



Global Public Goods for Development: How Much and What For

Nancy Birdsall and Anna Diofasi

Global public goods (GPGs) provide benefits to people in both rich and poor countries. They play a crucial role in safeguarding the social, economic, and political progress of the past century. They are fundamental to managing global risks such as climate change, infectious diseases, and financial crises that can harm developing countries disproportionately; and in exploiting opportunities, such as new vaccines, that can benefit them especially. Yet very little is known about how much governments spend on GPGs that matter for developing countries. What scant publicly available information there is we have gathered here for an initial and provisional estimate. Our list is necessarily selective and conservative as none of the major institutions with a global mission – including the World Bank and WHO - report on the funds or programs they dedicate to global public goods, nor have they agreed on any standard definition of GPGs. Our compilation of spending on development-related global public goods in 2012 adds up to about \$14 billion (Table 1 and Table 2), equivalent to a little over 10 percent of global spending on official development assistance that year.

We limit our compilation to the following categories of spending that are more clearly associated with development-related benefits that transcend borders:

- Transfers and contributions to the UN and other international organizations for activities that are *global in scope* (such as to the FAO for management of data on changes in desertification) as opposed to “country programs” (such as FAO support to Morocco for fertilizer distribution);
- Spending by international organizations on research and on data collection and management, using the budgets of their research and economics departments to generate this data¹;
- Contributions by any country to global programs and products of a global public good nature targeted to developing countries, such as contributions by the UK to the Advanced Market Commitment² program to encourage private production and marketing of a pneumococcal vaccine in low-income countries³;

¹ While some might argue that the existence of international finance institutions, such as the IMF and the World Bank, is in itself a public good, we take a more restrictive approach.

² Advance Market Commitments (AMCs) for vaccines aim to encourage the development and production of affordable vaccines tailored to the needs of developing countries. The overarching goal of the pilot AMC is to reduce morbidity and mortality from pneumococcal diseases.

³ Contributions to global funds to reduce climate change are included as well; the relatively new Green Climate Fund is not featured as the most recent year in the tables below is 2012.

- Transfers by any country to a developing country to finance activities with global benefits, for example transfers by Norway to Brazil to curb deforestation and thus climate change⁴;
- All countries' contributions towards enforcement and monitoring of international agreements with shared global benefits, such as the Montreal Protocol; and
- Spending by international organizations on activities of a GPG nature, such as UN peacekeeping operations that limit cross-border conflicts in the developing world⁵.

We exclude a number of areas with potential for global impact where a significant share of the expected benefits are locally concentrated. For example, we exclude transfers for AIDS prevention and treatment because although AIDS can be spread across borders, most of the spending in the last fifteen years has been channeled to developing countries to help treat and prevent the disease within their own borders. We do not include public spending on research and development (R&D) within countries, though arguably that spending often benefits people in other countries. Consider the US Department of Defense's contribution to the world's poor via the early financing of the research that led to the Internet, or the benefits of research on tropical diseases at the National Institutes of Health. There is no global standard for defining and reporting such spending nor for estimating the development impact of R&D spending by any one country on other countries' current or future welfare.⁶

The concept of global public goods

When selecting the spending categories for our compilation, we were guided by the definition of global public goods as institutions, mechanisms, and outcomes that provide quasi universal benefits, covering more than one group of countries, several population groups, and extending to both current and future generations ([Kaul, Grunberg, and Stern, 1999](#)). GPGs are non-rival and non-excludable: one country's enjoyment of the good does not affect (or reduce) its enjoyment by others and once the good becomes available, no country can be excluded from sharing its benefits ([Samuelson, 1954](#); Cornes and Sandler, 1986). For example, the IMF's surveillance of global financial markets and members' economies helps detect systemic risks and vulnerabilities early on in the global economy. The resulting early warning system encourages countries to take steps at home to reduce the risks of a global crisis.

Why global public goods matter

Growing interconnectedness through international trade, migration, and travel has increased the number of critical common challenges faced by the global community. Climate change, cross-border epidemics, security risks, and financial crises pose a mounting threat to stability and living standards everywhere. While they affect all of us, those living in the poorest nations - with little or no personal savings, no social safety nets or government emergency assistance programs to fall back on - are the most vulnerable. The provision of global public goods is a pre-requisite for sustained future progress both in rich and poor countries and is vital for reduction of poverty and inequality across and within countries.

⁴We do not include spending on domestic programs to reduce climate change. Climate-related public spending was estimated to be between USD 16-23 billion in 2012, with the majority of this amount being spent on domestic renewable energy projects (Climate Policy Initiative 2012).

⁵We did not include military alliances with limited membership such as NATO, or military spending of countries for the protection of international sea-lanes.

