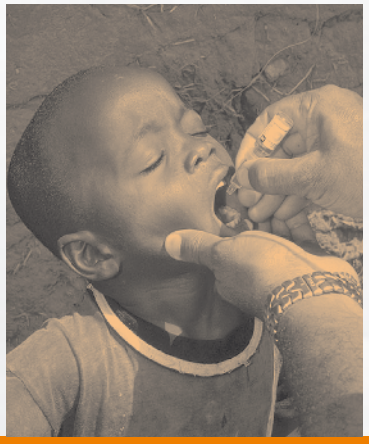

Global Polio Eradication Initiative

Budgetary implications of the GPEI Strategic Plan and Financial resource requirements 2009 - 2013

As of January 2009

World Health Organization

unicef

Partners in the Global Polio Eradication Initiative

Design & Layout: Paprika

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Budgetary implications of the GPEI Strategic Plan and Financial resource requirements 2009 - 2013

As of January 2009

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Acronyms and Abbreviations

ACPE	Advisory Committee on Poliomyelitis Eradication
AFP	Acute Flaccid Paralysis
CDC	US Centers for Disease Control and Prevention
GAVI Alliance	Global Alliance for Vaccines and Immunization
GPEI	Global Polio Eradication Initiative
IFFIm	International Finance Facility for Immunization
IPV	Inactivated polio vaccine
mOPV	Monovalent oral polio vaccine
NGO	Non-governmental organization
NIDs	National Immunization Days
OPV	Oral polio vaccine
SAGE	Strategic Advisory Group of Experts on Immunization
SIAs	Supplementary Immunization Activities
SNIDs	Subnational Immunization Days
UNICEF	United Nations Children's Fund
VAPP	Vaccine-associated paralytic polio
VDPV	Vaccine-derived poliovirus
WHO	World Health Organization

Executive Summary

In February 2007, following an urgent consultation convened by WHO Director-General Dr Margaret Chan, an *intensified polio eradication effort* was launched by the stakeholders of the Global Polio Eradication Initiative (GPEI), to collectively address the remaining technical, financial and operational barriers to polio eradication.

At end-2008, two independent advisory bodies to WHO – the Advisory Committee on Poliomyelitis Eradication (ACPE) and the Strategic Advisory Group of Experts on Immunization (SAGE) - concluded that the *intensified eradication effort* had demonstrated the remaining technical, financial and operational challenges, even in key areas of each endemic country, can be overcome. Indigenous transmission of type 1 polio in Uttar Pradesh, India was successfully interrupted, a feat which had never before been achieved. Renewed commitments and innovative financing mechanisms by both endemic countries, notably India, and the international development community, especially Rotary International, the Bill & Melinda Gates Foundation, the International Finance Facility for Immunization (IFFIm) and several donor countries, assured the full financing of the 2007-2008 planned budget. New and innovative approaches in parts of Nigeria, Pakistan and Afghanistan demonstrated that the remaining operational challenges can be overcome with sufficient national and subnational commitment. However, other areas of these countries continue to pose serious concerns related to suboptimal delivery of oral polio vaccine (OPV).

Consequently, the ACPE endorsed the framework for a new GPEI Strategic Plan for 2009-2013, combining proven eradication strategies with recently-developed tools and tactics, and incorporating bold new initiatives to scale-up the approaches needed to address the remaining operational challenges and to further optimize the efficacy of polio vaccination. Country-specific reviews of the management and implementation of polio campaigns will be conducted in the first quarter of 2009 to guide further refinements to eradication operations in each of the remaining polio-infected areas.

With the near-term feasibility of polio eradication affirmed, this Financial Resource Requirements document outlines a five-year budget through 2013. The budget summarizes the funding needed to successfully interrupt wild poliovirus transmission globally, and prepare for the post-eradication era. As at January 2009, the two-year budget for *intensified eradication effort* in 2009-2010 is US$ 1.34 billion (see Figure 1), against which there is a global funding gap of US$ 340 million (US$ 55 million of which is needed in 2009).

In her address to GPEI stakeholders on 28 February 2007 which marked the launch of the *intensified eradication effort,* WHO Director-General Dr Margaret Chan said: *"As an international community, we have few opportunities to do something that is unquestionably good for every country and every child, in perpetuity."* The *intensified eradication effort* has shown that everything is in place to achieve a lasting success and consign polio to the history books once and for all. No child need ever again know the pain of life-long polio paralysis.

Global polio cases

July-December 2008

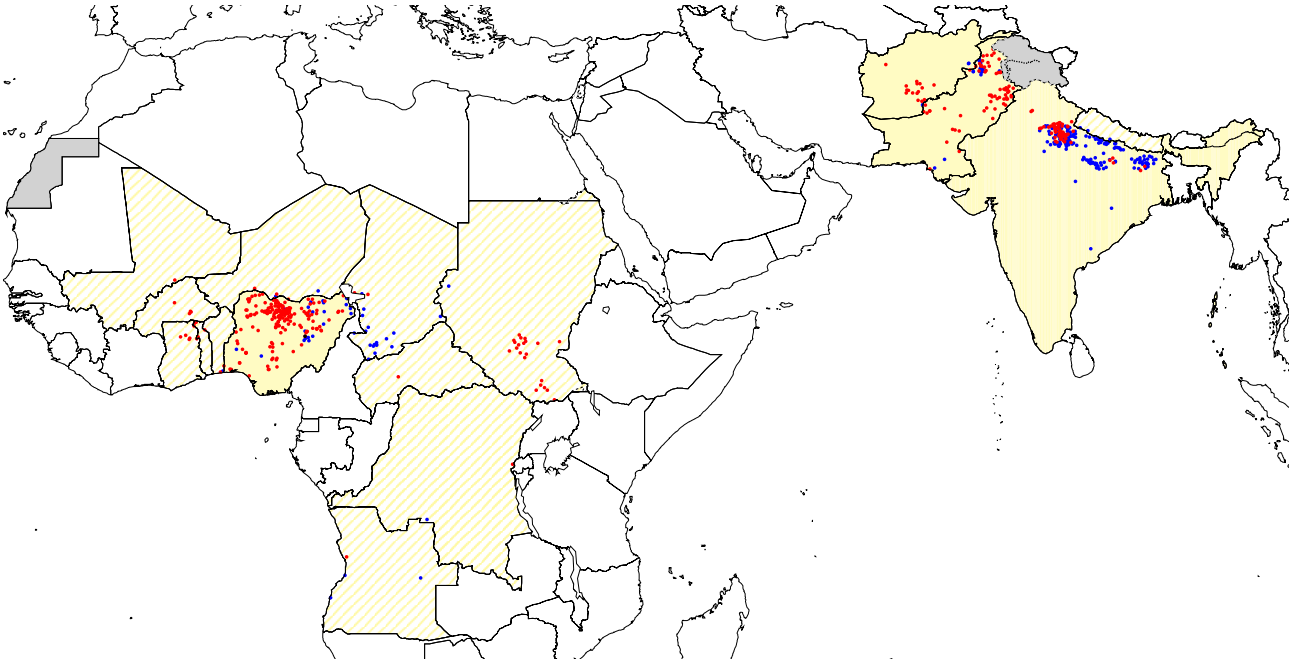
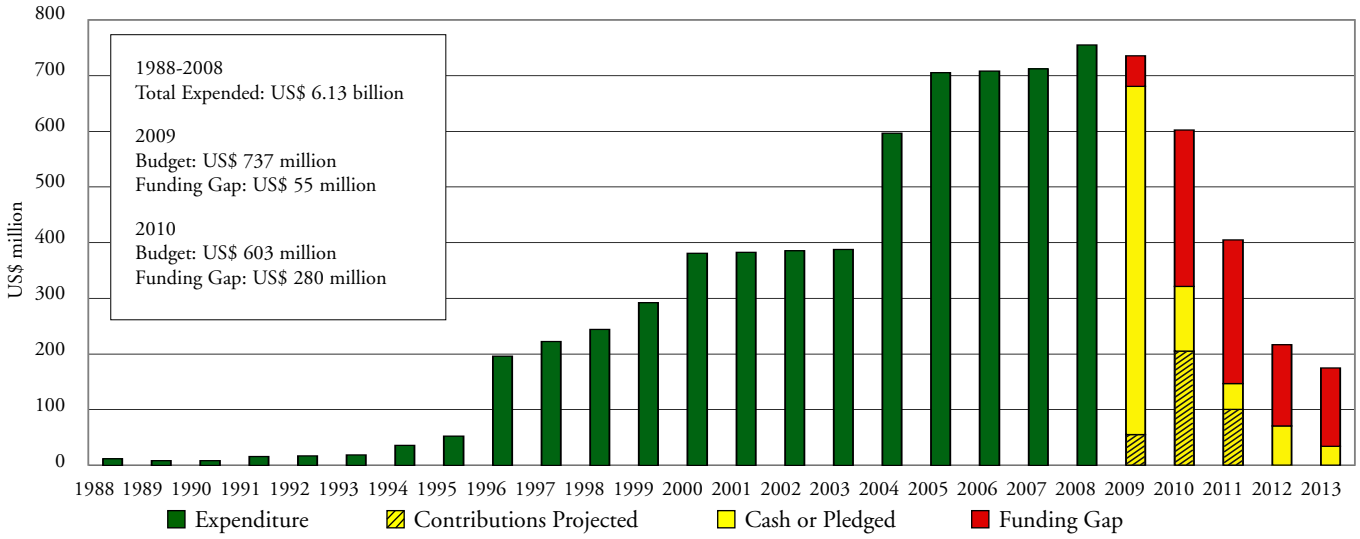


