A Review of GlaxoSmithKline’s PHASE (Personal Hygiene and Sanitation Education) Programme

Practice and Potential
GSK’s mission

To improve the quality of human life by enabling people to do more, feel better and live longer.

GSK’s work with communities

GSK works as a partner with under-served communities in the developed and developing world supporting programmes that are innovative, sustainable and bring real benefit to these communities.

United Nations millennium development goals

GSK work with communities is guided by the UN’s common vision for building a better world. In 2000, all UN Member States pledged by 2015 to:

1. Eradicate extreme poverty and hunger
2. Achieve universal primary education
3. Promote gender equality and empower women
4. Reduce child mortality
5. Improve maternal health
6. Combat HIV/AIDS, malaria and other diseases
7. Ensure environmental sustainability
8. Develop a global partnership for development.
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Executive Summary

Since its launch in Kenya in 1998, GSK’s six million pound investment in PHASE (Personal Hygiene And Sanitation Education) has reached over 1.5 million children in some of the world’s poorest communities. PHASE is a schools-based approach to basic health and hygiene education, which helps children to mitigate diarrhoea and other diseases caused by inadequate water, sanitation and hygiene (WASH).

To date PHASE extends to sixteen countries across sub-Saharan Africa, Central and South America, South East Asia and Europe. These include four of fifteen countries that globally account for three quarters of all annual child deaths due to diarrhoea – India (386,600), Bangladesh (151,700), Uganda (29,300) and Kenya (27,400)\(^1\); and four of thirteen that account for 83 per cent of the estimated 1.2 billion people who practice open defecation; namely Bangladesh, Brazil, India and Indonesia\(^2\). PHASE is planned and implemented via local partnerships with non-governmental organisations, education ministries, local government departments and school teachers.

Within the world of business and corporate responsibility PHASE has received a number of prestigious awards including:

- Pharmaceutical Market Excellence Award for ‘Excellence in Corporate Social Responsibility’ (2012)
- The Mexican Centre for Philanthropy and the Mexican Social Responsibility Alliance Award for CSR Best Practice in the 'Liaison with the Community' category (2009)
- The World Business Award in Support of the MDGs (2004)
- "The PHASE programme has proven to be highly effective and amenable to cross-cultural adaptation. The range of countries in which PHASE has been implemented constitutes an extremely diverse mix of geographical, economic, political and social contexts. PHASE has been successful everywhere that it has been implemented."\(^3\)

This was the verdict of a review of PHASE commissioned by GSK in 2007. The following document updates the findings of this previous report and reviews the practice and potential of PHASE to present day (September 2012). Divided broadly into three sections, it provides:

- An overview of the PHASE programme in relation to current international priority areas in water, sanitation hygiene and education
- Information around achievements and outcomes to date from the programme
- A look ahead to the strategic opportunities, challenges and the future potential to develop and strengthen PHASE even further.

The report closes with an appendix providing one-page summaries of PHASE projects around the world.

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\(^1\) GSK-commissioned report on PHASE, 2007
Part One: What Is PHASE?

A brief introduction to PHASE

Since its launch in Kenya in 1998, GSK’s six million pound investment in PHASE (Personal Hygiene And Sanitation Education) has reached over 1.5 million children in some of the world’s poorest communities. PHASE is a schools-based approach to basic health and hygiene education, which helps children to mitigate diarrhoea and other diseases caused by inadequate water, sanitation and hygiene (WASH).

Addressing unmet needs

Work in the area of personal hygiene and sanitation is important because:

- Childhood diarrhoea is the biggest cause of child mortality in Sub-Saharan Africa and the second biggest killer of children worldwide. Annually it accounts for 2.2 million children’s lives, killing more under-five year olds than AIDS, malaria and measles combined.

- Globally some 2.5 billion episodes of diarrhoea occur in children under-five, with more than half of these seen in sub-Saharan Africa and South Asia.

- Rapid urbanisation means that cholera and acute watery diarrhoea persist in high density, poverty stricken slums including in Nairobi, Mumbai and Rio de Janeiro – all of which are PHASE locations.

- The presence of WASH facilities in school gains 272 million school-attendance days each year due to improved health[1]. Learning achievement is increased and older girls are afforded privacy and dignity to ensure menstrual hygiene.

PHASE provides resource-poor teachers with child-based, relevant education materials. It is also synonymous with the tippy-tap (picture right); a highly effective, low-cost technology to provide water for hand washing particularly when the resource is in short supply.

PHASE today

As popular and appropriate as the education materials and the Tippy-tap have become, PHASE has a wide portfolio of achievements. This report looks at PHASE achievements, the operational challenges and the potential for this unique asset.

To date PHASE extends to sixteen countries across sub-Saharan Africa, Central and South America, South East Asia and Europe. These include four of fifteen countries that globally account for three quarters of all annual child deaths due to diarrhoea – India (386,600), Bangladesh (151,700), Uganda (29,300) and Kenya (27,400)[2]; and four of thirteen that account for 83 per cent of the estimated 1.2 billion people who practice open defecation; namely Bangladesh, Brazil, India and Indonesia[3].

PHASE in action

While PHASE is implemented differently in different countries, all programmes share a common methodology. PHASE is a simple approach to hygiene education that assists children to reduce the spread of infection that leads to diarrhoeal disease. Knowledge about safe drinking water, safe excreta disposal; washing hands with soap, oral care; bathing and grooming not only supports life skills but is also the right of every child.

PHASE motivates teachers to engage children in health supporting behaviours and helps to develop the relationship between primary healthcare, primary education, community development and water and sanitation. In some countries PHASE is also used to improve children’s knowledge about oral health care.

Box 1. Oral health and PHASE

Left unchallenged poor oral hygiene has a detrimental effect on children’s performance in school, their attendance rates and success in later life. Children who suffer from poor oral health are 12 times more likely to have more restricted-activity days including missing school than those who do not. Globally some 50 million school hours are lost annually through absenteeism attributed to oral diseases[4]. GlaxoSmithKline (GSK) and the Earth Institute at Columbia University are partnering in the Millennium Villages Project (MVP) to pilot an Oral Health and Hygiene project in the two Millennium Villages of Potou, Senegal, and Koraro, Ethiopia as a continuation of the efforts of the GSK PHASE programme to promote personal hygiene and sanitation.

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Key features of the PHASE approach

Three features help to ensure the success of the PHASE approach:

1. The concurrent development of water, sanitation and hand-washing facilities in schools
2. In-school education about hygiene and sanitation practices using child-friendly and context specific materials and techniques
3. ‘Child-to-child’ or ‘child-to-family’ education promoting on hygiene and sanitation practices essential for health and well-being.

How PHASE is delivered

PHASE is delivered in classrooms to enhance the school and educational experience of children. Teachers and community leaders are trained to develop and deliver PHASE content as part of the school curriculum. The approach centers on a toolkit of simple, effective and low-cost educational materials. These include posters, cloth books and thematic story cards. Each country adapts the pictures to suit their own context and reflect local realities. Over time, the toolkits evolve as teachers gain confidence and share success.

How PHASE contributes to diarrhoea control

The World Health Organization (WHO) and UNICEF provide the current international guidance for the control of childhood diarrhoea. It recommends a package of treatment and preventive measures articulated in a 7 Point Plan for Diarrhoea Control (WHO/UNICEF 2009) (Figure 1, below).

Figure 1. WHO/UNICEF guidance for diarrhoea control

Delivery via Community Health Workers

- Treatment
  1. ORS - fluid replacement
  2. Zinc treatment
  Plus
  Continued feeding, including breast feeding
- Prevention
  3. Acceleration of rotavirus and measles vaccinations
  4. Promotion of early and exclusive breastfeeding and Vitamin A supplementation
  5. Promotion of handwashing with soap
  6. Improved water supply quantity and quality, including safe treatment and storage of household water
  7. Community-wide sanitation and hygiene promotion
- Areas where PHASE is already effective in schools

1 Community health workers are also being supported by GSK. Mainly women, these frontline workers are responsible for teaching mothers and other primary caregivers to treat and prevent diarrhoea and other WASH-related childhood diseases.
PHASE promotes wash behaviours

Most of the preventive actions to control diarrhoea involve improving WASH. This is because an estimated 88 per cent of diarrhoea deaths are attributed to unsafe drinking water, inadequate sanitation and poor personal hygiene practices.

Box 2. What is WASH?

WASH is water, sanitation and hygiene. Increasingly the term ‘WASH’ is used to describe actions, activities, interventions and concepts where water, sanitation and hygiene contribute or have an impact. So for example, ‘WASH in Health’, ‘WASH in Education’, ‘WASH as a Human Right’. WASH is not strictly a ‘sector’ and governments do not have a ‘ministry of WASH’, however the term ‘WASH ministries’ is used by some agencies to describe a grouping of ministries responsible for different aspects of water, sanitation and hygiene.

Inadequate WASH contributes to under-nutrition, exacerbates malnutrition and impacts on other important diseases including acute respiratory infections, soil-transmitted intestinal helminth infection (ascaris, trichuris and hookworm), schistosomiasis, Guinea worm and trachoma.