⁶This almost surely underestimates spending on development-related GPGs via US support for basic research at the National Institutes of Health (Levine, 2008) and through federal funding of universities, federal support for agricultural research, for research related to energy technologies and so on. The same could be said of public support for basic research in other countries.

Our initial, provisional, rough compilation

Total official development assistance (ODA) in 2012 was an estimated \$133 billion⁷. Our initial compilation of spending on development-related global public goods in 2012 adds up to about \$14 billion (Table 1 and Table 2), much of which is reported by contributing countries as ODA. Given their importance for continued positive development outcomes, our estimates suggest that GPGs are severely underfunded.

Table 1. Estimated Annual Outlays for and at select development-oriented Global Public Goods Facilities (USD millions):

Initiative	2009 ⁱ	2011	2012
Global Health			
Advance Market Commitment (AMC) ⁱⁱ	125	172.2	128.3
International Finance Facility for Immunisations (IFFIm) ⁱⁱⁱ	291	204.2	233
Global Environment			
Global Environmental Facility ^{iv}	606 ^v	885.5 ^{vi}	885.5
Montreal Protocol ^{vii}	113	115.0	131
Climate Investment Fund (CIF) ^{viii}		1258.7 ^{ix}	1258.7
Forest Carbon Partnership Facility ^x	79.3	166.7	38.5
Amazon Fund ^{xi}	-	164.1	164.1
Global Peace & Security			
UN Peacekeeping Operations ^{xii}	8,968	7,840	7,330
Data and Research for Global Development			
International Initiative for Impact Evaluation (3ie) ^{xiii}	13	38.9	29.9
EITI Multi-Donor Trust Fund ^{xiv}	25	10.9	14.2
CGIAR Fund ^{xv}	606	383	505
IMF Surveillance ^{xvi}	363	253.1	239
World Bank (DEC & WBI)	?	?	53.1 ^{xx}
African Development Bank ^{xvii}	13.3	15	14.6
Inter-American Development Bank ^{xviii}	?	7.8	8
Asian Development Bank ^{xix}	7.4	8.3	9.9
TOTALS	11,210	11,523.4	11,042.8

Note to Table 1: This table reflects an approximate, but non-comprehensive estimate of funds believed to have financed GPGs in 2009, 2011 and 2012, based on the work of [Birdsall and Leo \(2011\)](#). The amounts reflect contributions received by donors in a given year or multi-year pledges when that is more reflective of the organizations financing mechanism (e.g., the GEF's replenishment cycles) or, when such data is not available, the budgets of specific departments/ programs (detailed description of the funds listed and sources used can be found in the endnotes).

In Table 2, we also estimate spending by select UN agencies on global public goods. It is difficult (if not impossible) to distinguish between spending by UN agencies for country programs versus spending on data, research, surveillance, and new technologies with obvious global benefits. That difficulty reflects the reality that UN agencies and the global financial institutions do not (yet) provide data using the category of GPGs.

⁷ Based on OECD data on net official development assistance; includes disbursements from both DAC and non-DAC countries. Data accessible via: <http://www.oecd.org/statistics/>

- For the FAO, we rely on the CGD Working Group on Food Security’s [report](#), which put the FAO’s contributions to GPGs at 35 percent of its total spending;
- For the WHO, we count the following program areas as GPGs: communicable diseases; HIV/AIDS, tuberculosis and malaria; and emergencies (including outbreak and crisis response and polio eradication) – though given the highly aggregated budget data available, these are likely to overestimate the WHO’s spending on GPGs;
- For UNDP, only funds towards the Human Development Report were included (which may be an underestimate of its total GPG spending);
- For UNICEF, only the institutional budget (administrative costs) was included, on the basis that it contributes to the monitoring of children’s welfare worldwide;
- For UNAIDS, we include all contributions given that its primary role is strengthening cooperation among stakeholders and collecting and disseminating data on HIV/AIDS;
- For UNEP, we include all contributions for the given year due to its role in improving global environmental governance and curbing climate change.

Our estimates indicate that barely more than half of the funds received by the WHO support global public goods; the percentage of contributions to UNICEF and UNDP for GPGs is even smaller.

Table 2. Contributions to select UN agencies (USD millions)

Organization	Contribution type	2011	2012	Estimated Share of GPGs (2012)	Total estimated spending on GPGs
World Health Organization ^{xxi}	Mandatory	472	475	55%	1,107.7
	Voluntary	1,424	1,539		
UN FAO ^{xxii}	Mandatory	1,000	995	35%	706.3
	Voluntary	1,234 ^{xxiii}	1,023 ^{xxiv}		
UNDP ^{xxv}	Voluntary (all)	4,197.5 ^{xxvi}	4,741	(0.001%) ^{xxvii}	5.1
UNICEF ^{xxviii}	Voluntary (all)	2,171.5 ^{xxx}	3,791	6%	483
UNAIDS ^{xxix}	Voluntary (All)	252.5	234.7	100%	234.7
UNEP ^{xxxi}	Voluntary (all)	386.35 ^{xxxii}	458.5 ^{xxxiii}	100%	458.5