Figure 1: Global Polio Eradication Initiative Annual Expenditure, 1988-2008
Financial Resource Requirements, Contributions, Funding Gap, 2009-2013



Context: Impact & Prospects for the *Intensified Eradication Effort*

Since the creation of the Global Polio Eradication Initiative (GPEI) in 1988, the incidence of polio has been cut more than 99%, from an estimated 350,000 cases annually to 1,633 cases in 2008 (as at 20 January 2009). Due to the efforts of the GPEI, by end-2008, more than five million people are walking today who would otherwise have been paralysed by polio, and 250,000 polio deaths have been prevented. Indigenous wild poliovirus has been eradicated from all but four countries worldwide as a result of the GPEI. In these four countries (India, Nigeria, Pakistan, and Afghanistan), indigenous transmission of type 1 and type 3 wild poliovirus continues despite more than ten years of eradication efforts.

IMPACT OF *INTENSIFIED ERADICATION EFFORT*

In February 2007, WHO Director-General Dr Margaret Chan convened an urgent consultation of the GPEI stakeholders, to examine their collective capacity to overcome the remaining hurdles to interrupting indigenous wild poliovirus transmission in these remaining four countries. At this meeting, the GPEI stakeholders launched the *intensified polio eradication effort.*

At end-2008, two independent advisory bodies to WHO - the Advisory Committee on Poliomyelitis Eradication (ACPE) and the Strategic Advisory Group of Experts on Immunization (SAGE) - reviewed the impact of the *intensified eradication effort* and concluded that it had demonstrated that these remaining challenges can be overcome.

The technical feasibility of polio eradication was affirmed in 2008 through the successful interruption of indigenous transmission of type 1 polio in Uttar Pradesh, India, a feat which had never been achieved before in this historically-entrenched polio reservoir. Additionally, the financial challenges can be overcome, as evidenced by the full financing of the 2007-2008 planned budget through renewed commitments and innovative financing mechanisms by both endemic countries and the international development community. However, such support is contingent on continued political will and progress in the remaining endemic countries. New and innovative approaches to improve the delivery of oral polio vaccine (OPV) in key areas of Nigeria and infected areas of Pakistan and Afghanistan demonstrated that operational challenges can be addressed with sufficient national and subnational commitment.

The advisory bodies highlighted that the ultimate success of eradication now hinges on the need to systematically and consistently overcome the remaining operational challenges in all areas of these countries, further optimize the efficacy of polio vaccination, increase demand for OPV through pioneering tailored communications efforts, stop outbreaks in re-infected countries and address the ongoing risk of international spread of wild poliovirus.

The advisory bodies endorsed the framework for a new GPEI Strategic Plan 2009-2013, to systematically scale-up the proven eradication approaches and consistently overcome the remaining operational challenges in all areas, and to further optimize the efficacy of polio vaccination. Through both broad and country-specific recommendations, the Strategic Plan combines proven eradication strategies with recently-developed tools and tactics, and bold new initiatives to address the remaining challenges. With the near-term feasibility of polio eradication affirmed and the full implementation of these new country-specific recommendations, success in these remaining countries can be achieved.

The following section summarizes the findings of the ACPE and SAGE for each infected area.

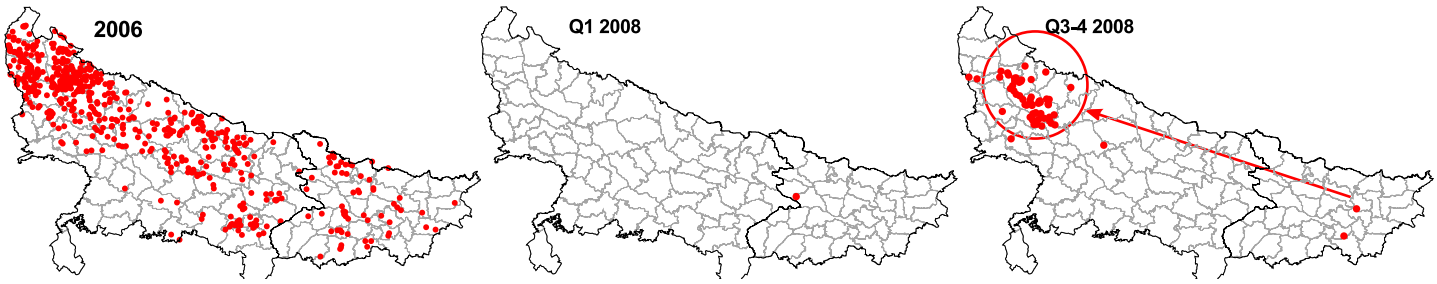
INDIA: CEMENTING THE GAINS TO OVERCOME COMPROMISED OPV EFFICACY

India has a very highly performing eradication programme, consistently reaching upwards of 95% of its target population. Throughout 2008, aggressive use of monovalent OPVs (mOPVs) – delivered on average every four to six weeks during large-scale supplementary immunization activities (SIAs) in the two remaining endemic states of Uttar Pradesh and Bihar – reduced the levels of type 1 poliovirus transmission to its lowest-levels ever at the end of 'high transmission season' in 2008. Indigenous type 1 polio had been successfully interrupted in Uttar Pradesh for a period of 12 months, a feat never before accomplished, in one of the most historically-entrenched polio reservoirs of the world. However, re-importation of type 1 polio into Uttar Pradesh from Bihar in mid-2008 underscored the fragility of this progress.

