the Kyoto Protocol, but the Bush administration states that it is not in the national interest, claiming

that the long-term solution to global climate change is in the development of new technologies rather than emissions reductions. It also emphasizes voluntary reductions rather than binding agreements.

23. See the ECCP Web site at [www.europa.eu.int/comm/environment/climat/eccp.htm](http://www.europa.eu.int/comm/environment/climat/eccp.htm).

24. Anonymous interview, Department of Water Affairs, Zimbabwe, 2001.

25. Interview, Sida official, Department for Natural Resources, Stockholm, 2001.

26. Representative interview, Christian Care, Harare, 2001.

27. This is not because of the relative importance of SARS. AIDS has a comparatively long history. Forty-two million people are infected, of which 90% live in the poorest countries of the world. Africa dominates the picture, to be replaced by Asia in the future. It is an epidemic that affects society politically, economically and socially. Reduced production, widened economic, social and cultural gaps and increased political instability are some of the negative effects affecting entire societies and regions.

28. Of 8,422 cases in 30 countries, 5,327 were in China (with 1,755 additional cases in Hong Kong), 665 in Taiwan, 238 in Singapore and 63 in Vietnam. Outside the region Canada had 251 and the United States 33.

29. SARS is caused by a previously unrecognized coronavirus called SARS-associated coronavirus (SARS-CoV). The primary way that SARS appears to spread is by close person-to-person contact. SARS-CoV is believed to be transmitted most readily by respiratory droplets (droplet spread) produced when an infected person coughs or sneezes. This puts health workers at high risk. In addition, it is possible that SARS-CoV might be spread more broadly through the air (airborne spread) or by other ways that are not now known. The incubation period for SARS is typically two to seven days. Persons with SARS are most likely to be contagious only when they have symptoms, such as fever or cough. Patients are most contagious during the second week of illness.

30. As a reminder is the news that polio was spreading in Africa due to refusal by the northern Muslim states in Nigeria to accept Western medicine. This situation now seems to be under control.

31. APT is emerging as a new regional formation, actually socially constructed in the process of maintaining an interregional relationship between Asia and Europe (Gilson 2002).

32. APEC proved to be irrelevant due to its limited mandate, concerned as it was with free trade. This shows the shortcomings of unidimensionality.

33. This disciplinary function can be seen most clearly in the European Union acting against individual member countries in the case of the Kyoto Protocol.

34. On 26 April a Ministers of Health special Meeting of APT was held in Kuala Lumpur. It announced a number of measures to be carried out regionally and in individual countries. On 29 April there was a special ASEAN Leaders' Meeting in Singapore with further announcements about establishing networks for information and arrangements for health control (in spite of objections from Cambodia, Laos and Myanmar). On 8–9 May the annual ASEAN Labour Ministers' meeting was devoted to the SARS threat and also met their counterparts in the Plus 3 countries. On 15–16 May APT airport officials met in Pampanga in the Philippines to discuss how to prevent the spread of SARS through civil aviation. On 2–3 June the APEC trade ministers met in Khon Kaen in Thailand to assess the economic damages. The list of meetings could be made longer, but suffice it to make the point that SARS was a mobilizing experience as far as regional cooperation is concerned.

35. Defence, for instance, is seen as a national public good, but on the regional and global levels order and stability are of greater importance. Maximizing national defence, on the other hand, implies dysfunctions known in peace research as “the security dilemma”.

36. Interestingly, this comes from the theory of financial stability developed by Charles Kindleberger (1986).

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# Strengthening the Capacity of Developing Countries to Participate in the Provision of Global Public Goods

## 6 Chapter

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*The present interest in global public goods is driven largely by the industrial countries. But the legitimacy of agreements depends on the degree to which the interests of all countries are considered and the extent to which all ultimately benefit. There is increasing discontent over the distribution of both benefits and costs of some systems, particularly for trade and intellectual property. This is partly because most developing countries do not have the capacity to fully participate in creating and using global public goods. They often suffer from low technical and analytical capacity as well as weak commitment.*

*Developing country needs and interests have not been high on the agenda for most international organizations involved in promoting global public goods. Instead they focus primarily on the interests of industrial countries. Support programmes for developing countries tend to be top down and focused more on operational issues—such as the legal and administrative conditions for smooth implementation of agreements—than on results. Assistance is also largely targeted to crises—either conflict or impending negotiation rounds—instead of building the capacity to address these crises or addressing their aftermath. This chapter looks at what the development community has learned about this issue and presents suggestions for how this experience can be applied to global public goods.*

*Foremost is the need to look beyond the crisis issues of treaty negotiation and conflict resolution to take into account the broad, long-term development needs of poorer countries. This expanded agenda includes not only the present focus on negotiations and conflict resolution but also the activities that precede or follow them. For peace and security, this means more attention to conflict prevention, a largely political process without which the world will continue to lurch from one disaster to another. The trend towards assistance for post-conflict reconstruction also needs to be reinforced to provide positive incentives for fragile states to avoid sliding back into war.*

This chapter looks at the capacity of developing countries to create global public goods and benefit from international agreements. Three studies of specific goods for the Secretariat of the International Task Force on Global Public Goods have been completed:

- *Capacity Building for Trade as a Global Public Good*—a review based on extensive work done by the European Centre for Development Policy Management (ECDPM).
- *Capacities for Global Management of Intellectual Property: Mapping Out Global Initiatives and Opportunities for Improvement*—a more limited desk review drawing on the ECDPM’s background in knowledge creation and focusing on intellectual property.
- *Capacity Building for Peace and Security: A Look at the African Continent*—a review of selected peace and security activities in Africa and the lessons coming from them.

This chapter draws from and expands on these background studies by looking at problems that inhibit developing country participation, activities under way to enable countries to participate in the discussions, how they compare with the latest thinking on how to build capacity and what should be done to better support these countries. The emphasis is on building the capacity of developing countries to better participate broadly in international agreements on global public goods.

## **Capacity and capacity development**

The terms “capacity” and “capacity development” have long existed in the development community but with rather vague meanings representing many different approaches. ECDPM sees two basic ways of thinking about the idea of capacity emerging (ECDPM 2005, p. 11). The first, by far the most common, sees capacity as the general ability to perform. As such, it is a general, aggregated outcome of a series of organizational conditions, assets or relationships—structure, culture, systems, tangible and intangible resources, staff, legitimacy, patterns of incentives, identity and confidence and leadership. These conditions combine in an effective organization to produce capacity or the general ability to implement programmes or deliver something of value to others.