The provision of global public goods

While the low level of funding dedicated to GPGs is a cause for concern, their under-provision is not surprising. Like public goods at the local and national level, standard economic theory suggests that global public goods will be underfunded, because in a world of sovereign nations, no single nation can capture fully the benefit of its own spending on a “global” good (Kaul, 2012). Universal benefits mean fewer political and diplomatic returns on aid spent on GPGs and encourage free riding. Inequalities in global power relations and the lack of effective international governance systems further impede the provision of GPGs. Perhaps this is why funding for even relatively high-profile ‘global commons’ problems, such as climate change, is small compared to the apparent need. The Green Climate Fund - set up in 2010 to channel \$100 billion annually

from developed to developing countries for climate adaptation and mitigation every year from 2020 - has to date [received only \\$10.2 billion](#) in pledges.

Yet, global public goods make excellent investments. For instance, [Hallegatte \(2012\)](#) estimates that early warning systems in developing countries would yield benefits of between \$4 billion and \$36 billion a year, with less than \$1 billion investment. Devoting an additional \$100 million to HIV vaccine R&D is valued to generate returns six times as high ([Jamison et al., 2012](#)).

The data problem

The challenge of global public goods provision is exacerbated by lack of reporting by individual countries and international organizations. None of the major institutions with a global mission - such as the World Bank or the WHO or any others in our tables - report on the funds or programs they dedicate to global public goods. Official funders have not agreed on any standard definition of GPGs, nor do they report systematically on their own spending (according to their own definition) on GPGs. The World Bank has issued several staff reports that outline the Bank's opportunities for engagement with global public goods ([World Bank, 2000](#); [World Bank, 2007](#)). In its 2007 report, the Bank stated that its global programs and partnership portfolio was worth about \$1.25 billion; however which GPGs were being provided through this spending is unclear. The publicly available budget documents of UN agencies also make it very difficult to distinguish between country-specific and cross-border programs.

Next steps: publish, identify, invest

Better data is a first step towards more and better provision of development-related global public goods. Multilateral organizations as well as individual countries should publish the funds they dedicate to GPGs and identify their programs with global benefits. Counting current contributions can be a first step towards an agreed standard for updating spending on GPGs that contribute to growth and development in developing countries. Improved reporting would encourage the assessment of gaps in the provision of GPGs and highlight the areas where returns to public (and private) investment would be greatest.

Further Reading

Barrett, S. (2007). *Why Cooperate?: The Incentive to Supply Global Public Goods*. New York: Oxford University Press.

Birdsall, N. and Leo, B. (2011). *Find Me the Money: Financing Climate and Other Global Public Goods*. Working Paper 248. Washington, DC: Center for Global Development.

Kaul, I., Grunberg, I., and Stern, M. A. (Eds.). (1999). *Global Public Goods*. New York: Oxford University Press.

Levine, R. (2008). Healthy Foreign Policy: Bringing Coherence to the Global Health Agenda. In N. Birdsall (Ed.), *The White House and the World* (pp. 43-61). Washington, DC: Center for Global Development.

ⁱ 2009 data is based on Figure 1 in [Birdsall and Leo \(2011\)](#), 'Find Me the Money: Financing Climate and Other Public Goods', Center for Global Development Working Paper

ⁱⁱ Advance Market Commitments (AMCs) for vaccines aim to encourage the development and production of affordable vaccines tailored to the needs of developing countries. Source: [GAVI spreadsheet](#) - annual donor contributions. There are \$511 million of outstanding pledges for AMC for the period 2015-2019.

ⁱⁱⁱ The International Finance Facility for Immunisation (IFFIm) uses long-term pledges from donor governments to sell 'vaccine bonds' in the capital markets, making large volumes of funds immediately available for Gavi (Global Alliance for Vaccines and Immunization) programs. Source: [GAVI spreadsheet](#) - annual donor contributions.

^{iv} The Global Environment Facility is a partnership for international cooperation where 183 countries work together with international institutions, civil society organizations and the private sector, to address global environmental issues. Source: GEF Trust Fund financial statements [2012](#)

^v Total expenses in FY 2009. Updated from the original Birdsall and Leo (2011) figure based on the GEF Trust Fund [Financial Statement 2010](#).

^{vi} Annual share of total value of new pledges for the GEF's fifth replenishment (2010-2014). \$3.7 billion has been pledged for the GEF's sixth replenishment, to finance the Facility's activities for 2014-2018. Source: [GEF-5 Funding Retrospective](#)

^{vii} The Montreal Protocol on Substances that Deplete the Ozone Layer legally enforces the phase-out of the production and use of ozone depleting substances. Source: [Multilateral Fund Executive Meeting Reports](#)

^{viii} The Climate Investment Funds (CIF) provides 48 developing and middle income countries with urgently needed resources to mitigate and manage the challenges of climate change and reduce their greenhouse gas emissions. Values include contributions to the Clean Technology Fund and Strategic Climate Fund, received in fiscal year.