The remaining infected areas of India face both extremely efficient poliovirus transmission and compromised OPV efficacy, due to a unique combination of challenges (eg high population density, large birth cohorts, poor sanitation infrastructure, high enteric disease burden). These factors require the implementation of a number of contingency plans to cement the gains achieved in attaining a high-level of population immunity. To enhance the benefits of the aggressive, large-scale mOPV use, administration of inactivated polio vaccine (IPV) as a supplement to mOPV in the highest-risk districts of western Uttar Pradesh is being explored. At the same time, the utility of a higher-potency mOPV type 1 (mOPV1) in the specific setting of western Uttar Pradesh will be explored and the potential role of a bivalent OPV containing type 1 and type 3 serotypes is being evaluated.

The ACPE concluded: "India has a very high performing eradication programme which, if current efforts are sustained and contingency plans rapidly implemented to enhance programme efficacy, will interrupt poliovirus transmission."

India: cementing the gains made against type 1 polio in Uttar Pradesh and Bihar



AFGHANISTAN: INCREASING CAMPAIGN QUALITY IN THE SOUTHERN REGION

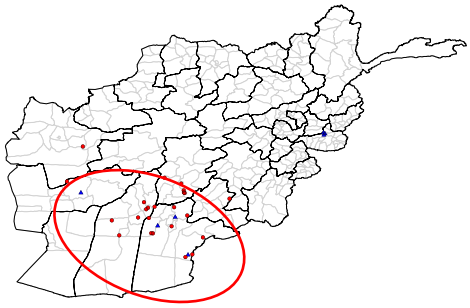
Afghanistan has an eradication programme which demonstrates top political commitment and engagement, and community determination. Polio transmission is largely restricted to the country's Southern Region, where access to all populations during SIAs is hampered by insecurity.

As part of a comprehensive programme to increase access in these areas, the Government of Afghanistan has issued a directive to all NGOs operating in the Southern Region to make polio eradication a priority. At the same time, negotiations with community leaders and military forces are being enhanced to increase access and to ensure safety of vaccination teams. In between the large-scale national and subnational immunization campaigns, any identified window of opportunity is used to deliver an additional dose of OPV to populations living in security-compromised areas. Area-specific tactics based

on experiences in other conflict-affected countries – such as Somalia which has successfully interrupted indigenous wild poliovirus transmission twice - are increasingly being implemented. Additionally, ground-breaking communication efforts have helped gain access to security-compromised areas through collaboration with local communities and have better empowered caregivers to participate in polio eradication with appropriate outreach and health education interventions.

The ACPE concluded: "Afghanistan has an eradication programme which, with modest improvements in access in security-compromised areas and campaign oversight and quality in accessible areas, should interrupt poliovirus transmission."

Afghanistan: Focus on Southern Region

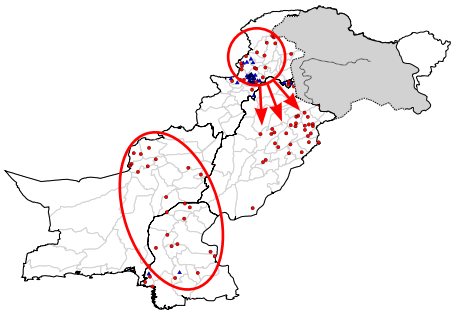


PAKISTAN: FURTHER BOOSTING IMMUNITY TO ADDRESS VERY EFFICIENT VIRUS TRANSMISSION

Pakistan's polio eradication programme is sound, with good overall nationwide vaccination coverage during SIAs. However, due to very efficient poliovirus transmission in the country, and vaccination coverage gaps especially in key areas of North West Frontier Province (where access is hampered in security-compromised areas), but also parts Sindh and Balochistan (due to operational challenges), an enhanced, cross-sectoral initiative is needed to sustain high coverage everywhere to stop all virus transmission.

To systematically foster district-level political ownership and accountability, the new Federal Minister of Health in December 2008 launched a major new inter-ministerial oversight body. Seroprevalence surveys will be conducted in key areas to better assess programme performance and vaccine efficacy and help guide eradication strategies. Provincial-level action plans are being developed to tailor eradication efforts in the most targeted manner, including communication and social mobilization activities to address context-specific issues through locally-appropriate responses. Advocacy with all concerned parties to increase access to populations in security-compromised areas of North West Frontier Province (NWFP) is being enhanced. Objective monitoring data (eg finger-marking of children who have been immunized during SIAs) will be used to further elucidate where coverage gaps need filling. An aggressive SIA strategy with an appropriate mOPV mix will be complemented by several SIAs with trivalent OPV to maintain population immunity in polio-free areas of the country.

Pakistan: focus on transmission zones while protecting polio-free areas



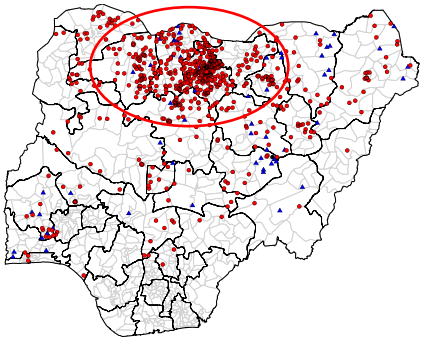
The ACPE concluded: "Pakistan has an eradication programme which is sound, but which, because of very efficient virus transmission, gaps in campaign quality, and a deterioration in security in a key transmission zone, requires further improvements in campaign quality and continued innovation to interrupt poliovirus transmission."

NIGERIA: SYSTEMATICALLY OVERCOMING OPERATIONAL CHALLENGES IN NORTHERN STATES

Nigeria benefits from a re-invigorated high-level political commitment at the national level, as evidenced by the establishment in June 2008 by the Federal Minister of Health of a high-level task force to improve the quality of polio SIA operations. This task force has overseen state-level planning, and together with increased political engagement at state and Local Government Area (LGA) levels has resulted in marked improvements in several previously high-risk states, notably Jigawa. Such state-level ownership however is not evident across all high-risk states in the north, where operations continue to be of low quality. In Kano, Kaduna, Katsina and Zamfara, upwards of 60% of children remain under-immunized. Kano state is particularly affected, accounting for nearly 30% of the worldwide type 1 polio burden in 2008. These ongoing vaccination coverage gaps present a unique risk to the global polio eradication effort, as type 1 polio from northern Nigeria in 2008 spread and re-infected six countries in west Africa.

Key to success in the Nigerian programme is to replicate operational improvements in some ares of northern Nigeria achieved in 2008 across all remaining high-risk states, and in particular Kano state. With a clear correlation evident between state governor and LGA Chairperson involvement and improvements in operations, new mechanisms will be put in place to monitor state- and LGA-level engagement and activities to promote improved ownership and accountability. At the same time, in long-standing areas of low coverage which have international implications, notably Kano, intense international technical support will be scaled up and special operations implemented to rapidly improve the quality needed to achieve higher coverage. The ACPE concluded: "Nigeria will continue to pose a high risk to international health until the new, top political commitment is translated into field level improvements in campaign quality."

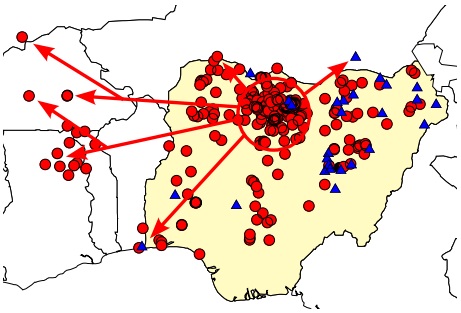
Nigeria: translating national commitment into field-level improvements in highest-risk states



The ACPE concluded: "Nigeria will continue to pose a high risk to international health until the new, top political commitment is translated into field level improvements in campaign quality."