The second perspective is to see organizations or systems as a collection of more specific abilities distributed at a variety of levels:

- Individuals have personal abilities or attributes that contribute to the performance of the organization or system.

- Organizations or broader systems have capabilities to do things such as manage stakeholders, facilitate between warring parties, participate in global negotiations, manage financial resources, listen and learn and empower staff. Capabilities can be understood as the building blocks of an organization's overall capacity to perform.
- Organizations or systems try to connect these capabilities into coherent combinations or systems that allow them to perform.

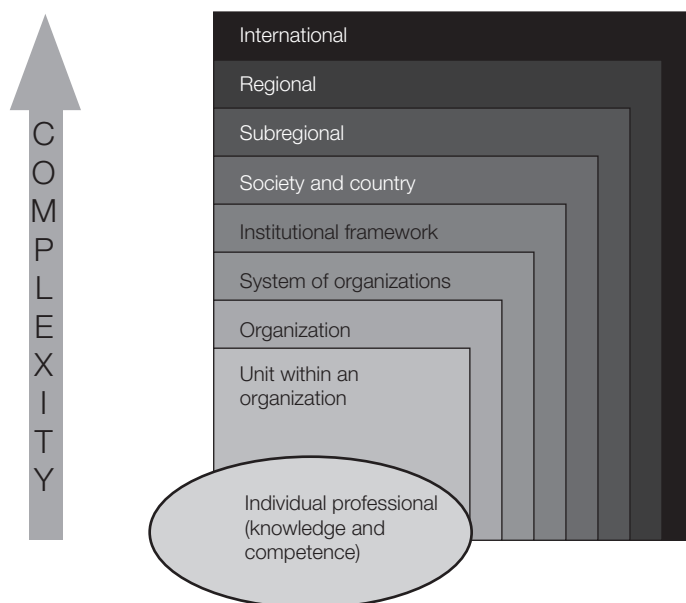
This focus on specific abilities is critical to understanding capacity, allowing for a more focused operational discussion of the capacity issue—something that still eludes many participants.<sup>1</sup> These abilities draw their strength and effectiveness from the deeper conditions of the organization or system of which they are a part.

Developing these capabilities and pulling them together into the broad capacity of a country (that is, the process of capacity development) requires interventions at several different levels, usually ranging from the micro to the macro (see figure 6.1). Activities at one level must be supported by those at other levels, and vertical links are essential. For a developing country to be able to effectively participate in global trade regimes (macro level), for example, it needs to have representative organizations in civil society (meso level) to present the views of citizens (micro level).

## Points of entry for capacity development

Most development organizations recognize the importance of developing capacity and devote considerable sums of money to it. Some estimates of donor-assisted capacity development efforts suggest that more than one-quarter of official development assistance, or more than \$15 billion a year, is spent on training, technical assistance and other activities to address capacity issues (OECD 2005, p. 2). However the diversity of what can be considered assistance for capacity development and the fact that most support is integrated into general development programmes results in a paucity of statistics in almost every development organization. Furthermore, because capacity development remains one of the most difficult and least successful aspects of development assistance and because qualitative assessment techniques are in their infancy, it cannot be assumed that all assistance results in enhanced capacity.<sup>2</sup>

Figure 6.1 Levels requiring interventions for capacity development



## Capacity and global public goods

### *Peace and security*

Let us look first at peace and security, because these issues provide a foundation without which little work is possible on such global goods as trade and intellectual property. Peace and security are particularly important in what the development community calls fragile states, many of them in Africa. Fragility is a complex concept including low capacity but also unwillingness to engage in fundamental reforms that would encourage development (Hauck and Gaspers 2006). The ECDPM study puts forward three categories of fragility:

- Pre-failure or states that are close to conflict.
- Conflict/failure, where there is an entire or nearly entire breakdown of state functioning on three dimensions—security (internal and external), legitimacy/rule of law (political freedoms, human rights, courts and administration) and welfare (economic, social, environmental). Fortunately few countries fail on all three dimensions.

- Post-failure, or states that have come out of a situation caused by military action, civil war or armed conflict in part of their territory (Hauck and Gaspers 2006).

To restore order and avoid exporting instability to neighbouring countries, these countries must increase capacity to engage conflict and build peaceful ways of settling differences. Some of the most pressing issues arise at one of the following stages.

### *Pre-failure*

- National level: improving the capacity of democratic institutions such as parliaments, legislatures and electoral systems; strengthening public expenditure management; reinforcing the capacity of civil society and the media to act as a brake on government corruption and mismanagement; improving the ability to manage the macroeconomic situation; building up analytical capacity; and encouraging political will to address poverty.
- Multi-organizational level: increasing the number of civil society networks and capacity to engage in policy dialogue.
- Organizational level: strengthening the structures; increasing the funding and training personnel in civil society; and improving government capacity to deliver services.

The big danger in these weak and weakening states is that they slide gradually into chaos.

### *Conflict*

- National level: training military forces in conflict prevention and peacekeeping; supporting national leadership of military interventions; and involving neighbouring countries in diplomatic or mediation efforts.
- Systems level: helping organizations take independent positions in the conflict, carry out peace education and engage in activities such as policy dialogue.
- Organizational level: solving conflict, mediating disputes and stimulating peace-building processes.

The big danger here is that the conflict spills over into neighbouring countries and destabilizes whole regions.

### *Post-failure*

- National level: encouraging governments to take ownership by supporting government-formulated policy frameworks and delivering assistance through governments systems; assisting in reforming the policy, justice and defence sectors.
- Systems level: focusing on non-state actors as well as local governments to create structures that bridge the gap between community-level policies and processes and those negotiated at national or international levels; and building networks and associations of civil society.
- Organizational level: training individuals, monitoring government performance on transparency and engaging in outreach activities.

The concern here is to avoid countries slipping back into conflict.

Most assistance is concentrated at the second stage, often involving large military expenditures by the international community. Little assistance is provided to prevent conflicts, probably because this is the most politically challenging area to address and requires long-term analysis and engagement. The reluctance to deal with political issues also comes into play when discussing trade and intellectual property as global public goods.

### *Trade and intellectual property*

Many developing countries have characteristics and capacity issues similar to those of post-failure states, although their levels of capacity fall along a continuum from weak to varying degrees of strength. So the environment for the trade and intellectual property agendas is often anything but favourable. Even when there is commitment from the country to these global public goods, there are limitations to what one country can take on at any one time—its absorptive capacity. Many developing countries face a long, complex list of reforms, often pushed by the international donor community and often well beyond the capacity of even developed countries: more open trade regimes, privatization, decentralization, anti-corruption and many others. The global public goods agenda is yet one more priority to add to an already taxing list. Some countries (such as Tanzania) are valiantly trying to cope with several major reforms simultaneously—in the public sector, the legal system, local governments, public sector finance and such service sec-

tors as health and education. Others react defensively and push back, as Zambia did in reference to the Kyoto Treaty, which it felt it did not have the capacity to address.