^{ix} Total amount pledged by 14 countries to the CIF trust funds in the period Sep 2008-2014. Source: <https://www.climateinvestmentfunds.org/cif/finances>

^x The Forest Carbon Partnership Facility assists developing countries in their efforts to reduce emissions from deforestation and forest degradation and foster conservation, sustainable management of forests, and enhancement of forest carbon stocks (all activities commonly referred to as "REDD+") by providing value to standing forests. Values include contributions in fiscal year for both the Carbon Fund and the Readiness Fund. Source: the [FCP's Annual Report](#)

^{xi} The Amazon Fund aims to prevent, monitor and combat deforestation, as well as to promote the preservation and sustainable use of forests in the Amazon Biome, financed by donations. The yearly value for 2012 reflects actual disbursements from the Norwegian and German government between 2010 and 2014, divided evenly between these five years. Between 2012 and today, another \$145 million have been disbursed.

^{xii} Total approved budget for FY (2011 reflects approved budget from 07/2011 to 06/2012). Source: UN Peacekeeping Operations Factsheet [Dec 2011](#) and [Dec 2012](#)

^{xiii} 3ie funds impact evaluations and systematic reviews that generate evidence on what works in development programs and why. Listed outlays based on disbursements from 3ie [annual reports](#).

^{xiv} EITI promotes and supports improved governance in resource-rich countries through the full publication and verification of company payments and government revenues from oil, gas, and mining. Values reflect total revenue received from donors: 2009 value based on EITI board papers; 2011 and 2012 value based on email correspondence with the World Bank's Diana Corbin (Senior Operations Officer- Donor Relations)

^{xv} The CGIAR Fund is a multi-donor trust fund that supports international agricultural research aimed at reducing rural poverty, strengthening food security, improving human nutrition and health, and enhancing natural resource management. The research is carried out by 15 international agricultural research centers, working closely with hundreds of partners worldwide, through a portfolio of CGIAR Research Programs. Source: CGIAR Financial Reports [2012](#) and [2011](#).

^{xvi} Calculations based on Appendix 1 table in Birdsall and Leo (2011); estimate is 39% of the IMF's administrative spending in given year (based on the Crockett Report's estimate of the share of surveillance costs).

-
- ^{xvii} Knowledge Management & Research Budget; [2012-2014 Budget document](#) – Annex 9; [2010-2012 Budget document](#)
- ^{xviii} Department of Research and Chief Economist; [2012 Approved Program and Budget book](#)
- ^{xix} Economics and Research Department; Source: [2014 Budget](#); [2010 Budget](#)
- ^{xx} End of Q3 of FY 2012; FY2014 Budget, p. 16
- ^{xxi} From the WHO's Financial Report: http://www.who.int/about/resources_planning/A66_29-en.pdf, p. 22
- ^{xxii} Table 2: <http://www.fao.org/docrep/meeting/029/mi533E.pdf>
- ^{xxiii} Both values for the 18months ended 30 June 2011;
- ^{xxiv} Both values for the 18 months ended 30 June 2013;
- ^{xxv} Financial Statements; for 2012:
http://www.undp.org/content/dam/undp/library/corporate/Transparency/UNDP_2012_Financial_Report_and_audited_Fin_statements_%20and_Report_of_Board_of_auditors%20A_68_5_add1.pdf
- ^{xxvi} Data only available for two-year segments; value reflects 50% of total 2010 and 2011 combined contributions
- ^{xxvii} From UNDP's 2012 Annual Report: http://www.undp.org/content/dam/undp/library/corporate/UNDP-in-action/2012/English/UNDP-AnnualReport_ENGLISH.pdf (p. 5)
- ^{xxviii} UNICEF Financial Statements: http://www.unicef.org/about/execboard/files/A-68-5-Add2-UNICEF_Financial_Report-ODS-English.pdf (2012) and http://www.unicef.org/about/execboard/files/A-67-5-Add2_Financial_reports-ODS-English.pdf (2011)
- ^{xxix} Source: UNAIDS [Financial Statements](#)
- ^{xxx} Data only available for two-year segments; value reflects 50% of total 2010 and 2011 combined contributions
- ^{xxxi} UNEP Financial Statements: <http://www.unep.org/gc/gc27/download.asp?ID=4092>
- ^{xxxii} Data only available for two-year segments; value reflects 50% of total 2010 and 2011 combined contributions
- ^{xxxiii} Data only available for two-year segments; value reflects 50% of total 2012 and 2013 combined contributions