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A review of external assistance and aid effectiveness for maternal and child health

Challenges and opportunities

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Abstract

This paper primarily focuses on how global funding has supported interventions that have proven to be successful in reducing maternal, newborn, and child mortality around the world. The growth rate of development assistance targeted towards these specific interventions has varied greatly over the past years, and we highlight the channels through which funds reach their target recipients. An important conclusion to note is the need for donors to align their programmes with government-defined priorities in order to ensure the achievement of national development objectives, long-term sustainability, and success.

Keywords: foreign aid, aid effectiveness, maternal, newborn and child health interventions.
JEL classification: F35, I15, I18, J13

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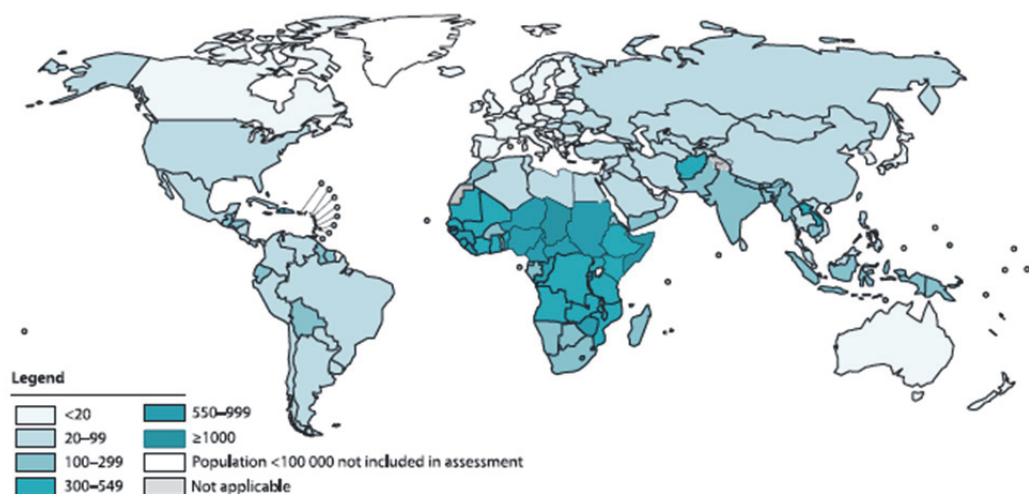
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1 Introduction

With the year 2015 quickly approaching, there has been much focus on the progress towards the achievement of the Millennium Development Goals (MDGs) 4 and 5. Maternal mortality, which is the death of a woman during pregnancy, labour, or in the immediate postpartum period, is a global challenge. Worldwide, the total number of maternal deaths decreased from 543,000 in 1990 to 287,000 in 2010—an approximate 47 per cent decrease. South Asia (29 per cent) and sub-Saharan Africa (SSA) (56 per cent) accounted for 85 per cent (245,000) of maternal deaths; a third of the global maternal deaths occurred in India (19 per cent) and Nigeria (14 per cent) (WHO 2012a).

The global maternal mortality rate fell from 400 deaths per 100,000 live births in 1990 to 210 maternal deaths per 100,000 live births in 2010, representing an average annual decline of 3.1 per cent. All regions experienced a decrease in the maternal mortality rate; in developing regions the maternal mortality rate (240) was approximately 15 times higher than that in developed regions. Amongst developing regions, Eastern Asia had the lowest maternal mortality ratio (MMR) at 37 maternal deaths per 100,000 live births, whereas SSA had the highest at 500 maternal deaths per 100,000 live births (WHO 2012a). The Figure 1 illustrates the maternal mortality ratios in countries across the world.

Figure 1: Countries according to their maternal mortality ratio (death per 100 000 live births)

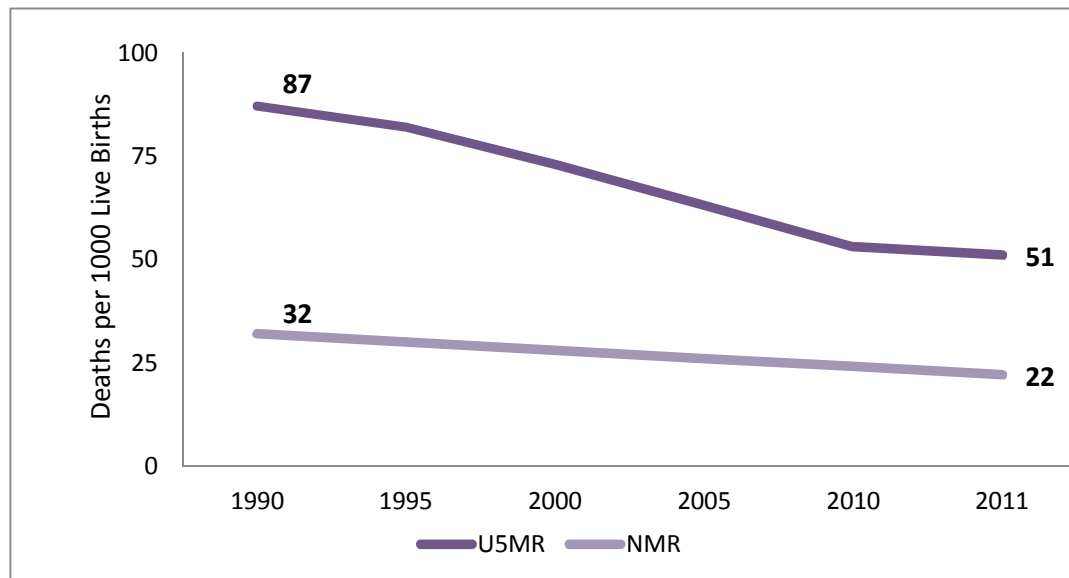


Source: Reproduced with permission from the WHO (2012b).

Most maternal deaths occur between the third trimester and the immediate postpartum period (Campbell and Graham 1990; Li et al. 1996). There is evidence to suggest that direct effects of pregnancy and childbirth are responsible for most maternal deaths in developing countries. In a systematic review by the World Health Organization (WHO), hypertensive disorders, haemorrhage, and sepsis/infections were the prominent causes (Khan et al. 2006). Other estimates suggest that severe bleeding and hypertension together account for more than half of all maternal deaths, while sepsis and unsafe abortion practices were responsible for 17 per cent of deaths (WHO and UNICEF 2012).

Significant progress has been made since 1990 to reduce under-five child mortalities from nearly 12 million to approximately 6.9 million in 2011. Globally, the under-five child mortality rates fell by 41 per cent since 1990, lowering from 87 deaths per 1000 live births to 51. The decline in the under-five mortality rates from 1990 to 2000 was in the order of 1.8 per cent annually, and since the MDGs were set in 2000, this rate of decline accelerated to 3.2 per cent annually during 2000-10 (IGME 2012). The Figure 2 below illustrates the trends in global under-five and neonatal mortality rates.