Where PHASE is delivered: countries and partnerships

PHASE is familiar to children and teachers in 16 countries, many of which are high priority for other international donors (Figure 2, below). The range of countries includes low to high income and representation across the world’s main regions. The delivery approach requires that education ministries, local government departments and school teachers jointly plan and implement PHASE in the classroom.

These local partnerships (with the exception of Zambia where delivery is the sole responsibility of the Ministry of Education) are supported by non-governmental organisations (NGOs). Across the PHASE programme the main NGO partners are:

- AMREF (African Medical and Research Foundation)
- Save the Children
- Plan International
- Pratham (India)
- Millennium Villages Project
- Hounslow Borough Council (UK)
- SESI (Servico Social da Industria; FIRJAN (Federation of Industries in the State of Rio de Janeiro) and the Government of Brazil, Municipal Department of Education.

PHASE in countries that globally account for:

a) Three quarters of all annual deaths due to diarrhoea; and
b) Account for eighty-three percent of the estimated 1.2 billion people who practice open defecation

Bangladesh (a+b), Brazil (b), Kenya (a), India (a+b), Indonesia (b), Uganda (a)

PHASE in low-income countries

- Bangladesh (2005)
- Kenya (1998)
- Malawi (2008)
- Tajikistan (2006)
- Uganda (2005)

PHASE in lower-middle income countries

- Bolivia (2007)
- India (2009)
- Indonesia (2007)
- Nicaragua (2001)
- Philippines (2010)
- Senegal (2007)

PHASE in upper-middle income countries

- Brazil (2009)
- Mexico (2006)
- Peru (2001)

PHASE in high-income countries

- UK (2008)

Note: Figures in brackets show launch date
Outcomes from PHASE

The PHASE story is compelling. In 2007 a GSK commissioned review of described PHASE as:

“A programme that has proven to be highly effective and amenable to cross-cultural adaptation. The range of countries in which PHASE has been implemented constitutes an extremely diverse mix of geographical, economic, political and social contexts. PHASE has been successful everywhere that it has been implemented.”

Such high level buy-in to the approach is evidence of its effectiveness where resources are otherwise scarce. This section provides more information around achievements and outcomes to date including:

A. Impact on education policy and school curriculum
B. Improvements in child health
C. Education outcomes
D. Work in urban slums
E. Relevance to wider public and child health issues
F. Diverse settings, including emergences
G. Transferring the concept to a high income country
H. Creating a community of practice
I. Engaging with WASH and development stakeholders beyond PHASE
J. Corporate responsibility

A. Impact on education policy and school curriculum

A common project approach is to pilot PHASE in a few schools before securing support for replication at scale via the school curriculum. This requires favorable national education policies and good horizontal linkages between education and health ministries. PHASE partners have made tangible progress in this respect and their ability to influence and leverage change in national educational norms is significant.

For example:

- In Kenya following work in 247 schools the national government incorporated PHASE within the national curriculum, rolling the approach out to government-run schools across the country.
- Similarly in Peru, Plan International and the Ministry of Health reached agreement to adapt and reproduce PHASE at national level.
- In Uganda government requested support from AMREF to take the approach nationwide.
- In Tajikistan PHASE is incorporated in healthy lifestyle classes within the primary school curriculum.
- Policy and strategy influence has also proved possible in Bangladesh with the creation of a national working group for school health and nutrition lead by Save the Children.

B. Improvements in child health

Benefits to child health beyond hygiene and sanitation have been associated with PHASE.

- In Nicaragua a five-fold increase in hand washing after latrine use was observed among pupils and the proportion of children reporting diarrhoea in a two-week period fell from over 40% to just 13%.
- Similarly, diarrhoea episodes reported in Kenyan schools dropped from 11% to 8% and respiratory infections from 43% to 14%. Worm infestations are also said to have fallen dramatically.
- In Bolivia in 2010, a survey of school children and mothers in La Paz showed a reduction in anaemia rates from 11 to 2.2 per cent, and in Oruro city from 58 to 23.6 per cent following PHASE.
- In India the percentage of children with knowledge of when to clean their teeth rose from 30 to 87 percent following PHASE based oral hygiene education.
- In Peru 85% of girls and boys had some form of intestinal parasite and 53% had head lice infestations at commencement of PHASE; over the project period teachers reported a notable reduction in both.
PHASE is also associated with a specific project in oral health. The **Oral Health and Hygiene project** with the Millennium Villages aims to reduce oral health disparities by providing valid, reliable oral epidemiological data on the level of exposure to known risk factors for oral diseases. By targeting the root causes of oral diseases, the project seeks to improve the oral health status and the oral health-related quality of life of the population through prevention and changing oral hygiene behaviour.

The project has so far been piloted in the two Millennium Villages of Potou, **Senegal**, and Koraro, **Ethiopia**. Starting in September 2011, the first year activities were primarily focused on assessing the oral health status of the communities in Potou and Koraro. The results from the evidence gathering and oral health assessments will provide the project team with a solid foundation from which to design interventions customized to the needs of these two communities.

C. **Education outcomes**

A positive correlation is reported between the presence of PHASE in school and primary-level attendance, participation and academic achievement.

- In **Kenya** absenteeism decreased by 15% as access to school-based water and sanitation facilities increased
- In **Bangladesh** school attendance rose from 66% to 75% and school completion from 55% to 68% following the implementation of PHASE. School retention and completion is particularly encouraging as this is an important indicator for teachers and the education sector.

Improvements in WASH infrastructure are also reported:

- In **Peru** where the number of schools without access to improved drinking water dropped from a baseline target of 41.5% to 38% by the end of the project
- In **Kenya** the latrine to child ratio was reduced to 61:1 (boys) and 54:1 (girls) from an average high of 150:1
- Most PHASE countries report an increase in hand washing activity, hand washing facilities and use of latrines.

D. **Work in urban slums**

**Peru** provided PHASE with its first urban experience in the cities of Lima, Piura and Cusco.

More recently PHASE is present in the slums of, Rio de Janeiro (**Brazil**), Mumbai (**India**) and Kibera (**Nairobi**, **Kenya**), one of Africa’s largest urban poor populations.

Working in urban areas brings new challenges. For example, a typical school in Mumbai houses upwards of 2000 children. Here teachers attempt to meet educational needs with inadequate resources, poor infrastructure and low teaching capacity. The presence of PHASE is extremely important for morale and confidence in school as it provides a structure for learning through the use of engaging materials. PHASE is positively contributing to children’s experience of school and their disease mitigation skills.

**Box 3. Work in Mumbai, India**

In India PHASE is implemented by Pratham – one of the largest non-profit organisation working in the primary education sector. Initially working in twelve schools in the slum areas of Bainganwadi and East Dharavi of Mumbai, PHASE activities are reaching 24,000 children and families. Here high density housing, inadequate solid waste disposal and poor sanitation present a serious threat to health. PHASE materials are developed in consultation with schoolchildren and teachers are adapting them to also meet the need for community outreach. Such a participatory approach to design and community engagement are considered hallmarks of the PHASE programme**.

E. **Relevance to wider public and child health issues**

PHASE in many situations is dovetailed into existing child and community based development projects.

- The ‘**Attitude Positiva**’ programme which raises HIV/AIDS awareness among older school children in Rio de Janeiro, **Brazil**. Apart from delivering life saving messages about safe sex, PHASE is also being used to assist young people to devise strategies to address chronic living conditions exacerbated by inadequate sanitation facilities

- In **Tajikistan**, PHASE activities are incorporated into the School Health and Nutrition Programme where early success extended to coverage of 43 schools and 20,000 children during year one. Here learning topics included hygiene, water and sanitation; acute respiratory infections; tuberculosis; malaria; nutrition; hepatitis and intestinal worms

- In **Bolivia**, PHASE is contributing to the ‘**Improving Our Lives**’ school health and nutrition programme and is reaching approximately 25,000 children and 1,700 of their teachers with key hygiene messages

- Finally, National Immunization Days (NIDS) are mass community events that reach whole child populations with life saving vaccines. In **Uganda** partners used PHASE as a means of reaching mothers to tell them about NIDS and also encourage them to present their children for immunization.
Box 4. PHASE and worm infestations

In Kenya PHASE collaboration with the health sector’s clinic and school health programme has resulted in a reduction in worm infestations in young children. Procedures for monitoring the incidence of intestinal worms, diarrhoea and other childhood illnesses is now established between health staff and teachers, resulting in effective inter-sectoral child health surveillance.

F. Diverse settings including emergencies

PHASE is delivered where there is a risk to child health. Project locations are diverse, extending across stable, fragile, transitional, emergency and post-disaster social and political situations. The approach is tested across social and economic wealth quintiles in low-income to high-income countries and especially with marginalized communities. Interestingly, at no time is PHASE labelled as a ‘development approach’ or a ‘humanitarian tool’; it is simply adapted to its locale through the knowledge and creativity of teachers and children.

- Application in an emergency environment extends to the 2006 Tsunami and 2007 earthquake in Indonesia. In both situations PHASE was successfully integrated into a school health and nutrition programme that reached 53,000 children in 266 primary schools in the devastated communities of Nias Island. Children were taught how to stay safe and healthy in the immediate crisis and assisted with contingency strategies to increase their resilience in case of further emergency.

- Similarly in Bangladesh over 43,000 children living in flood prone areas increased their knowledge of essential life-saving hygiene practices.