RE-INFECTED COUNTRIES: ENSURING FULL IMPLEMENTATION OF INTERNATIONAL OUTBREAK RESPONSE STANDARDS

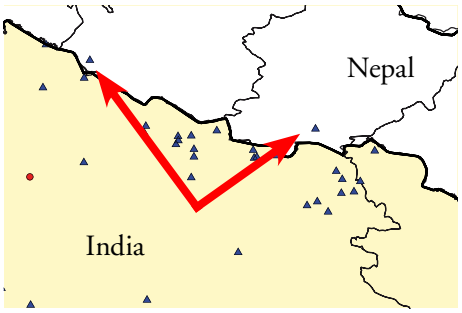
Africa (west Africa): international spread of polio, July-December 2008



The risk of continued indigenous wild poliovirus transmission was underscored in 2008, as type 1 polio from northern Nigeria spread to re-infect six countries in west Africa: Benin, Burkina Faso, Ghana, Mali, Niger and Togo. Type 3 polio from northern Nigeria spread to Benin, Chad and Niger, and type 3 polio from India re-infected Nepal, as well as Angola with subsequent onward spread to the Democratic Republic of Congo (DRC). At the same time, transmission of imported polioviruses has persisted for more than 12 months in Angola, Chad, DRC and parts of the Horn of Africa. In Asia, Nepal continues to be at increased risk of sporadic importations due to its geographic proximity to India and the intense cross-border traffic between the two countries.

Experience since 2003 has shown that outbreaks in re-infected countries can be rapidly stopped, if the internationally-agreed outbreak response guidelines adopted by the World Health Assembly in 2006 are fully and rapidly implemented. To this effect, beginning in 2009, six-monthly international reviews of outbreak response quality will be implemented, and technical support for improved campaign quality and communication/social mobilization will be increased, particularly to areas with weak national capacity. To minimise the risk of international spread of polio, preventive SIAs will be conducted and heightened attention to strengthening routine immunization levels given in highest-risk areas (eg those bordering endemic areas).

Asia: international spread of polio, July-December 2008



Financing of the Global Polio Eradication Initiative

The GPEI is a public-private partnership spearheaded by WHO, Rotary International, the US Centers for Disease Control and Prevention (CDC) and UNICEF. GPEI funding (including both multilateral and bilateral contributions) totals US$6 billion since 1988. Global investment in polio eradication is demonstrated by the fact that 47 public and private sector donors have contributed more than US$1 million each to polio eradication. Of these, 29 have contributed US$5 million or more. Table 1 highlights contributions/pledges by major donor to the Global Polio Eradication Initiative for 1988 to 2013; Figure 2 summarizes external contributions since 1988, as well as the 2009-2010 funding gap. The 24 funders highlighted in this figure have contributed more than US$25 million to the global polio eradication effort.

Table 1: Donor Profile for 1988-2013

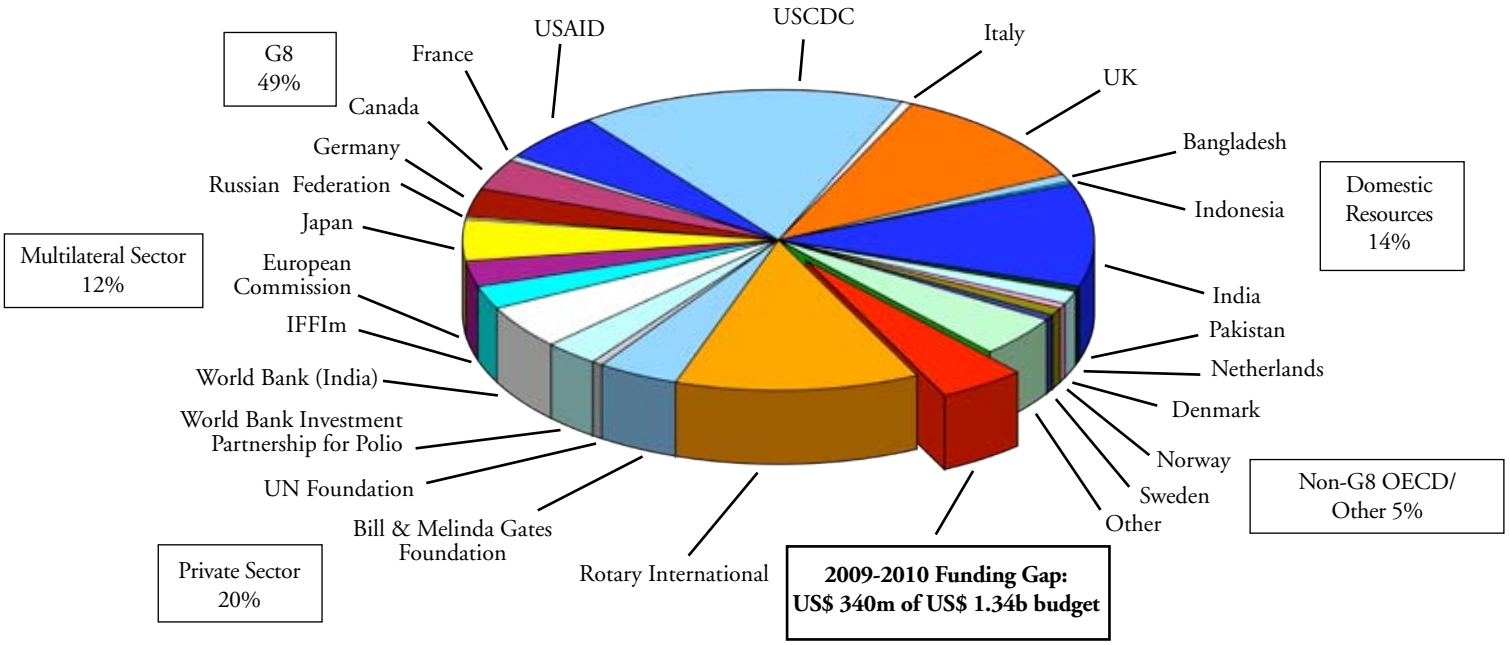
Contribution (US$ million)	Public Sector Partners	Development Banks	Private Sector Partners
> 1,000	USA		Rotary International
500 - 1,000	United Kingdom		
250 - 499	Japan, Canada	World Bank	Bill & Melinda Gates Foundation
100 - 249	European Commission, Germany, Netherlands, GAVI/IFFIm, WHO Regular Budget		
50 - 99	Norway, UNICEF Regular Resources		
25 - 49	Denmark, France, Italy, Sweden, Russian Federation		United Nations Foundation
5 - 24	Australia, Ireland, Luxembourg, Spain		Sanofi Pasteur, IFPMA, UNICEF National Committees, American Red Cross, Oil for Food Program
1 - 4	Austria, Belgium, Finland, Kuwait, Malaysia, New Zealand, Saudi Arabia, Switzerland, United Arab Emirates	Inter-American Development Bank, African Development Bank	Advantage Trust (HK), De Beers, International Federation of Red Cross and Red Crescent Societies, Pew Charitable Trust, Wyeth, Shinnyo-en, OPEC

1988-2006: HISTORICAL FUNDING OF THE GPEI

International and private donors:

Historically, the GPEI has received generous support from across the spectrum of the international development community. Donors to the GPEI include: private foundations (eg Rotary International, the Bill & Melinda Gates Foundation, the United Nations Foundation; development banks (eg the African Development Bank, the World Bank); humanitarian and non-governmental organizations (eg the International Federation of Red Cross and Red Crescent Societies; corporate partners (eg British Airways, De Beers, Sanofi Pasteur, Wyeth); and donor governments (eg Australia, Austria, Azerbaijan, Belgium, Canada, Cyprus, Czech Republic, Denmark, Finland, France, Germany, Iceland, Hungary, Iceland, Ireland, Italy, Japan, Kuwait, Liechtenstein, Luxembourg, Malaysia, Malta, Monaco, the Netherlands, New Zealand, Norway, Oman, Portugal, Qatar, the Republic of Korea, the Russian Federation, Saudi Arabia, Singapore, Spain, Sweden, Switzerland, Turkey, the United Arab Emirates, the United Kingdom, the United States of America and the European Commission).