Figure 2: Global under-five mortality rate (U5MR) and neonatal mortality rate (NMR), 1990-2011



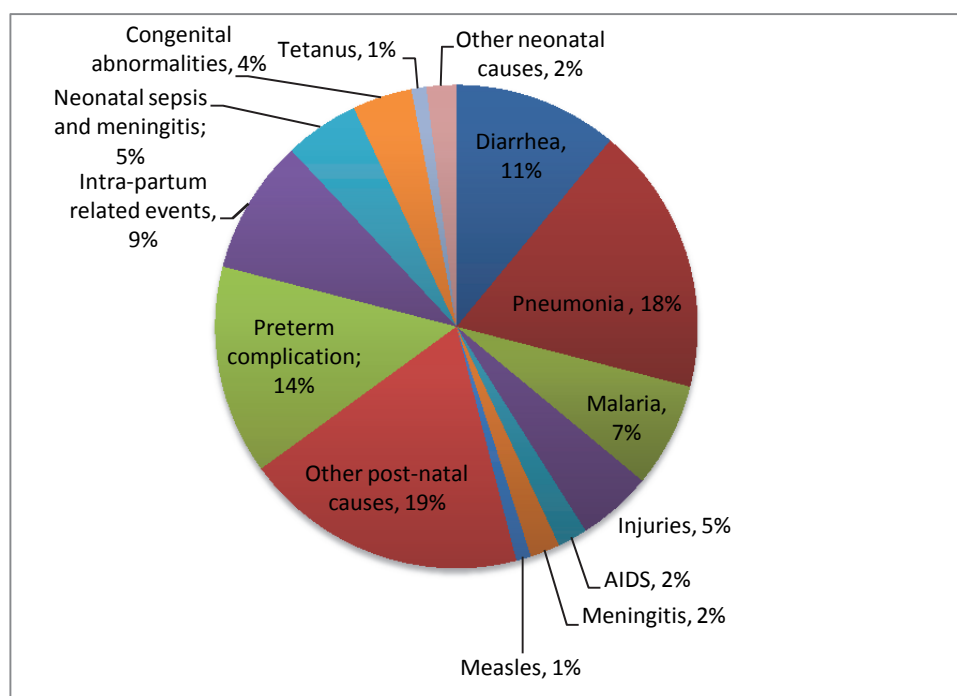
Source: Adapted from UN Inter-agency Group for Child Mortality Estimation (2012).

The most distinct reduction in the under-five mortality have taken place in the regions of Latin America and the Caribbean, East Asia and the Pacific, Central and Eastern Europe and the Commonwealth of Independent States, and the Middle East and North Africa. These regions have more than halved their rates of under-five mortality since 1990. The decline in South Asia was by 48 per cent that corresponds to roughly two million less deaths in 2011 than in 1990.

Even though SSA has been trailing behind, it has reached a 39 per cent decline. The region has seen a doubling of the annual rate of decline to 3.1 per cent during 2000-10, increasing from 1.5 per cent during 1990-2000. This acceleration has coincided in these geographies with a specific focus on scaling up of interventions, most notably against HIV through large-scale programmes, but also malaria prevention strategies and measles immunization (UNICEF 2012a).

A major bottleneck in reducing child mortality is the number of deaths in newborn infants. Recent estimates for the year 2010 show that infections in neonates and children are responsible for 64 per cent of child deaths; 40 per cent of these occurring in the neonatal period. At least one-third of child deaths are related to under nutrition (Black et al. 2008). Amongst older children, the leading causes of death are pneumonia, malaria, and diarrhea, which are illustrated in the Figure 3. Complications related to preterm birth, sepsis, and birth asphyxia are responsible for most cases of deaths in neonates (WHO and UNICEF 2012).

Figure 3: Causes of under-five deaths globally



Source: Adapted from Liu et al. (2012).

The close link between maternal and newborn health and survival is well noted. Between 2005-10, 15 per cent of all children born globally were estimated to be low-birthweight babies (WHO 2012d). Low birthweight can be due to in utero growth restriction, preterm birth, or both. Neonatal outcomes are affected by the health of the mother throughout her life, beginning from her childhood up until pregnancy (Bacci 1993; ACC/SCN 2000). Complications during labour are associated with an increased risk of newborn death. Obstructed labour and malpresentations carry the highest risk. The death of the mother especially carries a heightened risk for the death of her newborn baby (Lawn et al. 2005).

2 Strategies and interventions to prevent maternal and child deaths

Over the last decade, several sequential Lancet series on maternal and neonatal survival have presented detailed descriptions of epidemiology and burden, as well as strategies and interventions to improve maternal, newborn, and child health, and reduce the risk of premature mortality. According to these reviews, both maternal and neonatal mortality can be reduced by strategies revolving around intrapartum care, skilled birth attendants, and community health workers present during home deliveries, as well as an immediately available supply of emergency care, antenatal care, postpartum care, family planning, and safe abortion services (Campbell et al. 2006; Darmstadt et al. 2005).

Evidence shows that the safest and most effective intrapartum care strategies are those where women give birth in a health facility with a team of skilled midwives and other attendants. However, essential to this strategy is the surveillance of labour, as well as the recognition and management of life-threatening complications, such as malpresentations or other complications. Treatment should include all emergent obstetric procedures, and if necessary than surgery at a referral level care facility (Nirupam and Yuster 1995). Skilled birth

attendants, with appropriate training and materials for safe childbirth present during normal routine deliveries at home, have contributed to the low maternal mortality rates seen in Malaysia and other developing countries (Koblinsky et al. 1999).

Antenatal care is an important aspect of maternal and child health services. These cater to all pregnant women in order to screen and detect risk factors of disease, such as pre-eclampsia/eclampsia, syphilis, and malaria. If an early sign is detected, timely intervention can be initiated to avert maternal and perinatal morbidity, and hence impact mortality (Bale et al. 2003). Very young or elderly mothers, or those with high parity, are at increased risks of mortality. Family planning strategies can prevent such pregnancies, thus avoiding the obstacles of high-risk pregnancies. Similarly, unwanted pregnancies force some women to induce termination of pregnancies that often take place in unsanitary and unsafe conditions. Ensuring the provision of safe abortion services can avert deaths caused by abortions taking place in unhealthy environments (Campbell and Graham 2006). Other evidence-based interventions include insecticide-treated nets for prevention of malaria, and deworming in pregnancy and childhood.

The postpartum period can also bring many complications in its wake; therefore a range of preventive and therapeutic strategies are needed. Postnatal care of the baby, such as resuscitation of the newborn, prevention and management of hypothermia, kangaroo mother care for low-birthweight infants, and guidance for the new mother regarding the importance of breast feeding are all effective strategies to prevent neonatal deaths (Darmstadt et al. 2005).

Strategies to enhance the nutritional status of women and children have also been focused upon. Maternal zinc, iron, and folic acid supplementation not only prevent deficiency outcomes in the mother but also benefit the newborn's health. Micronutrient fortification is also important for children, as are handwashing and hygiene interventions (Bhutta et al. 2008).