G. Transferring the concept to a high income country

A perhaps unexpected application of PHASE has taken place in the United Kingdom. In London GSK identified an educational gap in primary schools after listening to concerns from employees about high rates of coughs and colds in their young children. Adapting the approach with staff from the London Borough of Hounslow, the ‘Handy Heroes’ programme aimed at increasing hand washing with soap among 4-6 year olds.

The UK version of PHASE included photographs and stories drawn from sister projects across the world to inject new perspectives and realties in to curriculum areas that UK teachers find particularly challenging. These include ‘Community Cohesiveness’ and ‘Spiritual, Moral, Social and Cultural Development’.

The UK pilot was successful in capturing the imagination of children across the primary school age group. Teachers and parents reported renewed motivation to wash hands as part of daily routines and children liked the fun and interactive approach to learning. The work also incorporated Global Handwashing Day celebrations.

H. Creating a community of practice

Over the years a local to global ‘community of practice’ has grown around PHASE. This involves teachers, parents, education officials, health ministry staff, development practitioners and children. This community represents a valuable resource and GSK has made every effort to initiate contact between practitioners, particularly during project start-up periods. The result is effective project-to-project collaboration across national boundaries and regions.

- AMREF, Kenya provides technical support to Millennium Villages in Senegal and Malawi

- In Asia inter-project study tours have taken place between India and Bangladesh. At the heart of this community is a strong degree of trust in the PHASE ‘brand’ and in the agencies that implement it, leading to Save the Children and Plan successfully spreading the word about PHASE across their programmes.

I. Engaging with WASH and development stakeholders beyond phase

Work in Senegal and Malawi is provided through the Millennium Villages Project hosted by the Earth Institute, Columbia University. This link to academia and the research community is potentially useful as PHASE continues to develop as a behaviour change approach for children.

Synergy is also possible between PHASE and other GSK corporate responsibility activities.

- AMREF and Save the Children also participate in GSK’s African Malaria Partnership. As such the expertise, profile and long history of these two partners in Africa and their secure relationship with national governments have contributed to GSK’s profile across the continent.
• Elsewhere Global Handwashing Day (GHD) has provided an opening to work with key public, civil society and private sector stakeholders in the wider hygiene and sanitation domain. All PHASE partners have participated in the event, often taking the local lead organisational role. GSK also sat on the event’s UK Steering Group and played a leading role in supporting UK activities.

• In 2010 PHASE published its first peer reviewed paper in the International Journal of Water, Sanitation and Waste – Waterlines which has a wide readership among WASH practitioners and policy makers.

J. Corporate Responsibility (CR)

PHASE is a valuable CR asset in an area where other corporate sector companies struggle to achieve respect and meaningful engagement. Within the world of business and corporate responsibility PHASE has received a number of prestigious awards including:

• Pharmaceutical Market Excellence Award for ‘Excellence in Corporate Social Responsibility’ (2012)

• The Mexican Centre for Philanthropy and the Mexican Social Responsibility Alliance Award for CSR Best Practice in the ‘Liaison with the Community’ category (2009)

1 In the UK alone these stakeholders include: The London School Hygiene and Tropical Medicine, Global Handwashing Day UK partners include: AMREF; Axiom Communications; Care Commission; Carex; City eHealth Research Centre; Duo Tech Limited; E-bug; EduGames4All; First News; The Health Protection Agency; Initial Washrooms UK; International Infection Prevention Week; International Scientific Forum on Home Hygiene; Kiddiwash; Kimberly-Clark Professional; PooP Creative; Queen Mary University of London; Sanofi Pasteur MSD; School Councils UK; Seven Scent; Teal; The Ideas Foundation; The Wiggles; Unilever; WaterAid; and The World Health Organization.
Part Three: Looking Ahead

Strategic opportunities

At an operational level PHASE will continue to flourish in the capable hands of teachers and children. At a higher and more strategic level untapped opportunities exist to promote PHASE at the scale needed to make an even greater difference. These include:

A. Current international public and child health priorities
B. The international ‘WASH in Schools’ movement
C. GSK’s Corporate Responsibility programme

A. Current international public and child health priorities

Post 2015, increasing access and reducing inequity

The period post 2015 (the deadline for the Millennium Development Goals or MDGs) will see a new set of international targets for the reduction of poverty and the acceleration of health, education and human rights. From a PHASE perspective these will undoubtedly include a renewed focus on the essential contribution of WASH. Indications also suggest that these new targets will be far reaching in respect of equity and inclusion which is increasingly being recognised as the key development stakeholders as the core principle of engagement with national governments.

Box 5. WaterAid’s perspective on equity and inclusion

Equity involves recognizing that people are different and need different support and resources to ensure their rights are realized. To ensure fairness, measures must often be taken to compensate for specific discrimination and disadvantages. Inclusion is not just about improving access to services, but also supporting people to engage in wider processes to ensure that their rights and needs are recognized.

This shift in focus is informed by UNICEF’s data, which confirms that deprivations of basic human rights are disproportionately concentrated among the poorest and most marginalized populations within countries. While tremendous gains have been made to reach the poor over the duration of the MDGs these are based on improvements in national averages. UNICEF demonstrates that progress based on national averages can conceal huge disparities in poverty, health, education and development, especially for children.

The work also shows that statistically there is considerably greater potential for impact towards targets by focusing on the poorest wealth quintile where the burden of disease and mortality is the highest. Therefore, a massive opportunity for PHASE is found in countries like China, India and Nigeria where the sheer numbers of un-served poor people residing in slums and/or remote areas, is affecting progress rates towards targets globally.

Defeating the top ten diseases

There are many priority diseases in the world. GSK is working alongside other global pharmaceutical companies and leading organisations including the World Health Organization (WHO), the Bill & Melinda Gates Foundation, the UK Department for International Development (DFID) and the US Agency for International Development (USAID) in a coalition to defeat ten Neglected Tropical Diseases (NTDs) by 2020. This includes eliminating five diseases: lymphatic filariasis (elephantiasis), guinea worm, blinding trachoma, sleeping sickness and leprosy, and controlling a further five: soil transmited helminthes (intestinal worms), schistosomiasis, river blindness, Chagas and visceral leishmaniasis.

Behaviour change and good hygiene practices are essential if these diseases are to be effectively controlled for the long term. There are clear opportunities for extending PHASE, for example in support of health education for a reduction in intestinal worms.

Diarrhoea control

The World Health Organization, UNICEF, PATH and the US Coalition for Child Survival, TearFund, WaterAid, John Hopkins and the London School of Hygiene and Tropical Medicine are just a few of the major organisations currently calling for specific action in support of controlling childhood diarrhoea. An opportunity exists for GSK and PHASE to play a coordinated and more cohesive role in support of international guidelines for controlling the disease (Box 6).

1 PATH is an international nonprofit organization based in the USA that creates sustainable, culturally relevant solutions, enabling communities worldwide to break longstanding cycles of poor health.
The eradication of open defecation

As previously stated an estimated 1.2 billion people worldwide practice open defecation. Over half of PHASE projects take place in countries where this is the norm. Bangladesh, Brazil, India and Indonesia, (Table 1), Kenya, Malawi, Senegal, Uganda and Zambia are all making headway in advocating that whole communities achieve open defecation free status by use of safe, affordable and user-friendly sanitation facilities. However the challenge is monumental.

Open defecation free status is extended to schools where the provision of effective hygiene education remains critical. Groundbreaking work to stop open defecation is happening under the umbrella of Community Approaches to Total Sanitation (CATS) or Community-Led Total Sanitation (CLTS)\textsuperscript{30}. These internationally supported initiatives provide strategic openings for the implementation of PHASE at scale.

Table 1. PHASE countries where open defecation is staggeringly high\textsuperscript{31}:

<table>
<thead>
<tr>
<th>Country</th>
<th>Number of People with No Toilet</th>
</tr>
</thead>
<tbody>
<tr>
<td>India</td>
<td>665 million</td>
</tr>
<tr>
<td>Bangladesh</td>
<td>18 million</td>
</tr>
<tr>
<td>Indonesia</td>
<td>66 million</td>
</tr>
<tr>
<td>Brazil</td>
<td>18 million</td>
</tr>
</tbody>
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B. WASH in schools

Across the world the majority of schoolchildren do not have access to basic water and sanitation facilities. Like GSK, other organisations also focus resources toward the provision of WASH in schools; however it is only recently that they have united around the cause.

The ‘Call to Action for WASH in Schools’\textsuperscript{32} is a collaboration between CARE, Dubai Cares, Emory University Centre for Global Safe Water, IRC International Water and Sanitation Centre (The Hague), Save the Children, UNICEF, Water Advocates, WaterAid, Water For People and WHO. Joining this group could provide GSK with an opportunity to promote access to PHASE methodology and materials whilst adding the company’s influence and leverage for the basic rights of children. The current ‘Call’ specifically asks policy and decision-makers to:

- Increase investment in WASH in Schools
- Engage those who set policies at the global, national, sub-national and local levels to support WASH in Schools
- Involve multiple stakeholders
- Demonstrate quality WASH in Schools projects that yield a healthy school environment
- Monitor WASH in Schools programmes to ensure accountability and evaluate progress
- Contribute evidence that provides a solid base for informed decision-making and effective distribution of funds.