### *Three areas of capacity required for global public goods*

For a developing country to participate fully in such agreements on global public goods, it must have capabilities in three broad areas:

- Analysing its needs and interests in terms of global public goods and being able to translate them into an appropriate strategy.
- Participating effectively in international negotiations, including presenting the defined strategy and adapting it to the evolving negotiating environment.
- Benefiting from the global public goods negotiated and effectively applying them domestically.

In most developing countries, however, there is a significant gap between these needs and reality. Some key limitations restricting absorptive capacity are identified below, according to the three categories of activities most critical to these global public goods and to the levels in figure 6.1.

#### *Design and strategy development*

- Individual: low levels of technical and scientific competency to understand the importance of global public goods, to analyse country interests and to formulate strategies; and little ability to link in with the country's development plans or with other broad socio-economic and political issues that might impinge on agreements.
- Organizations and units of organizations: limited information available on existing agreements or possible benefits of new ones, weak consultative mechanisms with stakeholders such as the private sector and civil society, lack of leadership and commitment, little ability to make positive links with national development strategies or with broader socio-economic and political forces and generally little ability to pull together the competencies at the level of individuals to prepare effectively for negotiations.
- Systems of organizations: limited information available on agreements and their implications, weak research institutions, poor coordination and cooperation among government de-



partments and hence little ability to coordinate stakeholders and to develop consensus on national agendas among them, lack of disinterested and effective leadership and management, few networks in the private sector or civil society and hence weak systems of checks and balances on government actions and poor links with national development plans.

- Institutional framework: weak legal base, conflicts between customs and written law.
- Society: ethnic divisions, corruption, lack of demand for and understanding of global public goods.
- Subregions and regions: ineffective organizations, little political will to cooperate, history of disputes and different colonial traditions.
- International: perceived bias of some bilateral donors wanting to push their own interests and questionable legitimacy of some multilateral organizations.

#### *Negotiation*

- Individuals: absent or weak negotiating skills, limited analytical skills for adjusting strategies as negotiations evolve and lack of timely information to support changes in strategies.
- Organizations: little ability to pull together an effective negotiating team and little effort to build alliances with stakeholders who could act as backup in negotiations.
- Systems of organizations: little cohesiveness or common vision among stakeholders and hence little backup from them in the negotiating process.

#### *Implementation and utilization*

- Individuals: limited means—both human and financial—to participate in relevant meetings and lack of technical competency to interpret and manage agreements.
- Organizations and units of organizations: limited capability of government departments to provide information or support for implementing agreements and limited coordination among government departments or with stakeholders.
- Systems of organizations: inability to comply with the terms of agreements such as enforcing intellectual property law and few links within private sector or between private sector and

government to make use of terms of agreements such as easier access to markets.

- Institutional framework: inadequate network of laws to support agreements and weak judicial system to enforce existing laws.
- Society: lack of knowledge or interest in agreements, competing priorities and inadequate infrastructure to support increased activities such as trade.
- Subregions and regions: historic rivalries and little coordination among countries.

### *Need to focus on longer term goals and soft skills*

Most developing countries have limited capability at any of the three levels needed to contribute to or benefit from agreements on global public goods: design and strategy development, negotiation and implementation and utilization of provisions once negotiated. Current assistance concentrates heavily on filling gaps to meet short-term goals, particularly preparing negotiating strategies. Little support is provided either for design or strategy formulation or for implementation. There is also little emphasis on supporting the development of long-term country capability to manage the process. Indeed it is questionable whether this capacity is always in the interests of the industrial countries, because the more capacity a developing country has, the more it is likely to question the agenda of the rich countries. Developing capacity then becomes a question of rebalancing the power relationships between industrial countries and developing states. This may be one reason why most programmes supporting global public goods emphasize hard technical skills, such as knowledge of World Trade Organization (WTO) regulations, and neglect the soft ones such as understanding the political process and social issues that might affect how negotiations proceed. Yet most of the limitations identified above reflect the need for soft skills rather than hard ones.

### *International and regional institutions*

The international and regional organizations involved in encouraging agreements on global public goods also need to address some issues:

- Limited legitimacy of some organizations because of inadequate previous performance (such as the United Nations Environment Programme) or perceived bias, when the assistance

appears to support the donors' agendas more than those of the developing countries (as with European Commission support for the Singapore issues that most developing countries refused to negotiate in the Doha Round).

- Limited interest or capability to deal with the needs of developing countries.

The situation in developing countries and the response of development organizations can be characterized as one of low capacity as well as commitment (see table 6.1). The international organizations involved in promoting global public goods focus more on the interests of industrial countries than on those of developing countries. As a result the support programmes tend to be top down and focused more on operational results (such as the legal and administrative conditions for smooth implementation of agreements) than on developmental results. The assistance is also narrowly targeted to negotiations rather than implementation and application of agreements.

### **Good practice**

The global public goods that are the focus of work done by the ECDPM—trade regimes, intellectual property rights and peace and security—are not traditional areas of activity for most development organizations. It was only in the 1990s that they were integrated into the agenda of development organizations. Before then organizations working on global public goods and organizations working on development operated largely in separate hemispheres, reflecting their different philosophical underpinnings. Altruism and geo-political interests have been the prime motivators behind development cooperation. Demands for protection of intellectual property largely come out of the private sector and those for freer trade regimes out of both the public and private sectors. Peace and security have traditionally been political issues. Capacity is a relatively new item on the agenda for global public goods but has been key to development cooperation for a long time. Given these different motivators, it is useful to look at the experience of the development community and how it can be applied elsewhere.