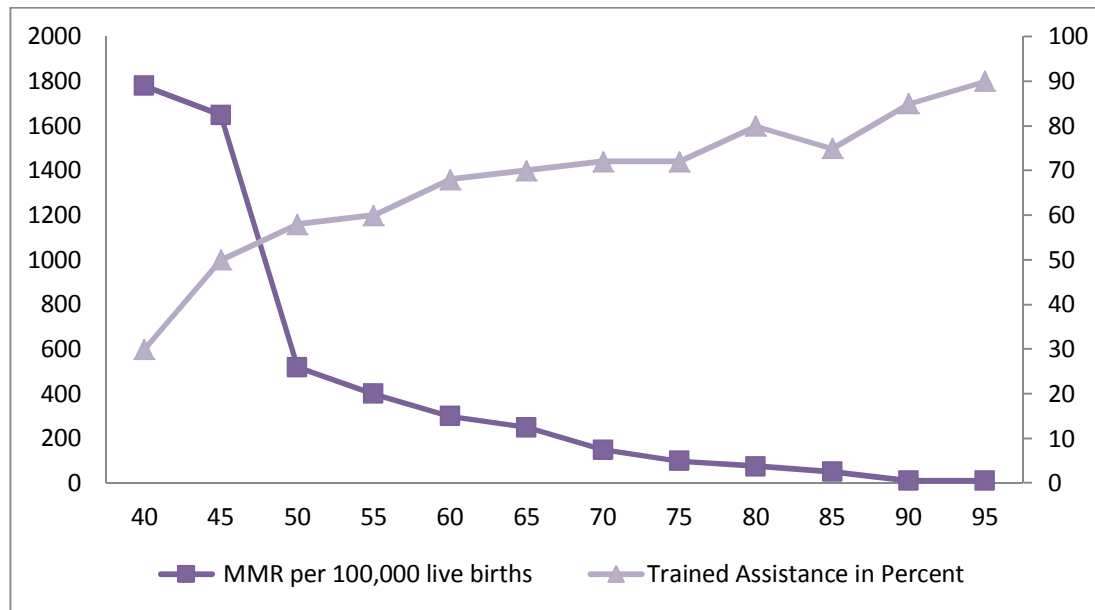
3 What has worked for maternal and child health?

Despite limitations, there are a number of remarkable examples of progress in maternal, newborn, and child health (MNCH). The few case studies below, are illustrative of the mix of domestic policies supported by external assistance (financial and technical), which has led to change.

Sri Lanka has been a beacon of hope for many and reached its MDG targets well before others. In Sri Lanka, almost 98 per cent of deliveries take place in institutions and the country has nearly universal access for health (UNDP 2012). Sri Lanka's success in reducing the maternal mortality can be attributed to a number of initiatives. Health units were established in 1926, which covered the entire country by 1952. A health unit served a population of about 60,000 and was under the charge of a medical health officer with support from nursing sisters, public health inspectors, and midwives. These health units were active in health prevention and promotion, and were a link to institutional health services (De Silva and Wickramasuriya 2001). The decline in MMR can be traced back to the establishment of a system of health centers; from teaching hospitals to maternity homes, and rural hospitals. During the period of 2000-09, the rate of skilled birth attendance at delivery was 98 per cent,

which had a powerful impact on reducing the MMR, as shown in the Figure 4 (UNICEF 2003).

Figure 4: Maternal mortality ratio and trained assistance at delivery



Source: Adapted from Haththotuwa et al. (2012).

The establishment of prenatal clinics led to improved care, leading to an early recognition of pregnancy complications with referrals being made to specialist clinics or hospitals when needed. Approximately 51 per cent of mothers had 9-15 prenatal visits. Traditional birth attendants were replaced by trained public health midwives (De Silva and Wickramasuriya 2001; Fernando et al. 2003). These local midwives are trained, and look after 3,000-5,000 people. They are responsible for the provision of maternity, prenatal, and postnatal care, along with family planning. In 1953, the non-governmental organization (NGO) Family Planning Association, introduced family-planning services. Their activities became a part of the maternal and child health programme of the Sri Lankan Ministry of Health. The demographic and health surveys documented an increase in contraceptive prevalence rate from 55 per cent in 1987 to 70 per cent in 2006-07 (Department of Census and Statistics 1988, 2009). The efforts of Sri Lankan Government have been supported by international organizations through system development, using the government's existing foundation. This warranted execution of the national strategies in a uniform manner (Haththotuwa et al. 2012). A notable finding is that much of Sri Lanka's policy imperatives and gains were related to indigenous policies and investments, many of which continue despite a debilitating and prolonged civil war.

Niger is another example of rapid and sustained progress, recently highlighted through the case study in the Lancet (Amazou et al. 2012). In Niger, the mortality rate in children under-five fell from 226 per 1000 live births in 1998 to 128 child deaths per 1000 live births in 2009. In the mid-1990s, the Government of Niger expanded access to primary healthcare for women and children, by the implementation of a national programme for the integrated management of childhood illness. Integrated community case management for children with diarrhea, suspected pneumonia, and malaria, was provided by paid community health workers

in public health posts. Community health posts were constructed in rural and remote areas, and were operated by trained local health workers. In 2005, the Ministry of Health of Niger, UNICEF, and other partners, supplied essential drugs and commodities to these health posts making them functional to provide treatment for uncomplicated malaria, pneumonia, and diarrhea; promotion of key family practices and family planning was also introduced. More severe cases were screened and referred to higher health facilities. Mass campaigns, such as those for measles vaccination and the distribution of insecticide-treated nets were also initiated. The national measles immunization campaigns stretched to 8.2 million children. There was an increased attention on malnutrition. In 2005, the government built a system of nutritional rehabilitation centres and cash transfer schemes were initiated, in response to the global food crisis (ibid.).

In Ghana, there was a constant decline in under-five mortality during 1967-2008, with a quicker decline since 2000. One of the most important interventions for achieving this was the scale-up of bed net use for children, as well as an increase in birth interval (Nakamura et al. 2011). An amalgamation of scale-up of child survival interventions, along with the enhancement of the socioeconomic conditions in Ghana, led to a reduction in under-five mortality (Nakamura et al. 2011). Ghana received significant assistance during this period from bilateral agencies, including the United States Agency for International Development (USAID) and United Kingdom Agency for International Development (UKAID), as well as significant support from the international monetary fund (IMF), and on average official development assistance (ODA) has represented between 5-6 per cent of gross national income between 2009-11.