Figure 2: Global Polio Eradication Initiative Financing
1988 to 2010: US$ 7.13 billion
1988 to 2008: US$ 6.13 billion expenditure; 2009-2010: US$ 1 billion contributions



Note: Donor contributions of US$ 25 million or more are represented in the pie chart.
'Other' includes: the Governments of Angola, Austria, Australia, Azerbaijan, Belgium, Brunei, Czech Republic, Cyprus, Finland, Hungary, Iceland, Ireland, Kuwait, Liechtenstein, Luxembourg, Malaysia, Malta, Monaco, Namibia, New Zealand, Nigeria, Oman, Portugal, Qatar, Republic of Korea, Saudi Arabia, Singapore, Spain, Switzerland, Turkey, the United Arab Emirates; African Development Bank; AG Fund; American Red Cross; De Beers, Inter-American Development Bank, Central Emergency Response Fund (CERF), International Federation of Red Cross and Red Crescent Societies, Oil for Food Programme, OPEC Fund, Sanofi Pasteur; Saudi Arabian Red Crescent Society, Smith Kline Biologicals, UNICEF National Committees, UNICEF Regular and Other Resources, United Arab Emirates Red Crescent Society, Shinnyo-en WHO Regular Budget and Wyeth.

National contributions:

External contributions to national polio eradication efforts have been complemented by in-country resources, including both financial expenditures and non-monetary, in-kind contributions such as the time spent by volunteers, health workers and others in the planning and implementation of SIAs. Funds are expended by governments, the private sector and non-governmental organizations at national, state/province, district and local community levels to cover petrol, social mobilization training and other costs, and are estimated to have had a dollar value approximately equal to that of international financial contributions.[1]

2007-2008: FINANCING THE *INTENSIFIED POLIO ERADICATION EFFORT*

To implement the *intensified polio eradication effort* in 2007-2008, traditional development partner financing was substantially complemented by domestic financing from the remaining polio-endemic countries (see Figure 3). The Government of India, the day after the *intensified eradication effort* was launched on 28 February 2007, committed US$280 million in domestic resources for its 2007-2008 national polio eradication efforts. The Government of Nigeria

[1] Aylward R, et al, Politics and practicalities of polio eradication, Global Public Goods for Health. Health Economic and Public Health Perspectives, eds Smith R, Beaglehole R, Woodward D, Drager N, Oxford University Press, 2003.

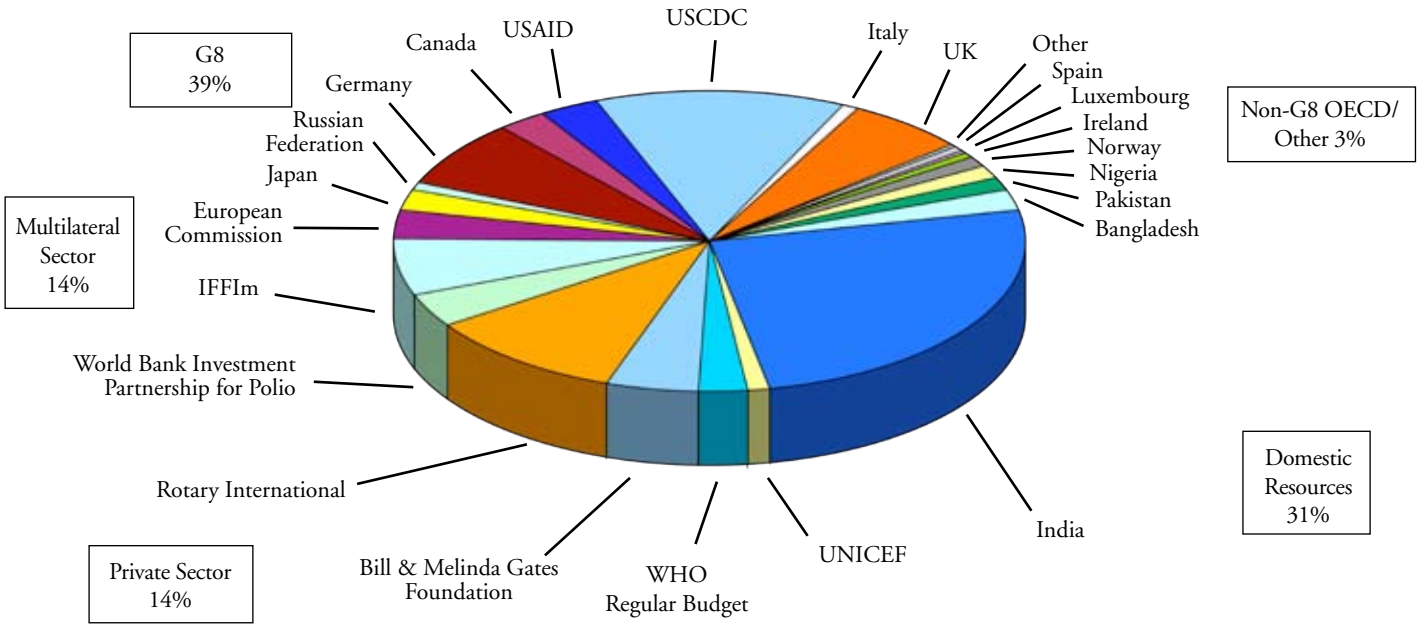
in 2007 announced its intention to contribute US$32 million towards its national polio eradication programme, and as of December 2008 had contributed US$19 million of this pledged amount. The Government of Pakistan committed US$35 million in domestic financing for OPV for SIAs in 2008, while working out the modalities to provide additional OPV funding for 2009-2010

In a vote of confidence in the intensified eradication effort, Rotary International and the Bill & Melinda Gates Foundation in November 2007 announced a partnership to inject US$200 million into the GPEI. On 21 January 2009, a second commitment was announced by these private-sector organizations, to allocate US$355 million in addition to the original agreement. Rotary's contribution to the GPEI with this funding partnership will exceed US$1.2 billion. The Bill & Melinda Gates Foundation in July 2008 had also announced an additional contribution of US$150 million to the GPEI.

Throughout the *intensified eradication effort,* the G8 continued its support to the GPEI. G8 leaders have discussed polio eradication at every Summit since first placing the item on their agenda in Kananaskis, Canada, in 2002. In July 2008 at their annual Summit in Toyako, Japan, G8 leaders stated: "To maintain momentum towards the historical achievement of eradicating polio, we will meet our previous commitments to maintain or increase financial contributions to support the Global Polio Eradication Initiative, and encourage other public and private donors to do the same." This commitment follows previous statements of support, including at the 2007 Summit in Heiligendamm, Germany, where G8 leaders committed to make the utmost efforts to eradicate polio. Of particular note has been the strong leadership in fulfilling its recent G8 pledges by Canada, Germany, Russian Federation, United Kingdom (UK) and the United States of America (USA).