Foremost is the donor community's realization that what counts is not only what is done but how it is carried out—the process. The process helps ensure that the country takes ownership of the activity

Table 6.1 A broad overview of capacity and programmes addressing it

Entry level	National institutions		International	
Kind of activity	Design and strategy development	Negotiation	Implementation and utilization	
Objective (from the perspective of development organizations providing support)	Prepare developing countries for negotiations	Developing countries accept agreements	Developing countries implement agreements	Ensure negotiation and implementation of "legitimate" international agreements
Situation in many developing countries	<ul style="list-style-type: none"> <li>- Weak analytical and technical skills</li> <li>- Lack of understanding of political and social factors</li> <li>- Weak consultative mechanisms</li> <li>- Lack of leadership and commitment</li> <li>- Little information on agreements or benefits</li> <li>- Weak management</li> <li>- Little public demand</li> <li>- Crowded agenda</li> </ul>	<ul style="list-style-type: none"> <li>- Weak negotiating skills</li> <li>- Limited ability to adjust strategies during negotiations</li> <li>- Little common vision among stakeholders</li> </ul>	<ul style="list-style-type: none"> <li>- Limited technical competency to interpret and manage agreements</li> <li>- Weak links between government and private sector or civil society</li> <li>- Inadequate legal system for enforcement</li> <li>- Weak infrastructure</li> <li>- Little coordination among countries</li> </ul>	<ul style="list-style-type: none"> <li>- Limited legitimacy of some organizations</li> <li>- Little attention to developing countries' interests</li> <li>- Limited mandate and capacity to deal with developing country issues</li> </ul>
General approach of international organizations	<ul style="list-style-type: none"> <li>- Little attention to issues of who benefits from agreements on global public goods and how or how they contribute to development of developing countries</li> <li>- Assistance often reflects interests of industrial countries more than those of developing countries</li> <li>- Assistance often focused largely on countries with economic or political interest for industrial countries, leaving many developing countries with little or no support</li> <li>- Little assessment of needs of individual developing countries</li> <li>- Policy and legislative advice does not necessarily embrace all the flexibilities and options available to developing countries</li> <li>- Lack of systematic attention to least developed countries</li> <li>- Focus on creating minimum legal and administrative conditions for a smooth implementation of agreements, rather than investing in the full range of capacities needed to allow developing countries to become full partners in the global management of global public goods</li> </ul>			

*continues*

Table 6.1

**A broad overview of capacity and programmes addressing it (continued)**

Entry level	National institutions	International
Characteristics of much of the current assistance provided	<ul style="list-style-type: none"> <li>- Supply-led</li> <li>- Top-down</li> <li>- Motivated by political and economic interests of industrial countries</li> <li>- Few links between assistance for global public goods and broad development cooperation</li> <li>- Emphasis on operational results (certain outcomes, Singapore issues) versus developmental results</li> <li>- Technical assistance not always tailored to special circumstances of developing countries</li> <li>- Public sector as target, little attention to private sector or civil society</li> <li>- Focus on hard skills (technical skills such as knowledge of WTO regulations), almost no attention to soft skills such as understanding of the political process and of social issues that might affect how negotiations proceed</li> <li>- Little support for policy formulation</li> <li>- Little support for implementation</li> <li>- No systematic support for non-state actors</li> </ul>	<ul style="list-style-type: none"> <li>- Inadequate funds for developing country needs</li> <li>- Inadequate coordination among development organizations</li> <li>- Information systems not adequate to permit broad overview of activities</li> </ul>

and feels a commitment to its long-term success. One of the key factors affecting ownership is the degree to which the activity fits in with the interests and development goals of the country. Activities imposed from outside are rarely integrated into local systems and their prospects for sustainability are dim. This implies that effective assistance should be unbiased rather than representing the interests of the donor country.

Several other elements of good practice are important in the context of global public goods. They are divided into three categories: planning, implementation and monitoring and evaluation. They are not watertight categories, since the experience of implementation, captured through monitoring, should result in replanning. Regard these categories flexibly and understand that most elements of good practice have at least a degree of applicability across the categories used here.

### ***Planning***

*Use a systems perspective.* Recognizing the dynamics of capacity among individuals, organizations and the broader environment provides a better understanding of the complex amalgam of elements that must work together. It also helps identify openings that might not have been obvious. For example, through extensive assessment of the socio-economic and political conditions in Pakistan, the UK Department for International Development has concluded that it needs to work with non-traditional partners (such as the military) that may have more inter-

est than some government departments in decreasing levels of poverty (Freckleton 2004). A systems approach also implies linking different levels of activities, because what happens at one level affects others. For example, the linking of national and regional institutions through the Economic Community of West African States (ECOWAS) has provided the base for peacekeeping functions that are increasingly seen as legitimate (Hauck and Gaspers 2006, paras 1 and 3).

*Understand the inherently political nature of building capacity.* Capacity development involves shifts in roles, power and access to resources and relationships and identities. Crafting and managing this kind of change remains a great challenge. In most cases conflicting purposes (for example, political advantage versus capacity development at the local level in Pakistan) must be managed. Capacity development is only one of many objectives that contend for attention, resources and political support.

*Support existing structures.* It is generally more desirable to work with existing systems rather than create new ones. Vertical systems such as many of the worldwide funds—especially in health—tend to distort priorities and disrupt budget processes in developing countries (Maxwell 2005).

*Cooperate with donors.* In many developing countries the number of donor-supported activities is in the thousands. This strains the capacity of local officials expected to receive the planning, monitoring and evaluation missions related to these activities and prepare a multitude of reports. The donor community is attempting to reduce this pressure through harmonization of systems for planning and monitoring, more multi-donor cooperation and fewer individual projects and direct financial contributions to the budgets of developing countries. The Multi-Donor Trust Fund to finance the disarmament, demobilization and repatriation process in Sierra Leone is an example of a successful cooperative arrangement focused on peace and security (Hauck and Gaspers 2004). The Joint Integrated Technical Assistance Programme is an imaginative concept, with its own funds to help least developed and other African countries to build their capacity to participate in the multilateral trading system (Bilal and Szepesi 2006). A different model, also for trade, is the Integrated Framework, which provides a framework for coordination among donors but does not have its own funding.

*Balance structure and instrumentalism.* Few practitioners engaged in capacity interventions have much faith in grand capacity strategies. They have no systematic plan in the conventional sense and few see the opportunity to formulate them. Rather they craft approaches to organi-

zational change based on opportunities available and implement them over time.

*Paying attention to endogenous capacity systems.* The ECDPM studies on intellectual property and on peace and security stress the potential of building on traditional knowledge and approaches. This implies that traditional knowledge and approaches must first be recognized and protected. Our experience suggests that a formal, analytical process of design, particularly one led or influenced by external funders, tends to push the focus of attention away from the informal and the indigenous. An alternative is an iterative approach, with activities growing out of a participatory effort involving a wide range of stakeholders (including civil society), and a responsiveness to resulting emerging needs. When armed conflict broke out in Mali in 1990, the president encouraged traditional leaders from different regions to engage in consultative processes. This helped to build a popular consensus for peace and opened the doors to disarmament, demobilization and reintegration (Hauck and Gaspers 2006, paras 1 and 3).