Mexico adopted the so-called 'diagonal approach' to provide cost-effective interventions at a large scale (Sepúlveda et al. 2006). As stated by Jaime Sepúlveda, one of the main proponents of the approach from Mexico's National Institute of Health, the diagonal approach is a '... proactive, supply-driven provision of a set of highly cost-effective interventions on a large scale bridging health clinics and homes.' The approach represents a combination of vertical strategies and community-based approaches, focused on reaching those in maximal need. The diagonal approach stresses the importance of integration and coordination between vertical interventions, community-based initiatives, and health facilities or extension/outreach services. The diagonal approach addresses a number of key bottlenecks through application of interventions, such as targeting drug supply, facility planning, financing, human resources development, quality assurance, and rational prescription.

It is estimated that Mexico's approach and focus on health equity led to a reduction of under-five mortality from 64 per 1000 live births to 23 during the period 1980-2005. In 1984, when the mortality rate due to diarrhea was high, oral rehydration salt therapy (ORT) was introduced, which led to an approximate reduction of 60 per cent over five years. Along with the provision of ORT, the Clean Water Programme, and the Universal Vaccination Programme hastened the decrease in mortality due to diarrheal diseases. Through the Clean Water Programme proper chlorination of water was introduced and the use of sewage water for agricultural irrigation was prohibited (Cifuentes et al 1999, 2002). The conception of the Universal Vaccination Programme was prompted by an outbreak of measles in 1989-90. The immunization coverage exceeded 92 per cent within three years. In 1993, the strategy was extended to an entire week twice a year committed to child health. The National Health Weeks of Mexico included the vaccines in the expanded programme on immunization of the WHO, along with publicity of oral rehydration salts, provision of oral vitamin A, and anthelmintic therapy (Sepúlveda et al. 2006).

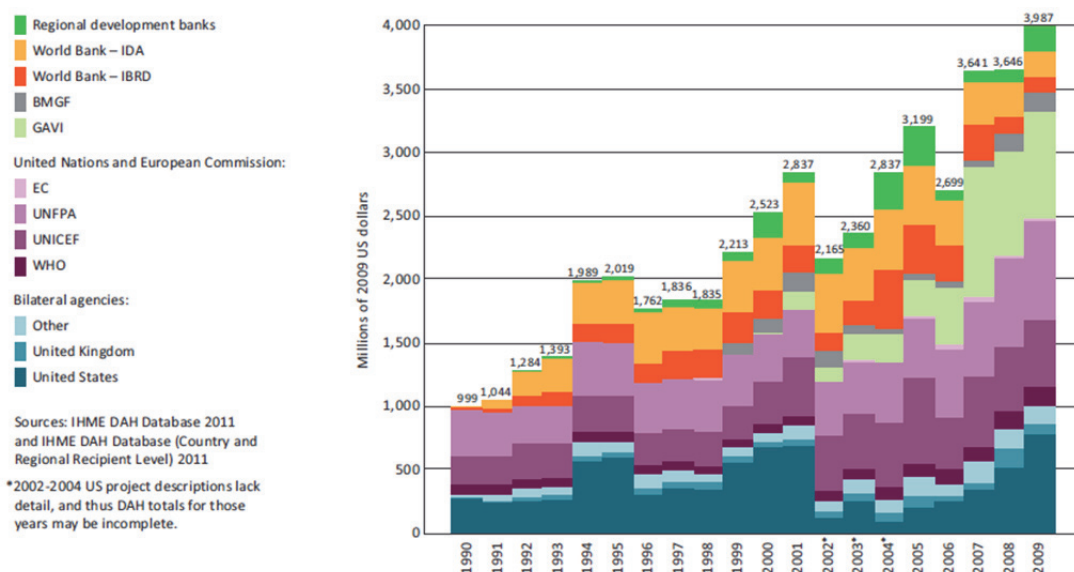
A conditional cash transfer (CCT) programme called *Oportunidades* was introduced in 1997 to provide financial incentives for preventive health behaviours. Families are required to appear at health clinics where health and nutrition services are provided, along with food supplements for children (Sepúlveda et al. 2006). In 2001, the national programme *Arranque Parejo en la Vida* (an Equal Start in Life) was introduced to improve mother and child healthcare, and to decrease maternal and perinatal mortality rates. This included interventions, such as nutritional supplements for women and training of midwives (Secretaría de Salud 2002). These remarkable examples from Mexico and to some extent from Brazil have been the subject of study by development agencies, and especially the CCT initiative has been widely supported by the World Bank as a major policy innovation. Barring a few countries with a limited repertoire of interventions, few countries have implemented such examples of CCTs, universal health care, and national insurance, at scale.

4 Trends in development assistance for health

According to the Institute for Health Metrics and Evaluation's annual report 2011, the growth rate of development assistance for health (DAH) has been affected by the global recession. During 1990-2000, DAH increased progressively and nearly doubled between 2001-08. Just before the recession, the growth rate of DAH was 17 per cent, however afterward the rate became much lower. It increased only three per cent from 2008 to 2009, and four per cent each year in 2009-11 (IHME 2011).

As shown in the Figure 5, donors have different preferences in terms of how to channel funds. The donors, who provide the largest amount of DAH, tend to dominate the global health landscape through their choices about which channels to finance. To illustrate, a huge chunk of US funding over the last 15 years has focused on HIV/AIDS with the US President's Emergency Plan for AIDS Relief (PEPFAR) far outstripping any other bilateral assistance programme for Africa. Similarly several donors (the European Union, Gates Foundation, and other governments) have focused resources on priorities that derive from their own priorities or strategic directions, many at times removed from global priorities. A successful model for donor pooling for addressing key gaps related to childhood immunizations and other commodities is the work of the GAVI Alliance (formerly the Global Alliance for Vaccines and Immunisation) and the recent Commission for Life Saving Commodities. However, corresponding investments in implementation are sparse and few donors have funded integrated strategies for MNCH and nutrition.

Figure 5: Development assistance for health for maternal, newborn, and child health by channel of assistance, 1990-2009



Source: IHME (2011).

The growth rate of DAH for MNCH, has oscillated greatly over time, increasing by 34 per cent in 2006-07, idling in 2007-08, and then expanding again by 9 per cent in 2009 (IHME 2011). The Gates Foundation has played an important role in development assistance to MNCH across a range of channels, including indirect and direct funding. When including their private grants with ODA, the Gates Foundation accounted for 5.3 per cent of funding to such activities in both 2009 (US\$364 million) and 2010 (US\$362 million), making it the seventh highest contributor in 2009, and sixth highest in 2010 (Hsu et al. 2012). Other than the US and the UK governments, the Gates Foundation is a larger health donor than all other country governments (IHME 2011).

Within project-based aid, the share of development assistance that explicitly targeted interventions for MNCH amounted to US\$2120 million (47.7 per cent) in 2009 and US\$2251 million (49.2 per cent) in 2010. The increase from 2009 to 2010 was propelled by disbursements associated with vaccinations (Hsu et al. 2012). In 2010, Nigeria, Pakistan, India, Tanzania, and the Democratic Republic of Congo, were the recipients of the largest share of development assistance for activities targeted towards MNCH, which amounted to US\$1339 million (ibid.).

