



Helping children since 1937

## **Capacity Statement Water and Sanitation Programs<sup>1</sup>**

### **Global Overview and Plan's Reach**

Access to safe drinking water and improved sanitation is necessary for health, income generation, poverty alleviation, gender equality, human rights and personal dignity. Yet, over one billion people in the developing world live without access to safe drinking water, 2.6 billion people live without adequate sanitation, and 4 billion live in conditions where their wastewater is discharged untreated into local water bodies<sup>2</sup>. In adopting the Millennium Development Goals (MDG), countries have pledged to halve the proportion of people without access to safe drinking water and basic sanitation by 2015. Current trends suggest that most countries are on track to meet the MDG drinking water target, with exception to sub-Saharan Africa- where more than a third of those using unimproved drinking water sources reside<sup>3</sup>. However, without immediate acceleration in progress, the world, concentrating in sub-Saharan Africa and Southern Asia, will miss the MDG sanitation target by over 700 million people<sup>4</sup>.

In line with reaching the targeted MDG, each of Plan's country programs has implemented water and sanitation programs in urban and rural areas. In the year ending June 2008 (FY08), Plan invested approximately \$43 million in the construction or upgrade of 20,443 water services/points in 2,393 communities and of 48,080 latrines in 3,216 communities around the world. Following are the key capacities that Plan has developed in its water and sanitation programs worldwide.

### **Improvement of Water and Sanitation Access in Urban Populations**

In urban areas, Plan has focused on linking public utility companies to populations, particularly in slum settlements, through network expansions. For example, in the city of Bafata in Guinea Bissau, the rehabilitation of the water tower and safer water supply system was done in joint partnership with the Ministry of Natural Resources. Plan repaired the reservoir and the Ministry repaired the pipeline in the city. Similarly, in Sri Lanka and in Tanzania, Plan provided financial support to the local utility companies to extend coverage of 1,500 and 3,421 families, respectively.

In cases where it is not possible to extend public utility coverage, Plan helped these communities use alternative water sources. For example, in Thailand, Plan collaborated with local governmental bodies in implementing activities to support families and communities in improving their water

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<sup>1</sup> Prepared by Sabrina Kwauk and Luis Tam on July 27, 2009 based on Plan-related documentation.

<sup>2</sup> USAID, Pro-Poor Approaches to Water Supply and Sanitation Workshop: Discussion Paper, May 7, 2009

<sup>3</sup> UNICEF, Progress on Drinking Water and Sanitation, 2008

<sup>4</sup> UNICEF, Progress on Drinking Water and Sanitation, 2008

resources at home and at school by building small water systems, by providing water jars or by installing small community water tanks. Similarly, Plan assisted these urban families by co-financing the installation of family or communal latrines.

**Case Study - Colombia: Successful provision of water and sanitation services to internally displaced families (2006-2008).** Internally displaced populations in Colombia usually settle down in marginal areas located in the outskirts of towns and cities, where they find sanitary and public utilities' problems. At the end of the year 2004, Plan implemented an integral program to improve the living and sanitary conditions of these populations in one neighborhood of the city of Quibdo, department of Choco. Nearly half of the neighborhood's 176 households housed internally displaced families. Of them, 100% supplied themselves with rainwater; 54% drank non-treated water; 60% left their excrements at the ring road of streams; and 24% on open fields. The prevalence of acute diarrheic diseases in children of less than 5 years was high, i.e. 41.9%. Plan's program applied PAHO/WHO's concept of healthy housing and environment with strong participation of children, families and communities during its design and implementation. The program introduced the following technologies: dry ecological toilet (separating bowl, chamber pot and deposit tanks for excrements and urine); rainwater collection and storage (cover, pipe and tank); ceramic candle water filter; sink and counter for food preparation; cupboard protected with nets to avoid mosquito infestations and dustbin with lid; bathroom and wash house; grease and infiltration trapdoors; and garbage collection and disposal. The project started with the construction of reference units (pilot models) in 4 households in March 2006, where all the technologies described above were installed. The neighborhood's remaining 172 households were intervened four months later. A dramatic impact on the reduction of acute diarrheic diseases was achieved in children of less than 5 years of age (from 41% to 11%). Per family costs were affordable, especially by obtaining significant cost-sharing (in cash, work and materials) from the participating families, community groups and local authorities. Based on this success, Plan is applying the lessons learned in this project to similar initiatives with internally displaced populations in Colombia.