Critical to the GPEI's capacity to implement the initial stages of the *intensified polio eradication effort* was the GAVI Alliance's one-time re-programming of US$104.6 million of the International Finance Facility for Immunization (IFFIm) funding in 2007, from a post-eradication era vaccine stockpile.

Figure 3: Financial Contributions for 2007-2008 *intensified eradication effort* - Total Contribution: US$ 1.47 billion



'Other' includes: the Governments of Angola, Austria, Australia, Azerbaijan, Brunei Darussalam, Czech Republic, Hungary, Iceland, Kuwait, Liechtenstein, Malaysia, Monaco, Namibia, Netherlands, New Zealand, Portugal, Qatar, Republic of Korea, Turkey, the United Arab Emirates; Oil for Food Programme, UN Foundation, OPEC Fund for International Development, World Bank Grant to Afghanistan.

Budgetary Implications of the GPEI Strategic Plan 2009-2013

The work of the GPEI is guided by multi-year strategic plans which outline strategies, major activities and milestones. The GPEI's new Strategic Plan 2009-2013 outlines the combination of time-tested eradication strategies, recently-developed tools and tactics and bold new country-specific initiatives recommended by the ACPE and SAGE. The Strategic Plan outlines five major objectives that, by 2013, could interrupt wild poliovirus transmission and contain all wild polioviruses, and prepare for the additional activities needed to achieve the GPEI's ultimate goal of ensuring that no child will ever again be paralysed by either a wild or vaccine-derived poliovirus.

With the near-term feasibility of polio eradication re-affirmed by the ACPE and SAGE, the current FRR has been developed in alignment with the Strategic Plan for the same period. The budget outlined in this FRR document focuses on the costs needed to achieve the five objectives laid out in the Strategic Plan. The primary cost driver (accounting for 58% of the five-year budget, as summarized in Table 2) is the continuation of the *intensified polio eradication effort,* to interrupt the remaining strains of indigenous wild poliovirus transmission in the remaining four endemic countries.

The detailed framework for the GPEI Strategic Plan 2009-2013 is available at www.polioeradication.org.

BUDGET OVERVIEW FOR THE STRATEGIC PLAN 2009-2013

Objective 1: Interrupt WPV transmission

- Major strategic approach/activities: international reviews of SIA operations management, monitoring of provincial/district-level leader engagement, evaluation of efficacy of bivalent OPV, IPV as supplement to mOPV, 'Short-Interval Additional Dose' (SIAD) in security-compromised areas, scaling-up of communications activities including assessment of community perceptions every six months and tailoring of social mobilization strategies, and intense international technical support to long-standing areas of limited OPV coverage.
- Major cost drivers: full implementation of intensified SIAs, the schedule of which is summarized in Table 3 (with detailed, planned costs by country available in Annex, Table 4).
- The funding requirements for SIAs are expected to rapidly decrease as interruption of indigenous WPV transmission is achieved.
- Financial resource requirements: US$ 1.26 billion.

Objectives 2 and 3: Ensure sustainable surveillance for polioviruses, achieve certification and containment of WPVs

- Major strategic approach/activities: quarterly reviews of surveillance performance and allocation of technical support to identified gap areas, roll-out of new diagnostic procedures across laboratory network to halve the time needed to confirm polioviruses, expansion of active disease surveillance network to feature a global environmental surveillance strategy, implement long-term wild poliovirus containment activities and establish processes for certifying eradication in conflict-affected areas.
- Major cost drivers: field and laboratory surveillance activities and direct, in-country technical assistance in 70 countries.
- Resource requirements are stable until WPV transmission stops, and then decrease slightly to levels needed through certification.
- Financial resource requirements: US$ 777.55 million.

Objectives 4 and 5: Prepare for VAPP/VDPV elimination and the post-OPV era, and plan for re-structuring of the GPEI for the VAPP/VDPV Elimination Phase

- Major strategic approach/activities: implement aggressive research agenda to establish affordable IPV options for low-income settings and accelerate development of new IPV product, coordinate OPV cessation internationally, establish standard operating procedures and stockpile of mOPVs for post-OPV era and fully implement studies to quantify and characterize VDPV risks in low-income settings.
- Major cost drivers: research on post-eradication risks and their management (eg VDPVs, cVDPVs), new product development (e.g., Sabin IPV) and establishment of an mOPV stockpile for potential use.
- Resource requirements are anticipated towards the end of the budget period.
- Financial resource requirements: US$ 92.67 million.

Table 2: Summary of External Resource Requirements by Major Category of Activity, 2009-2013

Activity Category	2009	2010	2009-2010	2011-2013
Polio vaccine	$ 225.40	$ 183.64	$ 409.04	$ 107.59
NIDs/SNIDs operations*	$ 252.24	$ 190.94	$ 443.18	$ 105.10
Emergency response/ mOPV evaluation	$ 60.00	$ 45.00	$ 105.00	$ 95.00
Surveillance**	$ 64.63	$ 61.76	$ 126.39	$ 144.72
Laboratory	$ 8.08	$ 8.21	$ 16.29	$ 19.79
Technical assistance***	$ 101.60	$ 99.91	$ 201.51	$ 228.84
Certification and containment	$ 5.00	$ 5.00	$ 10.00	$ 30.00
Product development for OPV cessation	$ 20.00	$ 8.45	$ 28.45	$ 15.00
Vaccine for post-eradication era stockpile (finished product and bulk)	$ -	$ -	$ -	$ 49.22
Subtotal	**$ 736.87**	**$ 602.91**	**$ 1 339.86**	**$ 795.27**
Contributions	$ 680.50	$ 321.41	$ 1 001.91	$ 260.00
Funding gap	**$ 56.45**	**$ 281.50**	**$ 337.95**	**$ 535.27**
Funding gap (rounded)	**$ 55.00**	**$ 280.00**	**$ 340.00**	**$ 535.00**

* *Operations costs include manpower and incentives, training and meetings, supplies and equipment, transportation, social mobilization and running costs.*

** *Country-level surveillance and laboratory summary for 2009 provided in Table 5.*

*** *Technical assistance includes the cost of human resources deployed through UN agencies. Country-level breakdown for 2009 provided in Table 6.*