### ***Implementation***

*Balance the needs for long-term capacity and short-term gains.* There is often conflict between short-term pressures such as dealing with negotiations and longer term needs to build sustainable capacity. Often assistance is short term, focused on filling gaps, but countries need to build the capacity to sustain ongoing functions beyond the immediate pressures. This is now happening in some post-conflict countries such as Sierra Leone, where the United Kingdom has signed a 10-year memorandum of understanding with the government to provide long-term support for reconstruction and development. This kind of commitment is also needed for the global goods of trade and intellectual property.

*Look for opportunities, especially by focusing on strengths and achievements rather than gaps, and building on what is already going on.* This requires analysing incentives for change, the availability of factors that can mobilize action and the nature of leadership and management. In many African countries the thriving non-governmental organization community provides entry points for stabilizing potential conflict situations. In Kenya, for example, the involvement of such non-governmental organizations as the National Council of Churches in the constitutional review process is believed to have helped prevent violent conflicts (Hauck and Gaspers 2004).

*Find the right fit.* The development community is increasingly recognizing that one size does not fit all and that it is not a case of what works in all cases but rather of what works where and when—good practice for that environment as opposed to best practice, which implies a solution for all conditions. There are many variables. Understanding the context is critical: how can an intervention at one level in figure 6.1 feed into a broader vision of change, for example, and what kind of training at individual or unit levels would increase the effectiveness of the country's participation in international discussions on trade liberalization? The appropriateness of interventions depends partly on the stage of organizational development. As organizations move through stages of change, different approaches to capacity development are required. Hence Mali requires different support on intellectual property rights than South Africa does, whose institutions are more developed.

*Support both hard and soft capabilities.* Typically interventions focus on developing formal or hard elements of capacity such as changing organizational structures and systems, introducing new technologies and providing training opportunities for staff, for example, on WTO regulations. In many ways training still remains the soft option. However softer aspects such as mobilization and the creation of new ways of thinking are also important. An example is the work of the Acholi Religious Leaders' Peace Initiative in northern Uganda, which helped to break the isolation of northern Uganda and pressured the Sudanese government to participate in international mediation (Hauck and Gaspers 2006). The challenge may not be to build new capacity as much as to mobilize and apply existing capacity in different ways. Here the implicit working assumption is that raising awareness, networking with people and institutions and identifying needs and opportunities (as opposed to demands), energizes existing capacity.

*Find the right balance between supply and demand.* The development community strongly emphasizes ensuring that activities are demand led—that recipient countries request the assistance and are committed to the activities. For global public goods, where much activity has been supply led and not always focused on the best interests of developing countries, this is particularly important. For example, the WTO-led agenda for building trade capacity was used by donors to promote their own interests, such as the Singapore issues. In some situations, however, initial demand is low and no organized constituencies exist to engage in making claims or mobilizing pressure for change. This low demand–poor response–poor capacity cycle requires a supply–led initiative to spark a re-



sponse oriented towards voicing the development needs of the poor. The new Sudan Council of Churches, for example, has helped organize several grassroots peace processes to resolve old disputes and lay the groundwork for more peaceful inter-tribal relations (Hauck and Gaspers 2006).

*Build legitimacy.* Legitimacy both contributes to and comes from a reputation and loyalty that, in turn, produce other benefits for capacity. Legitimacy creates opportunities and acceptance. It opens up access to resources and protection. It reinforces personal and organizational identities. Such legitimacy stems from a variety of sources. Organizations and systems that persist over a long time under difficult circumstances seem to earn it. ECOWAS, for example, has increased its legitimacy since the early 1990s and is a stronger and more credible organization than other African regional military groups.<sup>3</sup> Organizations with credible leaders attract legitimacy. Organizations that involve a broad range of stakeholders in their decision-making are generally seen as more legitimate than those more closed to outside influences. And non-partisan organizations are more likely to be seen as legitimate. Conversely, some organizations involved in global public goods seem to have undermined their legitimacy by their politicization (United Nations Conference on Trade and Development, or UNCTAD; Bilal and Szepesi 2006) or their lack of transparency (WTO).

*Provide space to allow organizations to learn and experiment and to develop their own ideas.* Few organizations whose basic functions and access to resources are controlled by others have much chance of building their own capacity. Development organizations, particularly multilaterals, can encourage innovation and reasonable risk and accept a degree of failure. They can also help protect developing country organizations from being captured by political interests (such as pressure to focus on the Singapore issues), keep the focus on the Millennium Development Goals and encourage the participation of a broad range of stakeholders.

*Build sustainability.* A good part of the sustainability puzzle appears to lie in interconnections with other sources of support and resources. Legitimacy is key. Citizens or clients or partnering groups can protect and support other organizations at key moments in ways that make a crucial difference to sustainability, capacity and performance. The International Centre for Trade Development and UNCTAD have a capacity-building project on intellectual property rights and sustainable development, for example. It provides informal but valued forums for dialogue between development practitioners, experts, international organizations and institutions from both the developed and developing worlds (Engel and

Houée 2006). By building trust among the participants, this networking helps increase the legitimacy of the organizations while offering a platform for mobilizing support for critical issues when necessary. But capacity can be sustained only if it is rooted in local and regional organizations. For example, the Kofi Annan International Peacekeeping Training Centre is building African capacity to train peacekeepers and hence to reduce the continent's reliance on the international community to resolve its disputes (Hauck and Gaspers 2006).

### ***Monitoring and evaluation***

*Ensure two-way accountability.* The development community is recognizing that past approaches to accountability, focused on the developing country reporting to the donor, are inadequate and even undermine national democratic processes by crowding out government accountability to citizens. An alternative is mutual accountability. An example at the country level is the Tanzania report card on the roles of donors and the government, done by a third party (see box 6.1). A similar exercise looking at development effectiveness across the African continent is on the drawing board. In cooperation with the United Nations Economic Commission for Africa (UNECA) and the Development Assistance Committee (DAC) of the Organisation for Economic Co-operation and Development (OECD), the New Partnership for Africa's Development (NEPAD) is developing "a living reference point for both African countries and OECD countries, based on ongoing commitments and agreed action 'frontiers' which can be monitored on an ongoing basis, with benchmarks set for the next review in 2007" (ECA/OECD-DAC 2005, p. 3).