C. GSK corporate responsibility programmes

PHASE presents GSK with an opportunity to add value and impact to some of its flagship corporate responsibility programmes.

For example, making sure that governments and implementing partners involved in GSK’s albendazole donation/de-worming programme know about the applicability of PHASE to de-worming; including how to access the methodology and apply it.

Far reaching opportunities also exist through GSK’s commitment to strengthen health systems by supporting community health workers. A similar opportunity exists in China where GSK’s Migrant Health Promotion Programme in Shanghai may benefit from the integration of PHASE.

Challenges

A programmatic approach

Leveraging these opportunities necessitates a shift away from project based operation to a more strategic programmatic approach, which enables greater cohesion and positioning of PHASE at local, national and global level. A decision to adopt this different approach will necessitate a period of introspection about the scale of ambition for PHASE. This will involve demonstrating the added value that PHASE brings to a number of GSK’s corporate responsibility interventions and the priorities of other agencies. It also requires a strategy for placement and growth, which means thinking about:

- Which countries to work in and why; and where convergence (integration) into other programmes is sensible and doable
Whether the focus should be urban or rural, or both

- Ensuring robust, accountable national programmes (between at least national governments and their partners); and which are able to influence national policy reform to enable sustainable change
- How to make sure key actors in the international arena understand PHASE; recognize synergy between their own purpose with PHASE and are ultimately willing to buy-in to it
- Taking a lead intellectual role in demonstrating good practice in health and hygiene education; and expanding the evidence for the outcomes of child-based health and hygiene education, particularly in schools
- Formalizing the PHASE Community of Practice and knowledge base.

Improving project design and reporting

PHASE is currently measured on a project by project basis making it difficult to gain an overall assessment of progress. This situation is not particularly conducive when developing a programmatic approach or convincing others to invest in PHASE.

Many international development agencies have aligned their project design and reporting frameworks so that they can demonstrate tangible outcomes. These project management systems pay greater attention to initial project definition and design, the establishment of indicators and application of project management tools that assist monitoring and evaluation. Stakeholder Analysis and the Logical Framework approach are two such tools that could easily be applied to PHASE. The result will be consistently higher quality projects that do not rely on anecdotal reporting or arbitrary value judgments; and across PHASE it will be possible to aggregate data.

Working in this way also supports existing efforts on the part of the international NGO community to assess, learn from and demonstrate their effectiveness. This is largely about ensuring ‘value for money’, something which donors, including UK DFID and the Bill and Melinda Gates Foundation are particularly keen on. Adoption of a more robust project design and reporting model would also assist with:

- Problem justification, project identification, purpose and goal setting
- The identification of risk and assumptions – an important stage in project design
- The application of a PHASE indicator framework
- Project modification based on mid-term and end evaluation (preferably external to the project)
- Measurement of the social return that GSK’s investment generates
- Managing stakeholder perceptions of effectiveness
- Attributing impact (beyond input to output level; e.g. we invested X resources and trained Y teachers, therefore we have been successful)
- Using appropriate and robust quantitative and qualitative evidence of outcome, particularly in respect of measuring behaviour change.

Importantly a more systematic management approach will boost one of PHASE’s greatest achievements – the trust governments have in the brand. When expressed this is remarkably similar to how people speak about their commitment to a commercial product, for example a Ministry of Education representative in Kenya said: “We have adapted the PHASE model because it has been seen to work…” Where verified, this is an enormously valuable asset.

Positioning phase at national level

All projects identify the potential for PHASE to positively influence national primary school curriculum and the way teachers deliver lessons (from didactic styles to greater participation on the part of children). The process for shaping what is taught to who is incredibly complex and fraught with bureaucracy. This is especially so in countries with weak policy frameworks, inadequate legislation and too few trained teachers.

Tackling this area is a big call for any development project and PHASE has done remarkably well in this respect, with notable success in Kenya and in countries where Save the Children operate. The challenge now is ensuring that this level of strategic action is common across PHASE projects with sufficient numbers of teachers able to make lasting changes to traditional, didactic teaching practices.

Maximising partnerships and supporting institutional memory

Lasting relationships now exist with key implementing partners and some of these extend across different GSK initiatives. However, a common problem occurs when there is no provision for ensuring read across between initiatives. This means that the process of identifying opportunities for synergy and convergence within the portfolio is not part of an overall strategy, either on the part of the grant maker or grantee.

There are many legitimate reasons for this including changes in personnel, institutional functions, funding streams and vertical reporting structures. From the perspective of the recipient caregiver and child, this means services and advice may risk being less than coherent. For GSK and their partners learning opportunities are missed and institutional memory is not cultivated.
On a more positive note PHASE does have a community of practice – the result of peer mentoring, study tours and networking between projects. The challenge is how to sustain these linkages and capture experiences and learning.

**Recommendations**

The following recommendations are framed to assist GSK and its partners to improve existing activities and build an increasingly robust development intervention for PHASE.

**Recommendation (1) strategy and direction**

**Finding**

PHASE is proving relevant and successful across diverse settings including urban and rural communities in development and emergency contexts. It is easily adapted to suit the needs of a range of public and child health priorities that require children and families to adopt new hygiene and health behaviours. In many situations PHASE provides preventive knowledge to counterbalance treatment measures, for example in the control of diarrhoea.

**Conclusion**

PHASE is a valuable asset for GSK; however there is a tendency to underplay PHASE both within GSK and the wider development community. It has the potential to make an even a greater overall impact.

**Recommendation**

GSK should undertake an internal discussion to determine the scale of ambition for PHASE, its future strategy and direction. This should result in a clear roadmap.

**Recommendation (2) linking initiatives to improve impact**

**Finding**

GSK’s wider corporate responsibility programmes in child health could benefit further from greater synergy with PHASE’s approach to hygiene education.

**Conclusion**

Existing corporate responsibility initiatives provide ideal entry points to integrate PHASE and demonstrate the impact of adopting a more comprehensive approach to the promotion of child health.

**Recommendation**

GSK should make every effort to ensure that relevant governments and partner agencies accessing resources know about PHASE. This should include knowledge about the value of integration in schools and health centers, and how PHASE can contribute to sustainable health outcomes. Uptake of PHASE in this context should be tracked, evaluated, written-up and disseminated.

**Recommendation (3) improving the overall quality of phase**

**Finding**

PHASE is measured on a project to project basis. Some partners are more skilled than others at designing projects and measuring and reporting outcomes. This is not helped by the programme’s current proposal and reporting formats.

**Conclusion**

This situation undermines PHASE’s overall impact; its level of effectiveness and value for money. There is also a danger that other development agencies will not recognize its potential and therefore will not invest in PHASE.

**Recommendation**

GSK should provide greater steer to partners at all stages of the grant making process. This should include new arrangements for project design, monitoring and evaluation and reporting. As far as possible these should be aligned with the project management tools used by the wider development community (for example Stakeholder Analysis and the Logical Framework Approach).

**Recommendation (4) increasing visibility**

**Finding**

Knowledge about PHASE is largely limited to those who use it. There is little in the public domain to demonstrate application of PHASE or to convince other agencies to support it.

**Conclusion**

In support of the first three recommendations, PHASE urgently needs to raise its profile among the WASH in schools and wider community child-health community.

**Recommendation**

GSK should develop a PHASE advocacy and dissemination strategy based on material derived from PHASE partners. It should be kept simple and doable, for example the production of 4-6 page briefing notes. These knowledge products should capture the full range of PHASE settings and experiences.
Appendix: Project Overviews by Country

Kenya
Nicaragua
Peru
Zambia
Uganda
Bangladesh
Mexico
Tajikistan
Bolivia
Indonesia
Senegal
Malawi
UK
Brazil
India
The Philippines
Kenya

During 2007-2010 PHASE reached over 11,000 children in 30 primary schools in one of Africa’s largest urban slums – Kibera. The project engaged over 64,000 inhabitants in total, including over 850 teachers.

Strategic aim

To provide the evidence-base for why the Government of Kenya should be encouraged to institutionalise PHASE in all Kibera schools.

Indicative activities: The construction of water tanks, latrine and hand-washing points; Head teacher and teacher consultation/training; work with adolescents (menstrual hygiene management and reproductive health); school health clubs and first aid; hygiene/sanitation/hand-washing behaviour change; community outreach; de-worming; partnership building and advocacy; participation in government forums; making a documentary; school monitoring and progress reports; absenteeism research; and community health action days.

Achievements (mid-term)

- PHASE schools performing better than control across indicators
- Reported cases of diarrhoea down from 11% to 8%
- Reported cases respiratory infections down from 43% to 14%
- Incidence of worm infestations significantly reduced
- Presence of improved drinking water in schools increased
- 89% PHASE schools have hand-washing facilities
- Latrine to child ratio reduced to 61:1 (boys) and 54:1 (girls) from an average high of 150:1 in sampled schools
- Schools are renting latrines from the community
- Increases in observed hand-washing practice
- Increases in observed nail clipping practice
- Increases in enrolment of >10%; pupil absenteeism also down by 15%
- Improved school-clinic liaison for disease surveillance, treatment and prevention
- A multi-stakeholder forum established and advocating for policy
- Development of PHASE kits specifically for schools in informal settlements, including kits in Kiswahili (one of the 2 national languages).