## **Improvement of Water and Sanitation Access in Rural Populations**

In rural areas, Plan has excelled in using the participatory approach for improved drinking water and sanitation. In this process, Plan works closely with the community to design and implement optimal solutions for their problems. The building of water and sanitation facilities utilizes unskilled labor, local materials and low-cost traditional technology. Construction efforts focus on: Gravity flow piped water supply schemes; Boreholes fully equipped with manual pumps; Wells with child-friendly, durable hand pumps; Latrines and sewage systems; Water systems, storage tanks, distribution networks, ground reservoir, and public hydrants; and Drainage systems to properly dispose wastewater from tube wells and dish washing places in the houses. The quality of water is protected around the water points by surface installations such as clean surrounds, enclosure, containers for washing clothes; all of which are linked to a runoff through a channel for used water.

Plan typically co-finances infrastructure projects by providing a minimum subsidy of non-local materials such as bags of cement, latrine pans and water seals, iron bars and pipes, and fittings to build the pour flush latrine up to ground level. The remaining costs are funded by individual households. Plan finances all the building expenses only in situations of extreme poverty or aftermath of natural disasters. In Egypt, Plan provided technical and financial support for buying main items in the latrine such as slabs (for safe stool disposal), sink (for hand washing facilities) and the 1,101 participating families were responsible for providing all other necessary items to make the latrines usable.

### **Solar-Powered Technologies for Improved Water Access in Rural Areas**

*Solar-powered pumps in boreholes* – In Tanzania, Plan supported the installation of solar powered pumps to four boreholes located in schools in Ifakara, namely Lipangalala, Kiyongwile, Lihami and Mlabani. This water was supplied to the school latrines, which allow children to wash their hands after every visit to the toilet. In addition, more water points have been installed in the nearby community for domestic use. This technology is user-friendly to both the community members and school children compared to the previous technology of hand pumping. The accessibility of water also enables the community to establish small vegetable gardens. The project currently benefits four primary schools with 8,742 children (4,361 males and 4,381 females) and 26,296 community members residing around the four schools (8,200 males and 9,354 females).

*Solar-powered system for piped water* – In Togo, Plan assisted in the construction of 11 community water points and upgrading of one borehole installed at the health center of Afodji. Potable water has been supplied directly to the health center through the installation of a solar system in the PU Atakpame. This will avoid any contamination that may occur when the water is transported from the water source to the health center.

Finally, Plan partners with local governments and organizations to build the capacity of villagers to operate and maintain the water and sanitation services provided. For example, in Guinea, Plan trained the 887 members of 227 community water committees in the Gueckedou Prefecture in the operation and management of their existing systems. Plan supported a similar activity to 161 community leaders in the Bafata province of Guinea Bissau to 1,070 leaders in Nepal. In Ethiopia, Plan provided tools, water quality kits and spare parts to the (Woreda office) government water offices to assist in the operation and maintenance of existing water systems in the villages under their jurisdiction. In Sri Lanka, Plan (as part of the National Water and Sanitation Collaborative Board) is assisting the government to elaborate National Norms for the Operation and Maintenance of Rural Water Supply and Sanitation projects.