*Learn from monitoring and evaluation.* Many monitoring systems are ponderous, mechanistic and extractive. Few are designed to support endogenous learning systems. In general they contribute little to learning and may indeed drive learning underground by discouraging donors and countries from discussing failure. The development community has learned a great deal from the Tanzania report card system, and the strained government-donor relations of the mid 1990s have been replaced with cooperative links based on strong Tanzanian ownership of the process.

*Focusing the monitoring.* Agreements on global public goods need to look beyond the negotiation phase to the implementation of treaties. This exhortation will be meaningless unless the monitoring system reflects these broader goals. One needs to be aware that the desire by many aid organizations to ensure that results are visible, quantifiable and

“In recent years Tanzania has embodied a number of good aid coordination practices. One of these practices is the regular independent monitoring of aid relations that has taken place since 1995 and is now institutionalised in the form of an Independent Monitoring Group (IMG), a locally led group of impartial experts. This monitoring is both unique and innovative as, perhaps for the first time, it provides a country-based approach to placing development partners under the same degree of scrutiny to which these same partners subject their host governments. Independent monitoring therefore signifies a real effort to restore balance to aid relations and to introduce some reality to the rhetoric of ‘partnership’.<sup>a</sup>

“In December 2002, the newly established Independent Monitoring Group, under the leadership of a reputable local research organisation, conducted the first institutionalised monitoring exercise. This report came at a time when relations were much improved but when the consequences of moving closer together, for example, in sectorwide development programmes, had allowed the wrinkles on government and its partners to become increasingly visible. For partners who subscribed to the [Tanzania Assistance Strategy], and particularly for budget support donors, the exercise provided an opportunity to assimilate cross-sectoral experience and then to articulate how national processes required further strengthening before they could replace partner’s own procedures. For government (of Tanzania), the exercise provided an opportunity to provide a frank assessment of progress since the last monitoring exercise, to communicate the problems the budget faced as a result of the continued unpredictable nature of the disbursement profile of external flows [and] to emphasise their concerns about [technical assistance] and the lack of progress in consolidating, as opposed to fragmenting, national capacity.”

A second monitoring exercise took place in late 2004, and the results will be available shortly.

a. See, for example, Helleiner (2000).

Source: Courtnadge (2004, pp. 1 and 5).

directly attributable to a donor’s activities may reduce a programme’s impact (Knack and Rahman 2004). Monitoring systems need to reflect the reality that development results are the shared responsibility of donors and their developing country partners (see table 6.2).

## Recommendations

From this good practice some recommendations can be distilled for how to proceed with reinforcing the capacity of developing countries to participate in agreements on global public goods. They are divided into three areas: process, operations and focus. Following each recom-

Table 6.2 Elements of good practice

## Levels of capacity National and international institutions

The process	<i>Planning</i>
	<i>Implementation</i>
	<i>Monitoring and evaluation</i>

mentation parenthetically are the groups or organizations that should be accountable for ensuring implementation.

### Process

At the national level:

- *Pursue integrated approaches bringing together development organizations involved in activities at various levels of intervention, for example, the Joint Integrated Technical Assistance Programme and the Integrated Framework. Such integrated approaches should be careful not to siphon resources from other government functions, undermining activities critical for the country's general development. (Organizations designated to coordinate or lead each global public good in cooperation with developing countries.)*
- *Include relevant stakeholders in the processes related to global public goods. It is particularly important to include civil society, especially organizations focusing on global goods such as trade, both for its intellectual contribution and for its role in providing checks and balances on undue use of government power (developing countries).*

- *Revisit accountability and ensure that it is a two-way street between donors and recipients.* Monitoring systems that look at the roles of both sides of a partnership—the donors and the recipients. The Tanzania report card is an interesting model (each developing countries with its donor partners).
- *Allow organizations space to learn, to experiment and to take advantage of opportunities as they emerge to influence relevant processes.* This requires an environment that allows taking risks and accepts a reasonable level of failure<sup>4</sup> (international and regional organizations and developing countries).
- *Build on indigenous knowledge and approaches,* for example, through approaches such as that of the Canadian International Development Research Centre, which provides financial and technical support to (indigenous) research and researchers in developing countries and assists them in building their capacities to produce and apply knowledge for the benefit of their own communities. Such approaches help increase ownership of the activities concerned (donors in cooperation with their developing country partners).
- *Ensure that nationals control the process rather than outsiders,* for example, as in the deployment of peacekeeping forces under the leadership of the African Union (international and regional organizations).

At the regional and international levels:

- *Increase the legitimacy of the organizations* chosen to take the key responsibility for each global public good. This requires several steps:
  - Ensure that they have robust democratic credentials, including transparent policy-making processes and full participation in decision-making by all member countries.<sup>5</sup>
  - Ensure that weaker members receive assistance to allow them to play a full role in such organizations.
  - Ensure that leaders are chosen through a process that takes into account the interests of members in general rather than only those of a few countries.
  - Guarantee adequate resources from the international community over a minimum of 10 years to enable development of a long-term strategy focusing on immediate crises and long-term capacity needs.

- Ensure that such organizations are competently staffed, strictly on the basis of merit rather than national quotas or political patronage.
- Provide these organizations with space to innovate and take risks without the usual political and administrative constraints that hobble many international organizations (the broad international system, including donors supporting the organizations in question and developing countries).
- *Improve the collection of data on financing global public goods activities* to better understand what is happening and what areas remain uncovered. This requires improving the OECD DAC system of data collection through increased funding at the secretariat level and improved reporting at the country level (the OECD, with financial support from its members).
- *Do more research* to better understand what works. The ECDPM is studying how capacity develops endogenously, providing insights into what works. More such work is required, with a specific focus on global public goods (the international development community, working with developing country research organizations).
- *Improve monitoring and evaluation*, possibly through a system similar to that used for the OECD Convention on Combating Bribery of Foreign Public Officials in International Business Transactions, which provides for a programme of systematic follow-up to monitor and promote the full implementation of this convention.

### **Operations**

At the national level:

- *Encourage cooperation among government departments* (the “whole of government” approach mentioned in the peace and security study) to ensure coherence among activities, avoid one activity undermining another and ensure the maximum long-term effectiveness of policy. This might include, for example, greater complementarity between capacity building specifically for intellectual property and for related activities such as improving infrastructure, reducing supply-side constraints, developing

institutions and improving policies for trade and competition (developing countries and their donor partners).

- *Ensure the presence of representatives of all developing countries in negotiations*, even if it requires assisting them financially. Many countries are now unable to either participate at all or in such a minimal way that they are not able to effectively defend their interests (donors working with developing countries).