Challenges include sporadic social unrest/violence; working in non-state schools; poor water and sanitation infrastructure and solid waste management in the wider community limiting behaviour change; high teacher turnover; and hard to reach parents.

Learning: It is important to tap into new stakeholders groups: private landlords, local authorities and utilities as they have power, influence and resources. Although highly political it is possible to gain the support of government to work in slums. However, infrastructure investment in slums is risky due to lack of ownership, land tenure and the threat of clearance. Projects should emphasise skill development to enable rebuild, and strong relationships with councils.

Engaging small scale entrepreneurs and artisans to operate and maintain school WASH facilities can increase their life cycle. Reaching parents can prove more challenging than in rural communities.
Nicaragua

PHASE partner(s)
Plan International, the Government of Nicaragua Ministry of Education and the Ministry of Health

Project period
2000-2004

GSK investment
N/A

Review highlights (2007)
The correlation between increased hand washing and decreased diarrhoeal disease is seen in the evaluation data from a sample of 32 PHASE schools in Nicaragua. The observed frequency of hand washing after using the latrine among pupils in participating schools increased fivefold, and the proportion of children reporting diarrhoea in a two-week period fell dramatically from over 40% to just 13%.

Key opportunity
To learn about how the power of the voice of children and their enthusiasm can help to raise the profile of PHASE among the international development community.

The Nicaragua project has appeared in key international water and sanitation publications, including:

In Nicaragua the initial project reached over 17,000 children in 40 selected schools in 126 communities, and provided training to 522 teachers. A further 9,000 children were trained by 1067 child monitors in 557 children’s circles. During a later stage an additional 77 schools were included.

Strategic aim
To trigger behaviours that impact positively on the reduction of diarrhoea in families and schools, through the peer-elected and trained child ‘monitors’ who are supported by whole communities and the local health and education authorities.

Indicative activities: Activity centred on the dissemination of messages via children’s circles where peers were able to capture the imagination of younger children and trigger behaviour change. Youth hygiene clubs added further impetus by involving members in dialogue, experiments, observation, dance, song and role play. Typically PHASE activities were designed to take no more than 10-15 minutes, up to 2-3 times a week.

Achievements
- The incidence of diarrhoea fell dramatically (see box)
- Children with access to improved drinking water at home increased from 58 percent to over 78 percent
- Families showing improved hygiene practices in handling and conserving drinking water tripled from 33.5% to 91.4%.

Challenges: At the time of implementation the leading causes of child morbidity were acute diarrhoea and acute respiratory infections. Though acute diarrhoea was in decline outbreaks of cholera were common and respiratory infections were increasing. The level of protein-energy malnutrition was significant and access to improved drinking water in rural areas was just 29%. The situation was exacerbated because less than one third of those sick actually present for treatment to the nation’s health services, and coverage of health units in rural areas was very limited. Consequently families relied on their own knowledge of what to do with little or no support.

Learning: Training children and adults to work in a participatory, inclusive way is time consuming and resource intensive, especially at the beginning of programmes. Practitioners can seek out and listen to the voice of children; taking account of their views and respecting their differences. Inclusive design must be taken in to account when developing water and sanitation infrastructure, otherwise some children, for example those with disability, or young girls requiring privacy, will not be able or motivated to use them.
In Peru, activities started in 2001 and reached nearly 22,000 children in 45 schools, including eleven in urban areas in the regions of Lima, Piura and Cusco.

Strategic aim

To reduce diarrhoeal disease morbidity, and improve the personal hygiene behaviours of children and their families who live in desperately poor communities.

Indicative activities: Peru prioritised the adaptation of PHASE materials from the early Kenya based project. The emphasis was on training and empowering teachers and engaging the Ministry of Health in delivery of behaviour change messages.

Achievements

- Baseline 85% of girls and boys had some form of intestinal parasite and 53% had head lice infestations. The project reported a reduction in both over the course of the intervention xxi
- The number of schools without access to improved drinking water in schools decreased from a baseline target of 41.5% to 38% by the end of the project
- Children's personal hygiene and sanitation practices improved and hand-washing after using the toilet has increased from 15 to 46 percent
- The Ministry of Health utilized PHASE materials to other regions outside the project.

Challenges: At the time of project implementation high child health risks included neonatal diarrhoea and lower respiratory infections. Also there was a huge increase in poverty due to political and economic instability. This situation especially affected children and their families in rural communities. Women and girls were marginalised and in-family health and hygiene education was poor.

Learning: Peru is not a homogenous society and so a ‘standard’ national set of PHASE materials was found inappropriate for all children. This underlines the need to consider regional differences within a country. Children have a different world-view to adults. The voice of children in project meetings, design and evaluation is central to the effective adaptation and implementation of PHASE. Material development is not a one off task. Children constantly need new stimulus. Involving children in material production is highly successful.
Zambia

PHASE partner(s)
The Ministry of Education, USAID

Project period
2004-2007/8

GSK investment
£315,447.00

Review highlights (2007)
Mass communication successes through radio campaigns resulted in 2,500 adults and children attending the launch of the peer education campaign.

Key opportunity
To learn how to balance the demand for infrastructure with education for behaviour change.

The collaborative efforts of government and development partners can help to balance meeting demand for basic infrastructure services with hygiene and sanitation educational support.

"The African experience has shown that water hygiene infrastructure is a necessary prerequisite for PHASE success. Then through children as the agents of change in their communities, real change is possible."

(Gershom Musonda, coordinator of PHASE in Zambia)

PHASE in Zambia was lead by the Ministry of Education with the support of the USAID funded National Health and Nutrition Programme. 60 schools participated across three districts.

Strategic aim
To advocate for the role of schools to include provision of a ‘health-promoting’ learning environments in Zambia.

Indicative activities: Peer education, teacher training and the integration of PHASE into science lessons and latrine construction in 15 plus schools along with the installation of ‘Tippy-Taps’ for hand-washing.

Achievements
- Community mobilisation and expressed demand to participate (see box)
- Unverified reports of clear behaviour change in respect of latrine use, hand-washing and reduced absenteeism.

Challenges: Local government and project personnel issues affected project coordination and district implementation and resulted in the project being ‘put on hold’ for a prolonged period. Though restarted the process of regaining momentum was challenging.

The reorientation of new project staff and the redrafting of local PHASE proposals in line with the overall agreement proved time consuming and resource intensive.

Water and sanitation infrastructure was low in all PHASE districts. Some schools relied on unimproved drinking water sources, including streams and shallow wells. Demand for funding support outstretched supply; the sheer volume of schools with no latrines was overwhelming.

Likewise demand for PHASE kits was high and local resources and skills were unable to accommodate ongoing development and replication of the materials.

Learning: Capacity development and training in PHASE approaches, especially of sub-national government officers, must take into account high staff turnover within government to avoid dependency on too few individuals. Planning and proposal writing is a skill that requires technical support, especially in capacity weak local government departments and schools. People living in pervasive poverty without adequate basic services adopt ‘coping mechanisms’ to survive. These strategies may prevent good hygiene practices at a time when they are most needed, for example the drawing of drinking water from shallow wells at a considerable distance from home provides little incentive for hand-washing. PHASE practitioners are learning to understand these realities and work with children and families to make incremental improvements.
Uganda

PHASE partner(s)
AMREF and Government of Uganda Ministry of Health, Ministry of Education and Sport, Ministry of Gender, Labour and Social Development and Soroti District Council

Project period
2005-2008

GSK investment
£326,388.00

Review highlights (2007)
In 2007 the Ministry of Education in Uganda requested support from AMREF to roll out the methodology nationwide. In 2007 AMREF set about costing a package of support for the government.

Key opportunity
To learn how to make use of National Immunisation Days (NIDS) to promote PHASE to mothers and caregivers and government health workers.

The project took an active role in preparations for National Immunisation Day (NIDS) activities in the project area. This involved planning meetings and informing the community; sensitising children and providing technical and logistical support for community health education talks. As a result strong linkages were developed with key stakeholders and most importantly community members were informed about PHASE.

NIDS take place in most developing countries. There is an opportunity for such integration of resources elsewhere, enabling PHASE to reach more community members but also frontline health workers.

PHASE was piloted in 198 primary schools in Soroti District Eastern Uganda. Here communities struggled with conflict and poverty. The average ratio of children per latrine was 113:1 in schools (40:1 being the national target). Hand-washing facilities were absent in most schools.

Strategic aim
To gather and document evidence of the impact of PHASE upon the health of disadvantaged communities, in order to advocate at the national level for the incorporation of PHASE into national policy.

Indicative activities: Class-based activities and a weekly radio slot aimed at families; music and dance competitions to promote hygiene messages; coaching and supervision of school staff; participation in National Immunisation Day activities, the dissemination of 3000 PHASE posters to schools, clinic and communities; work with the school PTA.

Achievements
- 112,000 children reached with behaviour change messages
- Noticeable improvements to the school environment
- Project space secured in district government offices
- Nationwide roll-out supported in principle by the Ministry of Education (see box) and high-level engagement with the Minister of State for Primary Education attending a PHASE event
- An active CORE team consisting of teachers, district officials and community members and advocacy forums for local leaders
- Procurement of 3000 posters with PHASE messaging and 1,270 sets of PHASE materials were distributed with demand for more.