5 Global health support funds—Where they come from and how they are spent?

Global health financing can be described as an external funding directed towards the health division of low- or middle-income countries, in order to implement interventions to improve the health status of the target population (McCoy et al. 2009).

Figure 6: Flow of finances for global health



Source: Adapted from WHO (2012b).

The Figure 6 shows in a simplified manner how funds flow from the source to the target population. A range of channels exist ranging from direct budgetary support to government departments dealing with health, to funding NGOs or contractors for implementation. A major chunk may also flow through UN agencies, such as UNICEF, the United Nations Population Fund (UNFPA) and the WHO, as well as the World Bank, for specific activities and their work plans. In reality, however, these pathways may overlap somewhat, thus obscuring the various constituents of global health financing and linearity of funding.

5.1 Source of funds for global health

The provision of funds comes from donor country governments, private foundations, the general public, or business/private corporations. The foremost source of capital for global health is the official development assistance (ODA) from donor governments. The Development Assistance Committee of the Organization of Economic Development (OECD-DAC) monitors the funds provided by the European Commission and 22 major donor country governments.

The general population donates towards health financing primarily by their tax contributions; people also contribute directly to NGOs of their choice. Corporate philanthropy is the term used by large private corporations to donate funds towards global health policies. Major pharmaceutical companies are the most important corporations amongst the health sectors. In 2006, the pharmaceutical industry's monetary contribution towards health related MDGs was nearly US\$1.9 billion (Kanavos 2008). For example, according to the GlaxoSmithKline's (GSK) annual report 2011, the company invested US\$300 million for the development of a vaccine against malaria in collaboration with Malaria Vaccine Initiative at PATH (i.e. Programme for Appropriate Technology in Health). In 2011, GSK offered to provide 125 million doses of rotavirus vaccine to the GAVI Alliance at a decreased cost of US\$2.50 per

dose. The GSK has also been supporting the project to train birth attendants in Vietnam, where 520 midwives were trained in 2004-07 (GlaxoSmithKline 2011).

5.2 How are the funds managed?

Following provision of funds, they are managed by various organizations. This also encompasses the process by which funds are channeled to beneficiaries. Bilateral aid agencies, such as the USAID and the Department for International Development (DFID); intergovernmental organizations (IGO), such as the European Commission and the World Bank; global health partnerships, such as the GAVI Alliance and the Global Fund for AIDS, TB and malaria; NGOs and private corporations, are all involved in the management of finances (McCoy et al. 2009).

The US and the UK are the largest donor governments. In 2011, ODA from the UK was GBP8.570 billion out of which GBP7.613 billion was channeled through DFID. Through DFID's bilateral programme, 11 million insecticide-treated bed nets were distributed worldwide (Department for International Development 2012q). The US channels funds through numerous government organizations, such as USAID, PEPFAR, and the President's Malaria Initiative (PMI). In 2011, funding for the PMI was US\$578 million and 58 million people were protected from malaria in PMI countries¹ (PMI 2012; USAID 2012).

The World Bank and the European Commission are IGOs through which finances flow multilaterally. Recipient countries receive funds from the World Bank through the International Development Association (IDA) in the form of grants and loans. The IDA is primarily funded by the ODA budgets of donor countries. Bank lending through the IDA increased from US\$0.5 billion in 2000 to US\$0.8 billion in 2006. By means of the International Bank for Reconstruction and Development, the World Bank provides loans to governments, and is a significant channel of assistance, as it went through remarkable growth in 2010-11 (IHME 2011). Through EuropeAid, the European Commission contributed EUR280.4 million towards maternal and child health (European Commission 2012).

Over the past years, numerous multilateral organizations and global health partnerships have emerged, such as the GAVI Alliance; the Global Fund for AIDS, tuberculosis (TB) and malaria; and the Global Alliance for Improved Nutrition (GAIN). Most public donors prefer to direct their funds through public private partnerships, such as the GAVI Alliance, instead of through the Agencies. In 2009, the total amount of public DAH given to the Global Fund to fight AIDS, TB and malaria (GFATM), and the GAVI Alliance was US\$3.24 billion, whereas that given to UN agencies was US\$2.11 billion (IHME 2011).

Multilateral organizations are significantly essential to the programmes of bilateral donors. Their leadership reduces operational costs for donors and developing countries, and allows them to support development and humanitarian goals in a larger number of countries, even those where bilateral donors are unwelcome. Their magnitude of operations allows them to dispense advice, grants, and loans, at reduced costs (DFID 2011).

¹ PMI countries are Angola, Benin, Democratic Republic of Congo, Ethiopia, Ghana, Greater Mekong Subregion in Asia, Guinea, Kenya, Liberia, Madagascar, Malawi, Mali, Mozambique, Nigeria, Rwanda, Senegal, Tanzania, Uganda, Zambia, and Zimbabwe.

The GAVI Alliance is dedicated to improving child health by widespread immunization coverage. Partners include the WHO, UNICEF, the World Bank, the Gates Foundation, bilateral aid organizations, governments, research institutes and foundations, NGOs, and vaccine industry representatives. The objectives of the GAVI Alliance include increasing access to new and underused vaccines, and making immunization and health systems of developing countries stronger (GAVI 2011a). Donors can support the GAVI Alliance through direct donations. In 2011, total donor funding to the GAVI Alliance was US\$1,226 billion, out of which the Gates Foundation contributed US\$264.1 million and the Government of Sweden donated US\$92.7 million (GAVI 2011b). Donors can also make long-term pledges to the International Finance Facility for Immunization, which allows the GAVI Alliance to draw down on future government donor pledges towards development support. A third way to support the GAVI Alliance is by making pledges to the advance market commitment (AMC) mechanism that supports the development and availability of a pneumococcal vaccine for developing countries. Together Canada, Italy, Norway, the Russian Federation, the UK, and the Gates Foundation pledged US\$1.5 billion to the AMC for pneumococcal vaccines. The GAVI Alliance also received US\$171 million from the World Bank in AMC funds (ibid.).

GAIN is a non-profit organization governed by the Swiss law and it receives funding from multiple donors, such as the Gates Foundation, Dubai Cares, USAID, The Canadian International Development Agency (CIDA), Children's Investment Fund Foundation, and the Wellcome Trust. In 2011, GAIN received donations worth US\$39 million (GAIN 2011). Many private donors give funds to NGOs, which have experienced continuous growth from 1997 to 2008. Their growth became especially noticeable in 2004 when the PEPFAR began directing large amounts of DAH through these organizations. In 2008-10, however, NGOs were one of the channels most unfavourably affected by the global recession, in part due to declining contributions from private sources. DAH flowing through NGOs expanded by 25 per cent from 2007 to 2008, but their DAH declined by 15 per cent and 22 per cent in the following two years. The period of 2010-11, seemingly marked a change in fortunes for NGOs, which rebounded and grew eight per cent. In 2009, the US, the largest public donor channeled 55 per cent of DAH through NGOs and other private actors (IHME 2011). NGOs also received aid from philanthropic foundations, such as the Gates Foundation. A Seattle-based organization PATH received a total of US\$824.09 million through grants from the Gates Foundation between 1999-2007 (McCoy et al. 2009).