BUDGET IMPLICATIONS OF PERSISTENT POLIOVIRUS TRANSMISSION

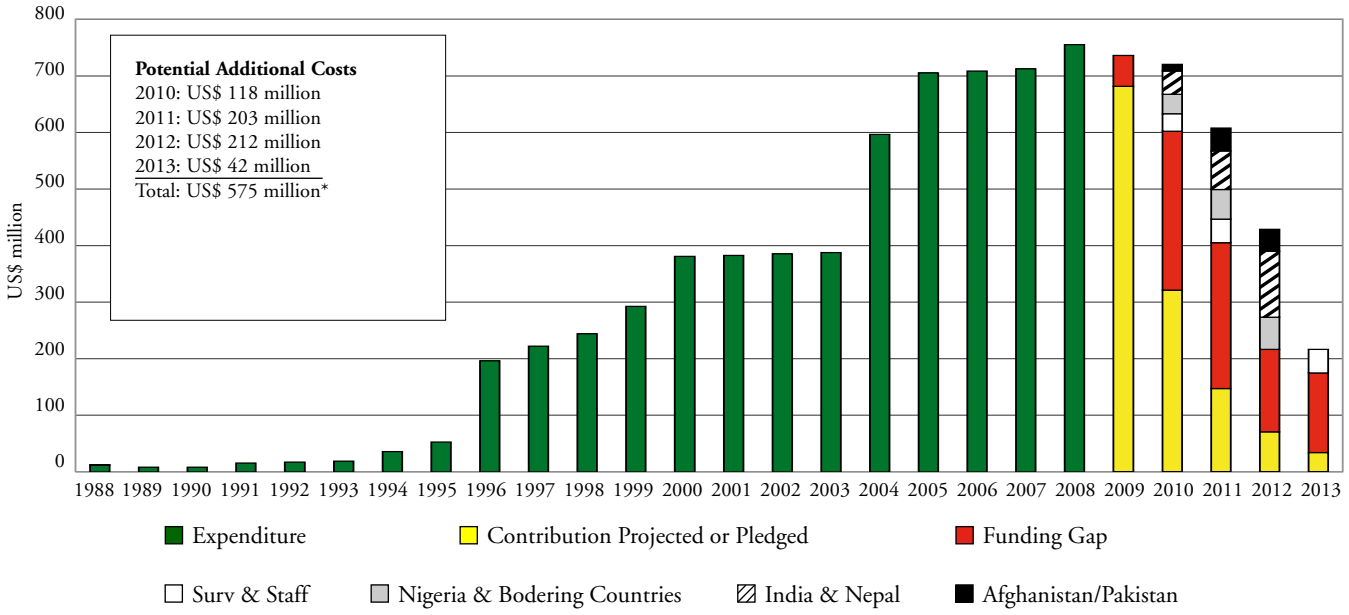
The budget outlined in this FRR document is contingent on each of the remaining areas with indigenous poliovirus meeting their target dates for stopping transmission, as outlined in the framework of the Strategic Plan 2009-2013. Continued transmission in any of the remaining areas of indigenous or imported poliovirus transmission, or any new outbreaks in polio-free countries, would be associated with an increase in financial resource requirements (see Figure 4). The specific financial implications for a 12-month delay in one of the remaining areas of indigenous transmission are as follows:

a) India: a 12-month delay in interrupting transmission in this reservoir area would require continuing intensified polio campaigns in both India and Nepal, with further financial cost of up to US$ 225 million.

b) Nigeria: a 12-month delay interrupting indigenous poliovirus transmission in northern Nigeria would require continuing intensified polio campaigns in at least Nigeria, Niger, Chad, Benin, northern Cameroon, Sudan and Somalia, with further financial cost of up to US$ 143 million.

c) Pakistan/Afghanistan: a 12-month delay in interrupting indigenous poliovirus transmission in either of these countries would require continuing intensified polio campaigns in both countries due to the large-scale population movements between them, with further financial cost of up to US$ 92 million.

Figure 4: Contingency: Impact of 12 months delay in India, Afghanistan, Pakistan & Nigeria



*Includes maintenance of technical assistance and surveillance infrastructure costs.

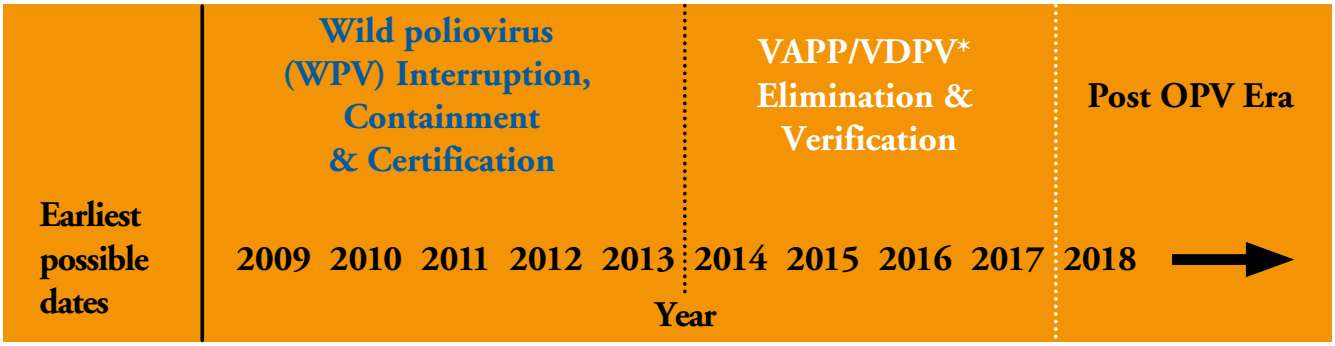
Planning for the Post-2013 Period

As outlined in the framework for the Strategic Plan, by 2013, wild poliovirus transmission will have been interrupted globally, containment of wild polioviruses will have been completed and the process towards global certification will be in its final stages.

Beyond 2013, the budget of the GPEI will relate primarily to the coordination of OPV cessation internationally (as soon as possible after certification of wild poliovirus eradication), and subsequent verification of VAPP and VDPV elimination. Annual financial resource requirements of the GPEI in the post-2013 period are estimated to be significantly lower than the (current) costs associated with the *intensified polio eradication effort* (eg approximately one-third of current annual financial resource requirements). The major cost drivers during this period will be maintaining laboratory surveillance capacity globally to detect and respond to emerging cVDPVs, especially in the three years immediately following OPV cessation. The annual costs of these activities during the VAPP/VDPV Elimination Phase are estimated to be approximately US$ 110 million. The major uncertainty pertaining to GPEI costs during this period is the extent to which low- and low/middle-income countries will use IPV, how they will use it (eg fractional doses, reduced dose schedules) and how IPV will be produced at that time.

The costs of the GPEI will stop once VAPP/VDPV elimination is verified. All long-term functions will at that point have been incorporated into existing mechanisms for managing the residual risks associated with eradicated pathogens (eg smallpox) and routine immunization programmes.

The Post-2013 Period



*Vaccine-associated paralytic polio (VAPP); vaccine-derived poliovirus (VDPV)

Table 3 : Supplementary immunization activities required for polio eradication, 2009-2010

All Actvities are expressed in percentage

NIDs: National Immunization Days
SNIDs: Subnational Immunization Days
IPDs: Immunization Plus Days

Activity NID SNID IPD

Region/ Country	Data	2009												2010											
		J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D
Polio Endemic																									
Afghanistan	% targeted	100		100	100	50			100	100	50	50			100	100	50	50			100	100			
India	% targeted		100	100	40	40			40	40	40				100	100	40				40	40			
Nigeria	% targeted	100	50	100		100			50	50	50				100	100	50	50			50	50			
Pakistan	% targeted	100	50	100		100		50	100		50	50			100	100	50	50			100	100	50	50	
Countries Bordering Polio-endemic Countries																									
Benin	% targeted		100	100																					
Chad	% targeted	52	100	48							100	100			100	100									
Nepal	% targeted		100	100					50	50															
Niger	% targeted		100		50	50									100	100	50	50							
Horn of Africa Outbreak Countries																									
Somalia	% targeted		100	100											100	100									
Sudan	% targeted	25	100	100	25						100	100			100	100									
Africa Outbreak Countries & Neighbouring Countries																									
Angola	% targeted						100	100																	
Burkina Faso	% targeted	53																							
DR Congo	% targeted	7	33	17	4		35																		
Ghana	% targeted		100	32																					
Myanmar	% targeted	100	100																						
Togo	% targeted	100	100																						

Annex: Details of Country-Level Funding Requirements for 2009-2010, as of January 2009