Challenges:
- Government decentralisation processes can deter local authorities from decision making, deferring instead to the Ministry or national level.
- The promotion of PHASE in the wider school community is time consuming and difficult; more resources are required in terms of time and funds to support these activities.
- It can be very difficult to provide schools with hygiene and sanitation messages if there are no facilities present to put learning into practice.
- Community contribution is problematic when the prevailing perception is one of external support.

Learning: Use of local material in poster development and other teaching materials increases community ownership of the project. In addition, using pictures that depict local schools encourages other schools to make similar sets. Involvement of all project stakeholders from local community level to the donor is vital in securing solutions to operational problems. Strengthening and working through existing community structures such as Parish Development Committees and Village Health Teams helps to sustain PHASE activities.
Bangladesh

Thirty-three thousand children in 127 schools were reached in one of the poorest areas of Bangladesh. In 2008 project activities expanded to reach an additional 10,076 children in 43 schools. In total the resources of Save the Children and GSK reached over 43,000 children in 170 schools.

Strategic aim

To increase the impact of an existing school health and nutrition programme through the integration of PHASE, and disseminate learning about behaviour change to influence policy and practice elsewhere.

Indicative activities: Activities included student brigades, ‘clean weeks’, child-to-child groups, sporting events, mothers’ courtyard meetings and men’s groups, school murals and videos. An emphasis was placed on community capacity building and engagement. Other school health and nutrition activities implemented by Save the Children included deworming and micronutrient supplementation, vision screening and first aid kits.

Achievements

- PHASE was integrated into the Bangladesh School Health and Operational Nutrition Manual, and the School Health and Nutrition Briefing Notes
- A post project scale-up training, led by the Ministry of Education, of 1,269 teachers reached a further 310,000 children in 950 schools
- Positive trends were seen across all school indicators with school attendance increasing from 66% to 75% and school completion from 55% to 68%
- Construction of tube wells in 90 school and 85 villages, 48 latrines and 200 sets of hand-washing facilities with associated training
- The number of families wearing sandals when using the latrine (to avoid worm infestations) increased from 6% to 78%
- Reported diarrhoea incidence in school children fell from 18.6% to 1.8%
- Improvements in household knowledge about good hygiene practices including the dangers of open defecation, of handling of infant faeces; the critical times to wash hands with soap and food safety.

Challenges: Community willingness and support is a key factor for success but one that is understandably threatened at time of humanitarian crisis, for example recurrent flooding.

How to effectively transfer project implementation, so that local stakeholders take the responsibility for managing the project once the funding period is over.

Learning: Exit strategies are a key component of any project to ensure that adequate capacity is in place to continue activities beyond initial funding periods.

PHASE partner(s)
Save the Children

Project period
2005-2008

GSK investment
£343,668.00

Review highlights (2007)
Policy and strategy influence possible with the creation of a national working group for school health and nutrition lead by Save the Children.

In Bangladesh, School Management Committee and Parent Teacher Associations played an active role in planning and managing health related activities at school. Regular meetings were held to review school activities in relation to the ‘yearly work plan’, developed with the school at the beginning of every school year. The school management committees and parent teacher associations also contributed the availability of soap for hand-washing.

Key opportunity
To learn how to work with fragile and highly vulnerable communities, continually living on the brink of humanitarian crisis.
Mexico

PHASE partner(s)
The Mexican Children Support Foundation (CSF) – International Save the Children Alliance; and Save the Children Mexico; and the Government of Mexico Department of Health, the Department of Public Education & the Department of Social Development

Project period
2006-2008

GSK investment
£270,610.00

Review highlights (2007)
Mexico was able to use PHASE materials from Peru without a great deal of adaptation.

Key opportunity
To learn about how best to develop rights-based programmes, in the context of delivering hygiene, health and sanitation education to vulnerable children.

In its first year PHASE directly reached over 10,000 vulnerable children and their families via 1,500 sessions held in schools, community, and youth centres. The project indirectly touched a further 8,000 children’s lives.

Strategic aim
To improve the health of the 14,000 disadvantaged children living in the most marginalised communities in Mexico through the integration PHASE into the ‘Health Guardians’. The approach centres on the rights of the child to protection, health, development and well-being.

Indicative activities: Activities included academic support, play and story-telling, the delivery of health, protection and hygiene messages and psychological support for young people.

Achievements (after 1 year)
- A BBC World documentary – focusing on the impact of PHASE on children’s health and well-being, the educational experience, and the benefits for the wider community
- The project attracted the attention of the National Commission for Human Rights (CNDH), providing Save the Children with a tremendous advocacy opportunity to affect change in public policy for hygiene and health education.

Challenges: The project delivered complex and multiple messages to children many of whom were suffering malnutrition. Agreeing the right set of indicators to enable a fair value judgement about largely qualitative data related to behaviour change was particularly challenging. Triggering behaviour change is extremely difficult and especially so when talking about sanitation is taboo. Although very strong ties existed with teachers this left some fearing the consequences of talking about such sensitive issues with children and the community. Poor public health services and capacity-weak government institutions are unable to provide adequate support to children and communities.

Learning: PHASE is flexible and robust enough to be adapted to deliver or exist alongside ‘hard’ messages about domestic and in-school violence, sexual abuse and exploitation, disaster preparedness and HIV/AIDS.

It is possible to deliver PHASE in the context of rights-based programming, targeting the bottom social and wealth quintiles where human development indicators show least outcomes for children.
Tajikistan

PHASE partner(s)  
Save the Children USA

Project period  
2006-2008

GSK investment  
£328,302.00

Review highlights (2007)

In Tajikistan, children were engaged in the process of materials development from conception to the finalisation of the materials. Visual flip charts were developed by presenting children with the PHASE story line for each of the Kenya flip charts. Children were then asked to develop the pictures, backgrounds and characters themselves. A graphics artist in turn developed draft flip charts based upon the children’s input. These drafts were then again extensively tested with children and further modifications were made to the background, characters and text.

Key opportunity

To learn about the process of securing PHASE within the national curriculum. In Tajikistan the partners worked at national level with other donors and development agencies and government to add an additional subject, called ‘Healthy Life Styles’ to the official primary school curriculum.

If this is achieved, PHASE materials and the approach will be delivered across Tajikistan. This is a significant breakthrough and the experience can be shared across the PHASE community.

PHASE activities were incorporated in to a successful school health and nutrition programme, reaching more than 20,000 children in 43 schools during the year one. During year two a further 74 schools were included.

Strategic aim

To contribute to the overall quality of primary school education, to encourage higher school-enrolment, attendance and achievement especially amongst children suffering from general poor health and the effects of under nutrition.

Indicative activities: Modules for hygiene, water and sanitation; acute respiratory infections; tuberculosis; malaria; nutrition; hepatitis and intestinal worms (see box). Community mobilisation started with self-assessment of need at Village Development Committee level. Piloting was followed by the execution of scale-up plans for schools, youth committees and villages.

Achievements

- Extensive qualitative and quantitative baseline information was collected which included child-facilitated observational data for hand-washing at critical times, and other hygiene related behaviours
- Training and sensitization of school teachers and communities resulted in increased demand from teachers for child-centred approaches; and community willingness to raise funds for water and sanitation infrastructure improvements
- The integration of PHASE in national level discussions resulted in plans to integrate PHASE into the national curriculum (see box).

Challenges: School health and nutrition and behaviour change education is new in Tajikistan. ‘Life-skills’ teaching was not part of the school curriculum and there was little priority afforded to school-age children’s health and hygiene; The priority for the Ministry of Health is under-five child mortality and morbidity and maternal health rather than the needs of school-age children; and Tajikistan still retains many of the centralised systems of authority that existed within the previous soviet society. These institutional barriers can frustrate participation and decision making at community and school level. The project faced many challenges in obtaining approval for use of materials.

Learning: Progress in Tajikistan was assisted by forging and maintaining a close relationship with the PHASE project in Bangladesh resulting in credible baseline information and high quality PHASE materials; and evidence-based advocacy is an essential component of PHASE to ensure buy-in and enable optimal positioning of the approach within the national curriculum. This is required at local and national levels. Within project proposals advocacy should appear as a dedicated activity with clear outcome indicators.
Bolivia

**PHASE partner(s)**
Save the Children USA, Bolivia Government Ministry of Education and the Ministry of Health

**Project period**
2007-2009

**GSK investment**
£345,895.00

**Key opportunity**
To learn about the advocacy involved in securing government commitment to fund PHASE activities after the GSK funding period.

Save the Children’s overall School Health and Nutrition Programme in Bolivia, of which GSK funded activities were one part, has secured government funding for continued activities in four out of five municipalities. This is a significant achievement and includes the two PHASE locations. There will be valuable experiences to share.

Funding from GSK enabled Save the Children USA to expand the existing School Health and Nutrition programme called, ‘Improving Our Lives’ to the 12 rural municipalities in Oruro district and into the city of La Paz. The project in Oruro reached two thirds of the rural primary school age – approximately 25,000 children and 1,700 of their teachers.