5.3 Who spends global health funds?

Donors choose who they want to give money to for spending. Funds may be given to multilateral organizations, such as the WHO and UN bodies, global health partnerships, and NGOs. Funds are also given directly to the governments of low- and middle-income countries.

UN agencies, such as UNICEF, UNFPA, and the WHO are important recipients of global health funds. These organizations are generally funded by donor governments, but they may also receive finances from foundations. In 2011, the UNFPA received a total of US\$934 million. Johnson & Johnson committed US\$4 million over four years to a joint effort of UNFPA, UNICEF, UNAIDS, the WHO and the World Bank for the improvement of human resources in the health sector of developing countries (UNFPA 2012). The total income of UNICEF increased by one per cent; from US\$3.68 billion to US\$3.71 billion in 2011. UNICEF further channel funds towards the poorest and underprivileged children by two

funding mechanisms: regular or unrestricted resources, or other resources linked to specific programmes. Regular resources give a high degree of flexibility in terms of how the funds are used, and they are the most effective in funding the critical functions and uphold the independence of the organization (UNICEF 2012b).

The total revenue for the WHO was US\$4,848 million in 2010-11, out of which US\$3,069 million were voluntary contributions. Member states were the largest source of voluntary assistances, contributing 54 per cent of the total voluntary budget. The remaining voluntary funds came from the UN and IGOs (21 per cent), foundations (18 per cent), NGOs and other institutions (6 per cent), and private sector donations (1 per cent) (WHO 2012a).

These agencies not only spend resources on implementing programmes, but also fund various institutes and universities to conduct relevant research, and occasionally oversee implementation. The latter, however, is largely undertaken through the public sector, but in recent years the role of NGOs has steadily grown. Many large NGOs, such as Save the Children, Oxfam, World Vision, Family Health International, and Care are representative of this sector with an increasing foot print in Asia and Africa. Some of these NGOs are especially active in circumstances of humanitarian emergencies and conflict, and serve a special role in circumstances with fractured health systems. To illustrate, for the year 2011, PATH had total revenue of US\$283 million that helped directly benefit 7.8 million people around the world (PATH 2012). Save the Children had total operating revenue of US\$618 million. Save the Children USA spent US\$474 million on programme activities (Save the Children 2012).

Notwithstanding the above, the most important recipients of DAH are the governments of low-income countries. Bilateral development agencies may provide finances directly to the governments or they may receive finances through large established organizations for channeling commodities and funding, such as the GAVI Alliance and Global Fund, which in turn may also be granted to local NGOs. Donor funding to governments takes different forms. In some cases, governments have a complete independence to use the money in the way they believe will be most beneficial, as donors offer general budget support. Cash inflow may also be towards support for a specific sector, whereby there is an agreement between the government and major donors upon an expenditure plan, generally taking a sector-wide approach (McCoy et al. 2009).

Donors also provide funding for specific projects. This is a precise earmarking of funds for a discrete set of interventions. The World Bank, most often, provides finances in this manner for specific projects (Foster and Leavy 2001). In rare instances, some donors choose to implement projects and activities on their own, the cash flow towards these activities are not entirely a part of the government budget. However, it has been seen that donor-led projects tend to function in parallel with the government systems and are not sustainable in the long term, even if successful (Herfkins and Bains 2009). A brief summary of the various approaches that donor funding takes, is shown in Appendix Table A1.

It is important to underscore that a frequent criticism of donor funding streams and strategies relates to the apparent disconnection between national priorities and specific streams of funding. Although there are clear streams of funding that are determined by country compacts and underpriorities, the examples of joint planning and funding allocation on the basis of transparent discussions between donors, governments, national civic society, and technical representatives are relatively infrequent.

Donor financing is fundamental for the implementation and initiation of maternal and child health strategies. Over the years, many international donors have funded projects and programmes in target countries to address maternal, child, and neonatal mortality. Appendix Tables A2 and A3, at the end of this paper, show programmes which have been funded using governmental systems, as well as by local or international NGOs.

At first sight these varied projects do seem disparate, and indeed there was a concern that the entire development assistance field was fraught with uncoordinated and hence ineffective spending, as well as limited absorption capacity. There was frustration among developing countries that their specific needs and priorities were not given due consideration by the funding agencies. With more than 280 bilateral donor agencies, 24 development banks, 242 multilateral programmes, and about 40 UN agencies (Deutscher and Fyson 2008) providing generous finances, issues in management and lack of coordination have risen for recipient countries (World Bank 2007). In some instances, local officials are so occupied with meeting the demands of donors that they are unable to focus on health activities that may be much more important. For example, in Tanzania, health workers in some districts spent over 20 days per quarter writing reports for different donors. The great number of donors and donor-funded activities cause fragmentation of aid that puts a substantial burden on the already fragile capacity of developing countries (Deutscher and Fyson 2008).

Donors also have their own strategies for the implementation of initiatives. As many health ministries are strongly dependent on foreign aid, donor influence weakens the national health systems, because donor programmes and national strategies may not be aligned together. Another major challenge is the lack of accountability to recipient countries. There is a lack of information and transparency, regarding the methods by which funds are given to a country and how they are used (Deutscher and Fyson 2008).

Recently, there has been more focus towards promoting horizontal; i.e. community-based and primary care interventions, firmly rooted in community settings by concentrating on the problem of a dearth of skilled birth attendants, and a shortage of health workers. But there has been difficulty in reaching an agreement as to how to fund health systems, such as promotion of interventions to decrease maternal mortality (Garrett 2007) or by other approaches, such as building clinics. Even though there is a desire to fund horizontal interventions, they are more difficult to monitor and have faced tight bottlenecks in low-income country health systems. Thus in the past, changes in DAH have been associated with concentration on single-priority-disease packages (such as malaria, TB) or single interventions (e.g., vaccines), mostly as vertical programmes. For horizontal programmes to be fruitful, substantial effort and discipline from recipient countries and development partners will be required, in order to strengthen health systems. A well-organized country health system is necessary to improve the health conditions, and achieve the MDGs in low-income countries (World Bank 2007). There are remarkable examples of recent progress in countries, such as Nepal, Bangladesh, and Tanzania, where enormous gains have been made with a focus on addressing all the building blocks of the health system. In many instances, these have also engaged the non-government sector.

Donors are now funding private actors rather than government systems. PEPFAR, for example, primarily funds NGOs to carry out interventions. The Gates Foundation also funds private research institutes, thus evading government systems; the strategy being to supplement government schemes by pursuing activities that the government cannot. The World Bank and the Global fund choose to primarily finance the governments of low-income

countries (Sridhar 2010). Without involvement of the government, it would be difficult to sustain interventional activities in the long run. The responsibility of health of the population lies with the government, and the key to sustainable and successful programmes is collaboration with the state (WHO 2010). In order to overcome problems faced by low-income countries, effective aid strategies must be in place that focuses on the development priorities of the governments. For this purpose partnerships between major donors and the developing countries need to be established, in which both are conjointly responsible for the outcomes (Herfkins and Bains 2009). As emphasized by the independent expert review group monitoring the MDG 4 and 5 progresses, there is thus a clear need for close cooperation between the public and private sectors in high-burden countries.