Table 4: Details of Funding Requirements in Polio-Endemic and Highest-Risk Countries, 2009-2010 (all figures US$ millions)

	2009				2010				2009 to 2010			
Country	**NIDs/ SNIDs: OPV**	**NIDs/ SNIDs: Op Costs**	**AFP Surveillance**	**Total Costs 2009**	**NIDs/ SNIDs: OPV**	**NIDs/ SNIDs: Op Costs**	**AFP Surveillance**	**Total Costs 2010**	**NIDs/ SNIDs: OPV**	**NIDs/ SNIDs: Op Costs**	**AFP Surveillance**	**Total Costs 2009 to 2010**
Polio-Endemic												
Afghanistan	$8.05	$14.41	$2.54	$24.99	$6.49	$11.29	$2.54	$20.33	$14.54	$25.70	$5.08	$45.32
India	$126.83	$94.65	$7.88	$229.35	$106.56	$77.76	$8.19	$192.50	$233.38	$172.41	$16.07	$421.85
Nigeria	$34.11	$69.49	$9.66	$113.27	$28.72	$56.82	$9.66	$95.20	$62.84	$126.31	$19.32	$208.47
Pakistan	$38.63	$31.00	$2.45	$72.08	$34.92	$27.22	$2.71	$64.85	$73.56	$58.22	$5.16	$136.94
Countries Bordering Polio-endemic Countries												
Benin	$0.87	$1.71	$0.20	$2.78	-	-	$0.20	$0.20	$0.87	$1.71	$0.40	$2.98
Chad	$1.73	$5.86	$0.70	$8.29	$0.92	$3.02	$0.70	$4.63	$2.64	$8.88	$1.40	$12.92
Nepal	$1.91	$1.53	$0.61	$4.05	-	-	$0.61	$0.61	$1.91	$1.53	$1.22	$4.66
Niger	$2.00	$4.32	$0.66	$6.98	$2.13	$4.48	$0.66	$7.27	$4.13	$8.80	$1.32	$14.25
Horn of Africa Outbreak Countries												
Somalia	$0.61	$1.48	$0.76	$2.85	$0.65	$1.52	$0.76	$2.93	$1.26	$3.00	$1.52	$5.78
Sudan	$6.12	$16.04	$2.39	$24.56	$3.24	$8.27	$2.04	$13.55	$9.37	$24.31	$4.43	$38.11
Africa Outbreak and Neighboring Countries												
Angola	$2.11	$4.94	$1.80	$8.85	-	-	$1.80	$1.80	$2.11	$4.94	$3.60	$10.65
DR Congo	$2.43	$6.15	$2.50	$11.08	-	-	$2.50	$2.50	$2.43	$6.15	$5.00	$13.58

Table 5: Surveillance and Laboratory Costs by Country and Region, 2009 (all figures US$ millions)

WHO African Region	2009
Algeria	$0.03
Angola	$1.80
Benin	$0.20
Botswana	$0.10
Burkina Faso	$0.34
Burundi	$0.14
Cameroon	$0.44
Cape Verde	$0.05
Central African Republic	$0.52
Chad	$0.70
Comoros	$0.05
Congo	$0.15
Côte d'Ivoire	$0.32
Democratic Republic of Congo	$2.50
Equatorial Guinea	$0.05
Eritrea	$0.22
Ethiopia	$3.73
Gabon	$0.11
Gambia	$0.06
Ghana	$0.40
Guinea	$0.15
Guinea-Bissau	$0.07
Kenya	$0.49
Lesotho	$0.08
Liberia	$0.30
Madagascar	$0.45
Malawi	$0.23
Mali	$0.24
Mauritania	$0.15
Mauritius	$0.02
Mozambique	$0.32
Namibia	$0.15
Niger	$0.66
Nigeria	$9.66
Rwanda	$0.20
Sao Tome and Principe	$0.01
Senegal	$0.28
Seychelles	$0.01
Sierra Leone	$0.30
South Africa	$0.15
Swaziland	$0.10
Togo	$0.15
Uganda	$0.44
United Republic of Tanzania	$0.45
Zambia	$0.40
Zimbabwe	$0.25
Regional surveillance and laboratory	$5.38
Subtotal	**$33.00**

WHO Region of the Americas	2009
Regional surveillance and laboratory	$0.60

WHO Eastern Mediterranean Region	2009
Afghanistan	$2.54
Djibouti	$0.01
Egypt	$0.37
Iraq	$0.10
Pakistan	$2.45
Somalia	$0.76
Sudan	$2.39
Yemen	$0.18
Regional surveillance and laboratory	$1.11
Subtotal	**$9.97**

WHO South-East Asia Region	2009
Bangladesh	$0.90
India	$7.88
Indonesia	$1.07
Myanmar	$0.51
Nepal	$0.61
Regional surveillance and laboratory	$3.41
Subtotal	**$14.38**

WHO European Region	2009
Regional surveillance and laboratory	$0.99

WHO Western Pacific Region	2009
Regional surveillance and laboratory	$1.45

WHO/HQ	2009
WHO/HQ	$12.55

Global	2009
Total	**$72.95**

Table 6: Technical Assistance, Country-Level Details, 2009 (all figures US$ millions)

WHO African Region	2009
Angola	$4.68
Benin	$0.28
Botswana	$0.23
Burkina Faso	$0.13
Burundi	$0.04
Cameroon	$0.30
Central African Republic	$0.61
Chad	$1.35
Congo	$0.39
Côte d'Ivoire	$1.14
Democratic Republic of Congo	$4.88
Equatorial Guinea	$0.17
Eritrea	$0.06
Ethiopia	$1.93
Gabon	$0.25
Gambia	$0.03
Ghana	$0.07
Guinea	$0.02
Guinea-Bissau	$0.12
Kenya	$0.49
Lesotho	$0.08
Liberia	$0.38
Madagascar	$0.26
Malawi	$0.06
Mali	$0.24
Mauritania	$0.04
Mozambique	$0.18
Namibia	$0.21
Niger	$1.44
Nigeria	$19.70
Rwanda	$0.26
Senegal	$0.11
Sierra Leone	$0.34
South Africa	$0.40
Swaziland	$0.12
Togo	$0.13
Uganda	$0.35
United Republic of Tanzania	$0.41
Zambia	$0.29
Zimbabwe	$0.04
IST (Central block)	$1.02
IST (South/East block)	$1.24
IST (West block)	$0.85
Regional Office	$1.32
Subtotal	**$46.66**

* IST = Inter-country Support Team

WHO Eastern Mediterranean Region	2009
Afghanistan	$3.78
Djibouti	$0.00
Egypt	$0.03
Iran	$0.01
Iraq	$0.00
Pakistan	$6.99
Somalia	$1.93
Sudan	$4.71
Yemen	$0.17
Regional Office	$1.14
Subtotal	**$18.75**

WHO South-East Asia Region	2009
Bangladesh	$1.39
India	$13.40
Indonesia	$0.87
Myanmar	$0.42
Nepal	$0.78
Regional Office	$0.76
Subtotal	**$17.62**

WHO European Region	2009
Regional Office/Countries	$0.50
Subtotal	**$0.50**

WHO Western Pacific Region	2009
Cambodia	$0.10
China	$0.30
Fiji	$0.10
Lao PDR	$0.10
Philippines	$0.10
Papua New Guinea	$0.10
Viet Nam	$0.10
Regional Office	$0.70
Subtotal	**$1.60**

WHO/UNICEF	2009
WHO/HQ	$9.46
UNICEF-HQ / Regional Offices	$7.00

Global	2009
Total	**$101.59**