**Strategic aim**
To integrate hygiene, health and nutrition messages into mainstream subjects within the primary school curriculum so that PHASE can be rolled out across all schools.

**Indicative activities:** The design of age-appropriate hygiene materials for children to use at home with carers and siblings, community outreach fairs in each participating school to promote health, nutrition and hygiene; and ongoing teacher-child and child-to-child class based activities.

**Achievements**
- The municipal authorities in La Paz and Oruro have allocated funding in their annual operating plans to implement activities in children’s hygiene, health and nutrition. This includes implementation of the project across all schools – beyond the planned coverage area – with plans to continue activities after the end of GSK funding and Save the Children support.

**Challenges:** A major dilemma was how best to integrate PHASE messages into mainstream subjects such as maths, reading and writing. For example, should the hygiene be integrated into maths, or the maths in to hygiene? It was feared that the difference in approach would have a bearing on whether or not a teacher might be persuaded to use the material. Eventually hygiene was integrated into existing subjects.

**Learning:** Bolivia’s experiences with curriculum development highlight the importance of consulting teachers and children during material design and preparation, and the value of pre-testing before roll-out to large numbers of schools.
Indonesia

PHASE partner(s)
Save the Children, Government of Indonesia Ministry of Education and the Ministry of Health

Project period
2007-2009

GSK investment
£314,205.00

Review highlights (2007)
Working with Save the Children USA, as part of post-tsunami reconstruction and recovery, this programme will seek to understand how PHASE can help communities recover from emergency situations.

Key opportunity
To learn effectively PHASE can be adapted for use in emergency and humanitarian situations, post-disaster recovery and emergency preparedness education.

Following the 2006 Tsunami and 2007 earthquake, PHASE was integrated into a school health and nutrition programme, reaching 53,000 children in 266 primary schools in 17 sub-districts of Nias Island.

Strategic aim
To meet the immediate needs of children while also developing life-lasting knowledge and behaviours to ensure greater preparedness and resilience in the face of any future crisis.

Indicative activities: The strengthening of the existing ‘Little Doctor’ approach, training of nearly 900 teachers and facilitators to deliver participatory hygiene education; on-going capacity development of line ministry staff.

Achievements
- Hand-washing at critical times rose from 84.6 per cent to 95.4 per cent
- At baseline 29.1 percent of children had reported diarrhea during the past month, compared to only 0.7 percent at end-line
- Children’s reported use of bed nets increased from 78 per cent to 94 per cent
- The prevalence of intestinal worms following deworming fell from 74.7 per cent to 25.6 per cent and anaemia from 54.7 per cent to 8.2 per cent, following iron supplementation.

Challenges: Young, inexperienced and untrained teachers required ongoing coaching and supervision to ensure adequate delivery of PHASE in classrooms; Teacher absenteeism threatened to derail activities, especially in more remote areas; Erratic school attendance patterns and poor school data presented an information management challenge which affected the accuracy of baselines; Frequent changes in government structure impacted on project implementation and undermined training investment as local health, education and social development personnel changed; Changes in the political boundaries affected the size of the project area, putting a greater demand on already stretched resources, coordination as the needs of new stakeholders were taken into account; and procurement of materials and supplies was problematic, including reproduction of PHASE materials.

Learning: PHASE, whether stand alone or integrated is not a replacement for government services. High functioning political and social acumen is required to ensure programmes are perceived as complementary to existing government approaches. Without this ownership is limited and longer term sustainability becomes questionable. Ensuring government takes a lead role as quickly as possible assists this process and lessens dependency on external resources.

PHASE is applicable to emergency and post disaster situations.
Senegal

PHASE partner(s)
Millennium Villages (MVP) Project – The Earth Institute, Columbia University

Project period
2008-2012

GSK investment
£153,635.00

Key opportunity
To learn about the possible delivery of PHASE at-scale within the MVP approach to development.

"PHASE complements the goals of the Earth Institute and MVP, as educating children about hygiene and sanitation has a demonstrable effect on disease prevention, a critical dimension of poverty.... The broad implementation and reach of the MVP framework across sub-Saharan Africa could facilitate the expansion of the core PHASE programme, while rigorously assessing financial and programmatic sustainability. Furthermore, implementing PHASE in the various MVP sites would allow testing of the programmes effectiveness in multiple settings under the same framework. Because of the interest national governments are taking in the documented successes of the MVP, the incorporation of PHASE in the MVPs could lead to its entry into national guidelines via national policy advising."

(PHASE_MVP Proposal Document)

Diarrhoeal disease ranks as a top killer of children in Senegal. In 2008 PHASE was integrated into six villages designated a ‘Millennium Village cluster’ as part of the Millennium Villages Project. The population of approximately 32,000 had limited access to latrines and improved drinking water at household level and in schools. Fortunately, between 2007 and 2012, access to improved water increased by 260% and access to improved sanitation increased by 215% through a concurrent partnership with the Government of Senegal and USAID. These advancements in essential WASH infrastructure facilitated and benefited from the PHASE programme, which strengthened sanitation and hygiene practices in schools and communities.

Strategic aim
To develop a sustainable, replicable programme in a West African context that has the potential to reach millions of children and families in sub-Saharan Africa through the Millennium Villages initiative.

Indicative activities: Development of PHASE materials; the training of more than 500 local stakeholders (e.g., teachers, school management committee members, community health workers, and district officials) in PHASE methodology; the construction of 52 gender-segregated latrine compartments and handwashing stations in 14 schools; ongoing sensitisation of the wider school community; and annual participation in Global Hand-washing Day, which in 2010 attracted 250 women and children. Also in 2010, Columbia University attached a post-graduate student to the project for four months to undertake hygiene promotion work with Community Health workers and assigned two graduate students to conduct a qualitative evaluation of PHASE materials with students and teachers in 2012.

Achievements
- Leverage achieved in the form of a commitment by a government agency to help improve sanitation at the household level by building 300 ventilated improved pit (VIP) latrines
- Soap and cleaning materials provided to enable handwashing with soap at critical times and to facilitate maintenance of gender-segregated latrines
- Approximately 4,500 primary school children have benefited from hygiene and sanitation education, which was previously not integrated into the school curriculum
- All schools are equipped with PHASE learning materials and many have established ‘school hygiene/health brigades’.

Challenges: Low literacy rates are a major barrier to hygiene education hence there is a need to find visual means of learning; Securing teacher time for training is difficult when there are many competing demands and limited number of teachers to cover absenteeism due to training activities; and How to best monitor the quality of PHASE delivery in classrooms post teacher training and how to measure behaviour change beyond clinic data deemed unreliable. School hygiene/health clubs need ongoing support to continue hygiene and sanitation sensitization. The PHASE programme was heavily focused on schools and did not adequately engage the community.

Learning: Senegal has struggled with impact monitoring and so tangible progress in terms of ‘outcomes’ is difficult to ascertain. Standardized indicators should be developed and a thorough needs assessment conducted prior to launching the project. The wider PHASE community has made headway in this respect. Ways might be sought to share technical research expertise across the projects. Community Health Workers (CHWs) are a critical resource for hygiene and sanitation education in households and the community; in addition to training CHWs, concise educational materials should also be made available for them to use in counselling household members.
Malawi

PHASE partner(s)
Millennium Villages Project, Columbia University

Project period
2008-2012

GSK investment
£153,635.00

Key opportunity
To learn about the possible delivery of PHASE at-scale within the MVP approach to development.

The introduction of PHASE in to a cluster of Millennium Villages in Malawi followed that of Senegal. In Malawi over 46 percent of children under 5 in the project area had moderate or severe stunting at the time of implementation and reported rates of diarrhoea were around 15 percent.

Strategic aim
To develop a sustainable, replicable programme in an East African context that has the potential to reach millions of children and families in sub-Saharan Africa, through the Millennium Villages initiative.

Indicative activities: Participatory development of PHASE materials involving key stakeholder groups; training of nearly 300 local stakeholders (e.g., teachers, nurses, and government officials) in PHASE methodology; action planning with school headmasters and district officials to reach agreement of activities and monitoring frameworks; latrine construction for children and teachers involved a bidding process to engage the local private sector; annual Global Handwashing Day commemorations.

Achievements
Leverage achieved with pooling of resources in the project area resulting in Save the Children and UNICEF supported latrine building in addition to the project funded construction. Thousands of community members participated in annual Global Handwashing Day commemorations, with school children preparing and performing songs, theatre, and poems

Challenges: Inadequate water and sanitation infrastructure in schools is not keeping pace with enrolment under the government’s Universal Access to Education Programme; and measuring behaviour change in schools and monitoring the quality and relevance of teacher activity in the classroom is an ongoing challenge. Vandalism of handwashing facilities and theft of soap an issue.

Learning: Having AMREF in the role of ‘coach’ and peer reviewer during the project has proved invaluable, especially in the reviewing of school action plans, providing feedback on monitoring and evaluation, and suggesting improvements to lesson plans and teacher training. Regular teacher trainings and monitoring visits to encourage and sustain use of PHASE materials. Materials adapted from AMREF were not fully comprehensive and lacked a handwashing with soap module; each project should develop its own set of topics in relation to the particular context.
UK

PHASE partner(s)
Hounslow Education Authority, London

Project period
2008-2010

GSK investment
£56,000.00

Key opportunity
To learn about the potential for delivering the PHASE-approach at-scale to primary school children in developed-countries.