6 Conclusion

The 2005 Paris Declaration on aid effectiveness lays out an outline for donors and partner countries to reform the way in which aid is delivered and managed in order to maximize development outcomes. Action necessary to improve the effectiveness of aid is reflected in the principles set out in the Paris Declaration focusing on country ownership, alignment of donors with national priorities, donor harmonization, appropriate management, and mutual accountability (OECD 2008a, b).

The key issue is not the Paris and Accra declarations but their implementation in letter and spirit. Recipient countries should be allowed to develop their own national strategies according to priorities, and take control and leadership of the plans. Countries should define what their needs are and develop strategies for result-oriented programmes, and donors should align their activities accordingly. Alignment with country tactics and plans, as well as the use of country systems, guarantees that aid supports the achievement of national development objectives, and builds country capacity to lead and manage development. Integration of aid into the national budgets allows the recipient government to have a complete ownership, and it gives flexibility to fund according to the needs and priorities. USAID has set a target for providing finances straight to partner governments and issued guidance to urge an expanded use of country systems in the delivery of aid. The international community (bilateral agencies, multilateral organizations, and donor foundations) should not be permitted to define public health strategies for a country (Sridhar 2010; Dickinson and Attawell 2011).

Funds from global health partnerships are specifically earmarked towards a certain goal. In essence, they do not work in an alignment with the governments as they have their own agenda and work outside of the state. However, there is a sufficient evidence to show that these partnerships are fundamental towards developing programmes, and systems to improve maternal and child health (Herfkins and Bains 2009). They can reinforce progress on development objectives by aligning their programmes with the national strategies set by the country. In order to decrease the burden of aid fragmentation, donors should attempt to synchronize their efforts with each other. Donors working on a similar issue can undertake joint missions rather than conducting separate projects. By ensuring coordination amongst efforts, donors can reduce the scattering of aid (*ibid.*; Sridhar 2010).

Collaborations between low-income countries are an alternative way to approach for financial and technical assistance. Countries can work together in coalitions for a similar goal, and can serve as a forum for countries to consult one another. To illustrate, a partnership between

Brazil and Mozambique on HIV/AIDS has yielded positive results (Sridhar 2010). There are other examples of regional partnerships in Asia and Africa that focus on shared experiences and contextually relevant interventions. Having achieved remarkable success in polio eradication, India is beginning to pass expertise and advice to other countries in Asia and Africa, still struggling to control the problem. Bangladesh continues to provide global guidance in diarrheal diseases control through its experts and organizations, and the Aga Khan Development network provides a beacon of light in integrated primary and secondary care services in many neglected geographies of South and Central Asia, and East Africa.

In summary, the glass of overseas development assistance for improving maternal and child health and nutrition is partially full. Notwithstanding the past, the current thinking and recent frameworks for action provide hope that much can be achieved with existing resources. There is a clear need for increasing DAH globally, but equally important is to ensure that such financing is judiciously dispensed and utilized. That can only be achieved through a common vision and a shared agenda for development.

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Appendix A

Table A1: Types of approaches of donor funding

No.	Type of Support	Description
1.	General budget support	General budget support refers to aid channeled directly to the recipient country's national budget. This form of aid is not earmarked towards a specific sector or project; rather it is linked to the country's national policies. It is disbursed by the country's own financial system and is allocated according to the national needs and priorities (Antunes et al. 2008; Dom 2007; Koeberle et al. 2006).
2.	Sector budget support	Sector budget support entails finances given to the country's government in support of a specific sector. These are earmarked for a particular ministry, and the ministry then decides how the funds are used. Aid given in this way is specifically focused towards the execution of reforms and policies for the improvement of outcomes in the targeted sector, for example health or education (Antunes et al. 2008; Koeberle et al. 2006).
3.	Project support through the government	Aid channeled in this way is more specifically earmarked towards a certain project and outcome. Donors are involved in the planning and outline of the project, however it is implemented using government systems. Funds are also allocated and distributed through the country's financial management (Foster and Leavy 2001).
4.	Donor implemented projects	Donors may also choose to fund projects that they design and implement themselves. These are generally aimed at a limited number of outputs and deliver short-term results (Antunes et al. 2008).
5.	Project aid through NGOs	International and local NGOs are major recipients of donor aid. Some NGOs focus on a single issue, such as malaria, whereas others have a broader scope of focus areas. Projects funded through NGOs also tend to be short-term projects that are difficult to sustain once donor funding has ceased.
6.	Results-based financing	Some projects are funded using the results-based financing approach in which inputs are not financed; rather the achievement of results or outputs, such as the immunization status of a child is rewarded by specific incentives, such as cash transfers (Musgrove 2011).

Table A2: Examples of donor initiatives funded through recipient country governments

S. No	Country	Donor	Receiving agency	Donor funding	Programme/Initiative
1.	Bangladesh	AusAID, CIDA, DFID, World Bank and others	Government of Bangladesh	US\$639 million	Finances are given for implementation of the Health, Nutrition and Population Sector Programme that is addressed towards the underutilization of basic services. It aims to ensure the provision of fundamental health services through improving the quality and dependability of antenatal care, by scaling up crucial emergency newborn and obstetric facilities, and by enlarging facility- and community-based integrated management of childhood illnesses services (WB 2010).
2.	Bangladesh	GAIN, Dubai Cares	Ministry of Primary and Mass Education		Monetary support was given for a two-year school feeding plan to deliver fortified, healthy food to children from low-income homes attending primary school. This project is done in collaboration with local NGOs (GAIN 2011).
3.	Bangladesh	DFID	Government of Bangladesh	GBP6 million	Funds were provided in order to improve community and maternal health practices, and the utilization of worthy maternal and neonatal health care facilities (DFID 2012a).
4.	Egypt	GAIN, WFP	Government of Egypt	US\$13 million	A four-year national programme was devised to enrich subsidized cooking oil with vitamin A and D in order to safeguard the health of the population, especially women and children (GAIN 2011).
5.	Ethiopia	DFID	Government of Ethiopia	GBP39 million	General budget support was provided to increase the coverage of vaccinations amongst children, training of health extension workers, procurement of contraceptives, insecticide-treated nets, and ambulances for transport of women for emergency obstetric care (DFID 2012b).
6.	India	DFID, UNFPA, World Bank and others	Government of India	GBP252 million	Support given to the Government of India's national Reproductive and Child Health programme that is targeted towards increasing contraceptive use, the number of deliveries by skilled birth attendants, and immunization status of children. The project aims to set up, and fully staff and equip RCH programme management units in all states and districts (DFID 2012c).