At the regional and international levels:

- *Ensure that a well defined and credible coordination mechanism exists for each global public good*. In some cases this might be headed by one organization but in others that may not be necessary (the broad international system interested in promoting global public goods).
- *Increase funding significantly at three levels:*
  - National: to ensure that all developing countries needing assistance receive it<sup>6</sup> and that funding covers the broad gamut of activities required to ensure that countries not only participate in negotiations but also use the provisions of the treaties once agreed.
  - Regional: to strengthen their role in providing public goods such as peace and security.
  - International: to allow key organizations such as the World Intellectual Property Organization (WIPO) to expand their mandates by providing support to developing countries (the broad international system interested in promoting global public goods).
- *Ensure that new agreements for global public goods contain a provision for a contracted right, including the necessary funding arrangements*, for developing countries to receive appropriate and adequate assistance to develop the capacity to implement their new obligations (the broad international system interested in promoting global public goods) (see box 6.2).
- *Create regional and international pools of expertise to assist developing countries with emerging urgent needs related to global public goods and to help them avoid pressure to accept conditions on a bilateral basis more stringent than those in international conventions*. The general principle should be that countries should not be pushed into agreements that are beyond their capacity to implement (the broad international system interested in promoting global public goods).

**Box 6.2 Financing—can an estimate be made?**

It is impossible to quantify here how much financing would be required to support the involvement of developing countries in not only negotiating but benefiting from agreements on global public goods. Doing so requires a country-by-country review. However the following figures may provide an idea of the magnitude of future needs:

- The United Kingdom government signed a long-term partnership agreement with the government of Sierra Leone pledging at least £120 million of assistance in 2002–05 to support the reduction in causes of conflict and to improve standards of governance (UK DFID 2003).
- The African Union (AU) earmarked \$75 million in its 2005 budget for peace and security, but this was less than half of what the AU Commission sought. In addition, the AU Darfur mission to monitor the ceasefire between rebels and the Sudanese government cost \$222 million between October 2004 and October 2005. These funds are being provided by western countries such as the European Union and its member states (Westerhoff 2004).
- United States contributions to United Nations missions in 2004 included \$12 million for the referendum in the Western Sahara, \$69 million for Sierra Leone, \$213 million for the Democratic Republic of the Congo, \$53 million for Ethiopia and Eritrea and \$209 million for Liberia.
- In 2003 the World Bank Post-Conflict Fund approved grants of about \$12 million for 16 innovative projects, largely at the community level, that promoted the transition from conflict to peace (World Bank 2004).
- As part of the 9th European Development Fund which is running currently, the European Union is supporting demobilization and reintegration with €20 million in Eritrea and €25 million in Liberia as well as post-conflict rehabilitation with €45 million in Eritrea and €40 million in Liberia.
- The Commission on Intellectual Property Rights estimates that meeting the minimum administrative standards required by the Agreement on Trade-Related Aspects of Intellectual Property Rights would require a skeleton office in every country of 10 professionals and 10 administrative staff. This is based on low volumes of applications, which would increase over time.
- In 2002 the World Bank estimated that an upgrade of the intellectual property rights regime, including training costs, would require at least \$1.5 to \$2 million per country.<sup>a</sup> Probably 90 to 100 countries require assistance. The statistical base is very weak, but total current expenditures for intellectual property seem to be about \$60 million (Engel 2006).
- The assistance required for countries to benefit from a global intellectual property rights regime, including building long-term capacity in such areas as educational systems and private sector innovation, is not factored into these estimates.

a. See Engel (2006, p. 26), quoting from World Bank. 2001. "Intellectual Property: Balancing incentives with corporate access." In World Bank, *Global Economic Prospects and the Developing Countries*. Washington, D.C. Available at <http://econ.worldbank.org/WBSITE/EXTERNAL/EXTDEC/EXTDECPROSPECTS/GEPEXT/EXTGEP2002/0,,contentMDK:20289856~menuPK:544354~pagePK:64167689~piPK:64167673~theSitePK:544346,00.html>

**Focus**

At the national level:

- *Ensure clearer links with the development priorities of developing countries.* One approach would be to link global public goods to Poverty Reduction Strategy Papers, which set out a country's plans to address poverty issues and the Millennium Development Goals. This link would help ensure coherence among



programmes and encourage country ownership—essential if programmes are to be sustainable (developing countries in cooperation with their donor partners).

- *Ensure that programmes supporting global public goods reflect the needs and interests of developing countries rather than outsiders' perceptions of their needs.* This may imply finding a balance between global public goods and national interests. It may also imply channeling more assistance through the multilateral system to avoid the bias that sometimes accompanies bilateral donors (developing countries in cooperation with their donor partners).
- *Ensure global public goods do not undermine the development cooperation system by crowding out country-determined aid priorities and reducing resources available for them.* This means that funding for global public goods needs to be in addition to existing funding (developing countries in cooperation with their donor partners).
- *Ensure more emphasis on long-term capacity development.* At a minimum capacity development should be strongly embedded in all activities. Some cases may require separate programmes that might include providing support in immediate or crisis situations such as negotiations or failing states as well as building long-term capabilities for policy development and implementation (developing countries in cooperation with their donors' partners).
- *Pay attention to both soft and hard capabilities*—for example, training on specific regulations but also opportunities to develop new ways of thinking, such as a more cooperative and inclusive style of management that would include consultations with a broad range of stakeholders (donors and developing countries).
- *Use and reinforce existing structures rather than creating new ones.* For example, avoid bilateral arrangements on intellectual property, which are more demanding than existing international arrangements (donors in cooperation with developing countries).
- *Improve links among various levels of activity,* for example, by providing assistance to enable those working on global public goods at the national level to interact with counterparts at the regional and international levels. This will help avoid conflicting demands on countries from different levels and will also help stimulate cooperation where this has shown benefits, such as in peacekeeping (donors in cooperation with developing countries).

At the regional and international levels:

- *Build greater complementarity among the various organizations involved in global public goods and especially between regional and international organizations* as a means of reducing overlap and competition among them and enhancing their comparative advantages—for example, enhancing the cooperation between WIPO and the African Intellectual Property Organization and between the UN Security Council and the African Union (the broad international community interested in global public goods).
- *Ensure that issues are addressed from the perspective of either developing countries or the region (particularly in the case of conflict)* and that activities at all levels focus on resolving those issues rather than on individual organizational priorities. This avoids the all too common problem in the development community of solutions seeking problems—organizations pushing particular approaches—which often results in a poor fit between reality and the activities chosen. The Washington Consensus was an example of a “one size fits all” solution, parts of which are now being seriously questioned (Maxwell 2005).