“Overall the programme was spoken of very positively. All of the teachers thought that a handwashing programme for the pupils was a fantastic idea and the basis of the programme worked very well. They liked being provided with a pack [of materials and lesson plans] ....and felt that with some further development the pack could be an invaluable resource.”

“Overall it appears that the parents were impressed; comments from the parents to the teachers were very positive and said that the programme had made a noticeable difference to their child’s handwashing habits.”

(Teacher and parent feedback, PHASE UK Evaluation Report (2010))

In 2008 a literature review concluded that the demand and intellectual ‘space’ for PHASE existed in a developed-country context. The result was a pilot ‘hand-washing with soap’ project in the UK, where GSK partnered with Hounslow Education Authority, Greater London. Three primary schools were invited to co-design the materials and 9 more joined the project at testing stage.

Strategic aim
To demonstrate that sufficient commonalities exist between the attitudes, motivations and behaviours of children, teachers and parents in developing and developed countries; and that these commonalities can be used to develop an approach that will trigger improved hand-washing and basic hygiene practices in developed country contexts.

Indicative activities: Teacher orientation, a joint exploration of the UK curriculum to find suitable entry points, focus group work with children to understand hand-washing triggers, co-design meetings with a commercial ‘creative company’, a primary education expert and local teachers to develop the ‘Handy Heroes’ concept, pre-testing with selected schools, piloting in the remainder schools, follow-up and evaluation; and development of the PHASE ‘Handy Heroes’ pack.

Achievements

- A comprehensive literature review of hand-washing and hygiene school-based interventions in the US and UK
- A proven methodology for next level development and expansion
- Tested learning and teaching materials in support of curriculum development and implementation of hygiene promotion among primary age school children in the UK
- A greater understanding of where hygiene promotion fits within primary level national curriculum(s) in the UK, and the US
- Lessons learned for application in PHASE projects across the world.

Challenges: Although the core PHASE methods are successfully across culturally diverse settings in developing countries, little was known about how these would suit the specific needs, preferences, learning styles and expectations of children, institutions and education systems in developed countries; and how to engage UK based teachers mistakenly judgemental about the quality and relevance of material developed in ‘poor countries’; and how to capture the imagination of UK 4-5 year old children – many of whom are already equipped with electronic games and technology, without risking the ethos of the PHASE approach.

Learning: There are more commonalities than differences between children across the world. South-to-North knowledge transfer requires acceptance, as well as relevance.
Brazil

PHASE in Brazil builds on the successful ‘Attitude Positiva’; a HIV/AIDS awareness programme for school children in Rio de Janeiro funded by GSK. The presence of PHASE is helping young people and their families to address chronic living conditions exacerbated by inadequate sanitation facilities in the cities slum areas.

**Strategic aim**
To develop a peer hygiene education ‘movement’ by inculcating lasting hygiene behaviours in children attending selected primary and high schools that represent those with the lowest human development indicators; so that they can repeat messages in their own families, communities and peer groups, particularly in the 6-15 age range.

**Indicative activities:** During the pilot stage 970 children took part in community theatre events, reaching a further 1268 young people. Events with the wider community included soap making workshops and nutrition education for 150 parents and community leaders. 64 public school teachers were trained and nearly 450 separate workshops reached a further 3600 children and 450 more teachers. Lecture-type ‘reinforcement’ events held monthly and involving parents, carers, community workers, health workers and social organizers seek to achieve sustainability and create multiplier effects of the programme.

**Achievements**
- The pilot project reached double the estimated number of children and enrolment in the project education coordination areas went up considerably.

**Challenges:** Operational challenges include: low student attendance making investment in PHASE less viable; a lack of space to expand workshops to meet increasing demand in other schools/communities; delays with material production and dissemination; social conflict in some schools threatening to derail planned activities; non compliance with monitoring by schools and parents; Lack of basic health care provision in schools and poor information management coupled with inadequate access to local clinics, making the tracking of indicators difficult; Working with the community is difficult especially accessing households, leading to difficulties in engaging families in the complementary activities; and ensuring that the indicators for the current project period are clear, so for example input indicators are separated out from output and outcome level indicators, to obtain a true picture of progress.

**Learning:** By 2013 it should be possible to assess the effectiveness of delivering PHASE at scale based on the learning availed during a discreet pilot.
India

The project in India aimed at reaching 7500 children and their families and communities through work in schools across two Mumbai slums – Bainganwadi and East Dharav. A typical school in the catchment area has 2000 pupils. In addition the project is reaching five hundred more children living in ten Children’s Shelters run by PRATHAM across India. Access to basic health care services and water and sanitation is woefully inadequate.

Strategic aim

To have a positive effect on school enrolment and retention rates in the targeted communities, and replicate the approach to serve whole populations of children.

Indicative activities: A 3-part Hindi-language programme focused on personal hygiene, environmental cleanliness and good health, including class based sessions on the importance of maintaining dental care, correct bathing, hair care, hand-washing and nail care, the proper use of latrines, and maintaining a clean home, school and neighbourhood. The periodic testing of children’s acquired knowledge in each of the behaviour areas. Outreach activities including street rallies and community meetings.

Achievements (mid-term)

- 87 per cent of tested children know when to brush teeth compared to 29 per cent at baseline
- Across the schools more significantly more children report that they regularly brush and oil their hair
- Although many children now know that daily bathing is important too few do not practice the habit (this is probably more to do with water availability than knowledge)
- 92 per cent of children know that garbage should be properly disposed of; this result reflects that of the baseline.

Challenges: Knowledge does not always translate to a change in actual practice (for example regular hair brushing); and practice is not always based on understanding why a particular behaviour is important. These issues are very difficult to unpick when measurement is based on testing children about knowledge acquired, rather than the outcome of use of that knowledge; It is extremely difficult to secure lasting behaviour change when school and household water and sanitation facilities are so very poor; and the involvement of the wider school community and especially parents and caregivers has known to be an essential part of PHASE however this is very challenging to do.

Learning: PHASE may, or may not provide optimal or desired outcomes in a culture that favours didactic approaches to teaching and an emphasis on acquired knowledge rather than actual behaviour change.
The Philippines

Fit for School, Inc. (FFS) leads work in the Philippines, delivered within the Department of Education’s ‘Essential Health Care Programme’. The joint goal is to promote evidence based interventions to improve child health on mass scale. The focus in schools is upon daily hand-washing with soap, tooth brushing with fluoride toothpaste, and bi-annual mass de-worming of all children. Initially PHASE is being piloted on Camiguin, an island community of 90000 inhabitants. There are 56 elementary schools, educating 12,000 children via 560 teachers. Subsequently the plan is to extend PHASE to all 23 ‘Fit for School’ provinces.

Strategic aim
To add PHASE to the Fit for School portfolio to address gaps in knowledge about ‘institutionalising’ hand-washing and oral care within a school’s daily routine; and in doing so encourage good health and hygiene habits among children and their families.

Indicative activities: The development of PHASE materials and protocols including monitoring and evaluation; facilitating a high profile national competition to find the best FFS/GSK school, reaching more than 3000 schools and one million school children and their families; involving local leaders and conducting advocacy and integrating hygiene routines into the school day.

Achievements
- The overall FFS programme reached 1.7 million children in the academic year 2010/11
- The Department of Education is receiving expressions of interest in the overall programme from new donors (The World Bank, Danida, UNDP, WHO, USAID)
- The online school monitoring system is now institutionalised within the government system, providing access to nationwide data on the status of health and hygiene practices in schools
- A longitudinal study into health and education outcomes is now providing promising results across the indicators; included in the study is use of GSK’s ‘Periomarker’ to allow the rapid screen testing for periodontal disease
- Regional countries attended FFS’s ‘Capacity Building for Effective School Health’ course; this initiative is raising awareness about PHASE in Lao PDR, Cambodia, Indonesia and the Autonomous Region in Muslim Mindanao.

Challenges: In schools – reducing the risks associated with poor child health and hygiene and how best to promote the need for improved water and sanitation infrastructure in schools and communities; Developing effective and inclusive policies at the national and sub-national levels; Continuing to collect the evidence base for what works best, and why; and facilitating transparent dialogue between stakeholders.

Learning: The FFS is able to use PHASE to leverage resources.
References

i Source: World Health Organization, Global Burden of Disease estimates, 2004 update. The totals were calculated by applying the WHO cause of death estimates to the most recent estimates for the total number of under-five deaths (2007), cited UNICEF/WHO (2009)


iv Source: World Health Organization, Global Burden of Disease estimates, 2004 update. The totals were calculated by applying the WHO cause of death estimates to the most recent estimates for the total number of under-five deaths (2007), cited UNICEF/WHO (2009)


ix DFID (2011)


xi http://data.worldbank.org/about/country-classifications/country-and-lending-groups#Lower_middle_income

xii http://www.gsk.com/community/row-india-phase.htm

xiii http://www.wateraid.org/international/what_we_do/how_we_work/equity_and_inclusion/8349.asp


xvi See www.communityledtotalsanitation.org/


xviii http://www.unicef.org/wash/schools/washingschools_53108.html


xxi Precise figures are not available for Peru.