7.	India	World Bank	Department of Health and Family Welfare	US\$215.2 million	A system of Comprehensive Emergency Obstetric and Neonatal Care Centres was set up in Tamil Nadu. It comprised of 80 hospitals—two in each district, which functioned 24 hours a day and offered trained doctors and nurses, as well as new equipment and better blood bank facilities. To provide free emergency transportation to patients, equipped ambulances were purchased through a public-private partnership (World Bank 2013).
8.	Indonesia	AusAID, World Bank	Ministry of Public Works		Financial assistance has been given in support of PAMSIMAS, which is the government's national programme to deliver clean water, sanitation and improved hygiene practices to rural areas (AusAID 2012).
9.	Mozambique	Multiple donors	Ministry of Health	GBP38 million	Finances given to the health sector for implementation of the national health strategy. This is known as PROSAUDE. Long lasting treated bed nets have been shipped through the GFATM, reagents were provided for malaria and HIV tests, mass campaigns for family planning were launched which increased the fraction of women using contraceptives and indoor residual spraying against malaria in multiple districts was funded (DFID 2012d).
10.	Nepal	Multiple donors	Government of Nepal	US\$1,500 million over 5 years	Sector budget support has been given by various donors to the Government of Nepal in order to train health professionals as skilled birth attendants, set up health posts which function 24/7 to provide emergency obstetric care, immunize children against malaria and DPT, and procure essential goods (DFID 2012e).
11.	Nepal	Micronutrient Initiative, UNICEF	Government of Nepal		The Government of Nepal launched the Iron Intensification Project to target maternal anemia. In this, female community health volunteers provided iron and folate supplements to mothers, and educated them regarding their importance. They also encouraged antenatal care visits, delivered deworming medications, and post-partum vitamin A supplements (Pokharel et al. 2011).
12.	Pakistan	AusAID, DFID	Government of Pakistan	GBP91 million	Finances have been given to the government in support of the national MNCH programme to improve emergency obstetric care, renovation of delivery units, and training of health facility staff (DFID 2012f).

Table A3: Examples of donor initiatives funded through NGOs.

S. No	Country	Donor	Receiving Agency	Donor Funding	Programme/Initiative
1.	Bangladesh	DFID, AusAID	BRAC		Support is given through a Strategic Partner Arrangement to support development projects of the NGO called BRAC (Bangladesh Rehabilitation Assistance Committee) in order to provide children under-five with primary education, ensure that women give birth in the presence of skilled attendants, and make contraception widely available to couples (DFID 2012g).
2.	Bangladesh	USAID	SSFP		Smiling Suns Franchise Programme (SSFP) is funded by USAID/Bangladesh and Chemonics International. Grants are given to 28 NGOs through this programme. These NGOs run 320 static clinics and 8500 satellite clinics to provide basic health services and emergency obstetric care (Anderson et al. 2010).
3.	Benin	USAID	Centre of Human Services		The Partnership for Community Management of Child Health trains and supports community health workers to provide preventive and curative treatment for malaria, diarrhea and ARIs and promoting the use of maternal health services (Metangmo et al. 2012).
4.	Ghana	DFID		GBP6.5 million	Funds are given directly to a procurement agency to purchase long lasting insecticide-treated nets, which UNICEF along with other local organizations will distribute (DFID 2012h).
6.	India	DFID	36 local NGOs	GBP154,364	An innovative partnership with local NGOs was funded in order to decrease the impact of TB, malaria, HIV by heightening case detection, treatment, and patient support and education (DFID 2012i).
7.	Kenya	DFID	International and local NGOs	GBP106.3 million	Finances are channeled through NGOs to work alongside the Ministry of Health's programmes without actually giving funds to them. The funding is to distribute free bed nets to children under-five and pregnant women, socially market the use of condoms to prevent HIV, and increase the use of family planning products (DFID 2012j).

8.	Malawai	DFID	Banja La Mtsogolo	GBP25.20 million	Support to the Programme of Work to deliver sexual and reproductive health facilities through community outreach services. It aims to increase awareness regarding HIV testing, counseling and treatment, and the use of condoms and other family planning services (DFID 2012k)
9.	Myanmar	Multiple donors	UN agencies, international and local NGOs	US\$136 million	The Three Development Fund was set up through which condoms and needles were distributed to prevent HIV, access was given to anti-retroviral therapy along with community home-based care, long lasting insecticide-treated nets were distributed, health workers were trained to perform rapid diagnostic tests for malaria, and treatment was provided for TB and malaria (Peersman et al. 2012).
10.	Nepal	AusAID	SNV	AUD564,540	Support has been given to SNV's (Netherlands Development Organisation in Nepal) existing WASH (Water, Sanitation and Hygiene) programme. The purpose of this programme is to increase access of 4400 rural households to improved sanitary services, increase the awareness regarding hygiene practices by promotional strategies in the community, and improving district level WASH governance (AusAID 2013a).
11.	Nigeria	DFID	UNICEF & INGOs	GBP50 million	Funds given to deliver interventions in order to improve the nutritional status of children by community based treatment of acute malnutrition, integration of micronutrient supplementation into routine primary health services, and deworming. These interventions will be delivered by UNICEF and a group of international NGOs, such as Save The Children and Action Against Hunger (DFID 2012l).
12.	Nigeria	DFID		GBP25 million	Women 4 Health is a programme underway through which local girls and women are educated and trained to become female health workers. This in turn will improve the antenatal care services, the number of births in the presence of skilled attendants, and the immunization coverage (DFID 2012m).
13.	Pakistan	AusAID	Save The Children		Assistance has been given to Save The Children to improve the quality and coverage of health services for mothers and children in three districts of Balochistan (AusAID 2013b).

14.	Pakistan	DFID	Local NGOs	GBP30 million	Support will be provided to local implementing partners to deliver family planning products and information through clinics, pharmacies, and social workers. Vouchers will be used to allow underprivileged women and girls gain access to quality health care services (DFID 2012n).
15.	Sri Lanka	AusAID	UNICEF		UNICEF is implementing the Water, Sanitation and Hygiene in Child Friendly Schools programme to improve the water and sanitary conditions in deprived, rural communities (AusAID 2013c).
16.	Tanzania	DFID and USAID	Marie Stopes Tanzania		DFID and USAID are supporting a family planning outreach programme implemented by Marie Stopes Tanzania. Family planning services are provided by health professionals through existing facilities in far-off areas with limited services (DFID 2012o).
17.	Zambia	DFID	Population Council and local NGOs	GBP8.4 million	Safe Spaces is an initiative funded by DFID and implemented by the Population Council in collaboration with local youth NGOs, in order to empower young girls between the ages of 10 and 19 years. This project aims to increase knowledge, and improve access to reproductive and sexual health services, give the girls access to savings accounts, and increase their understanding about finances and money management (DFID 2012p).