## Conclusions

In its review of three global public goods, this paper finds considerable similarities among them. Many themes thus recur in the recommendations (see table 6.3). Most important is the need to go beyond the crisis issues of negotiating treaties or resolving conflicts to take into account the broad and long-term development needs of poorer countries. Doing so implies an expanded agenda including the activities that precede or follow negotiations or conflict resolution. For peace and security this means more attention to conflict prevention, a largely political process without which the world will continue to lurch from one disaster to another. The trend towards assistance in post-conflict reconstruction also needs to be reinforced to provide positive incentives for fragile states to avoid sliding back into war.

For trade and intellectual property, more attention must be given to implementing international agreements in ways that benefit developing countries. Without this attention there is little incentive for these countries to participate in further agreements. To be effective assistance

Table 6.3 **Summary of recommendations**

Levels of capacity	National institutions	International institutions
Process	<ul style="list-style-type: none"> <li>• Use integrated approaches to bring together different development organizations</li> <li>• Include relevant stakeholders in processes</li> <li>• Ensure two-way accountability</li> <li>• Allow organizations space to learn</li> <li>• Build on indigenous knowledge and approaches</li> <li>• Ensure that nationals are in control</li> </ul>	<ul style="list-style-type: none"> <li>• Increase legitimacy of responsible organizations</li> <li>• Improve data collection on global public goods</li> <li>• Do more research to understand what works</li> <li>• Improve monitoring and evaluation</li> </ul>
Operations	<ul style="list-style-type: none"> <li>• Encourage cooperation among government departments as a means of promoting greater coherence in their activities</li> <li>• Help developing countries be represented at international negotiations</li> </ul>	<ul style="list-style-type: none"> <li>• Ensure a well defined and credible coordination mechanism</li> <li>• Increase funding significantly</li> <li>• Ensure that new agreements contain a provision for a contracted right to assistance</li> <li>• Create pools of expertise to respond to developing country needs</li> </ul>
Focus	<ul style="list-style-type: none"> <li>• Link with development priorities of developing countries</li> <li>• Ensure activities reflect national interests, not outsiders' perceptions</li> <li>• Do not crowd out country-determined aid priorities</li> <li>• Ensure more attention to long-term capacity development</li> <li>• Pay attention to both hard and soft capabilities</li> <li>• Use and reinforce existing structures rather than creating new ones</li> <li>• Improve links between various levels of activities</li> </ul>	<ul style="list-style-type: none"> <li>• Build greater complementarity among various organizations involved in a particular global public good</li> <li>• Address issues from the perspective of developing countries or the region</li> </ul>

should be unbiased and focused on developing countries' priorities, not on donor countries' strategic objectives. Channeling more assistance through the multilateral system instead of through bilateral donors may be a way to ensure this.

The danger of losing track of development needs is exacerbated by some of the new approaches to assistance. In all the areas reviewed, for example, there is increasing use of cooperative approaches across the governments providing assistance. In many ways this is very positive because it brings greater coherence of policy. It also carries the danger of overwhelming development goals with the interests of powerful ministries in industrial countries such (as defense, trade and foreign affairs) whose mandates relate primarily to the well-being of those countries, not the development of poorer countries.

The political nature of capacity development must be recognized. It often means a rebalancing of power relationships, with attendant implications, such as demands from developing countries for more equitable benefits from agreements on global public goods. Without such a rebalancing, it is unlikely that many developing countries will fully commit to the global public goods agenda. It will remain a top-down process with questionable legitimacy. Rebalancing this will require more emphasis on improving soft skills, often related to processes such as exploring the link between national cultural values and international trends and coordinating interested stakeholders. Assistance has been too focused on hard skills, such as knowledge of regulations.

Another recurrent theme is the need for developing countries to protect their heritage in both hard skills (such as cultural artifacts or understanding of the medicinal value of certain plants) and soft skills (such as processes for resolving disputes).

Yet another common theme is that capacity to participate in and benefit from agreements on global public goods does not result from macro level activities alone. Building on lower level activities and over the long term is critical. Activities need to:

- Be multilayered with interlinked activities at different levels—micro, meso and macro, including national, regional and international.
- Have sectoral interconnections with, for example, the military, legal institutions, the police and social service organizations, all striving towards a similar vision of peace and security.
- Include all actors—government, civil society and the private sector.
- Be long term, recognizing that short-term gains can enhance commitment for the long haul.

Allowing space for organizations to experiment and learn is important to finding the most effective solutions for any one country or context. Doing this requires that both the immediate actors and funders accept a realistic degree of risk.<sup>7</sup>

Several examples of monitoring mechanisms within the development community show promise for global public goods. They focus not on the current largely mechanistic processes of developing indicators and assessing progress towards them, but rather on interactive mutual accountability at national and even continental levels (see box 6.1).

Without country-by-country reviews, it is not possible to estimate the costs of programmes to pursue the broader goals outlined above—

that is, of not only negotiating international agreements on global public goods but also ensuring that developing countries fully benefit from them. Funds allocated should be additional to current development programmes, so as to not crowd out activities focused on reducing poverty and meeting the Millennium Development Goals.

## Notes

1. For a systematic way to analyse capabilities, see Ulrich and Smallwood (2004).
2. The Canadian International Development Agency (CIDA) has done perhaps the only general overview of capacity development activities in a development organization. Its study concludes that 66–75% of CIDA's bilateral work consists of support for capacity development. But the study also concludes that only about 15% of these activities draw on an integrated holistic understanding of capacity (Lavergne 2004).
3. There is reasonable consensus among its members on how to deal with conflict, and 13 of 15 participate in peacekeeping missions (Hauck and Gaspers 2006).
4. Morgan (2002) notes that capacity-building exercises initiated by both the private sector in North America and the international development community have similar failure rates—between one-third and two-thirds are unsuccessful—and that they tend to fail the first time. This suggests the need for patience and for learning from first experiences.
5. There is a parallel here with the international financial institutions that Rogerson, Hewitt and Waldenberg (2004) note as being under serious threat as a result of criticisms from the public and from their members about skewed voting structures and weak democratic credentials.
6. Assistance appears to be heavily skewed towards a few countries. Based on available and not necessarily reliable statistics, in 2001 and 2002, 66% of TRIPs-related technical assistance for Africa went to Egypt, 8% to Nigeria and 10% to South Africa (Engel 2006).
7. The failure rate in the private sector in initiating change management processes is at least one-third for first attempts. New businesses fail at least 75% of the time. And only 1 in 5,000 drug compounds become approved in the United States (Morgan 2002, p. 5).

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