### **Case Study - Timor-Leste: Building community capacity for local operation and maintenance**

**(2007-2008).** Following construction of the water supply system, the GMF (a village-level, voluntary water and sanitation management committee) in each village was trained in the management and basic maintenance of the Water Energy System (WES) with the aim of ensuring they can undertake minor repair work as required using the tools provided by Plan. In addition, a contribution system was established in each village whereby the GMF collects a monthly water tariff (25c) from each household to fund the maintenance costs of the system. All contributions received were recorded in a ledger to facilitate effective administration and transparency. Plan trained at least 6 villagers and maintenance workers across the communities in plumbing and masonry work. This enabled them to build water supply structures such as the water intake, reservoirs, tap stand and pipe works. A recent study highlighted that 5 out of 7 existing GMFs are collecting maintenance funds and holding meetings regularly, whereas the remaining 2 GMFs are not as active as others and only collect maintenance funds when there is a need. It shows that there is still a need to help the GMFs remain active. Plan recommends a 24 month follow-up phase to ensure each GMF continues to function well.

### **Point-of-use Water Treatment**

Another distinctive feature of Plan's water and sanitation interventions is the use of low-cost technologies for Point-of-Use Water Treatment. In Cambodia, Plan is working with International Development Enterprises (IDE) and others to develop promotion and marketing systems enabling

local vendors to profit from sales of *ceramic water purifiers* (Cambodian made). They have been sold in 27 villages. They have also been distributed free of charge to five commune offices, five health centers and one district office in Kampong Cham province to help speed up awareness and acceptance. To promote *Solar Disinfection of Water (SODIS)* in Tanzania, Plan formed a team of TOT (Training of Trainers) that includes Plan staff based in Kisarawe district, staff from the district Water, Community Development and Health Departments who cascaded knowledge on SODIS to identified promoters in 7 villages. Each village has a different number of SODIS promoters depending on the number of households that will participate in the project. It is expected that Plan will have 20 SODIS promoters for 1,200 families at the end of the project in March 2009. In Mali, 17 community-based hygiene committees and water point management committees were trained in techniques for *treatment of water with chlorine at the household level* and management of water points. These facilitates have increased access and utilization of potable water throughout the year for 4,400 individuals in Plan partner communities. Finally, in the Philippines, Plan is pioneering the use of *bio-sand water filters* with government authorities and villagers; Plan hosted the first national stakeholders' forum on household water treatment and safe storage in the country.

### **Behavior Change and Hygiene Promotion**

In both urban and rural areas, Plan actively promotes the (a) Proper use and handling of water e.g. water treatment and storage, protection of water sources and the environment; (b) Good hygiene practices e.g. hand washing with soap to prevent disease transmission, protection of food, use of cleaning agents and (c) Containment of excretion e.g. construction and use of latrines, appropriate sewage disposal means.

Participatory Hygiene and Sanitation Transformation (PHAST) is widely applied, especially in African countries (e.g. Mali, Burkina Faso, Niger) to promote behavior change among villages. In some cases, Plan has engaged the commercial private sector in the promotion of hand washing with soap. For example, in Cambodia, Unilever and the local government were Plan's partners to promote this practice in Plan-supported villages.

A unique approach Plan has adopted is using the Child-to-Child approach in improving water and sanitation practices. Through hygiene-related activity-oriented learning methods, children become more knowledgeable and develop into agents of change in their local environment with other children, their families and the community. In Bolivia, emphasis was placed on community training to change hygienic habits in homes, on issues related to hygiene, health education, the adequate use and handling of water and latrines, protection of water sources and the environment. Materials for diffusion used in these sessions have been designed to promote adequate educational messages, especially on personal and home hygiene. Boys and girls became protagonists and promoters of the changes in family habits.

To further raise awareness on the importance of proper water and sanitation practices, Plan supports the celebrations of World Water Day on national and local levels; lobbies with governments to advocate for child rights to potable water; and mobilizes communities to discuss and act upon the relevant issues. For example, in Cambodia and Nepal, Plan has aided communities in creating separate toilet facilities for girls, thereby enabling girls to maintain their privacy and continue going to school after reaching puberty.

**Case Study – Hygiene promotion in Nicaragua: Preventing childhood diarrhea by empowering schoolchildren (2001-2005).** This was a 4-year Personal Hygiene and Sanitation Education (PHASE) project implemented by Plan in Nicaragua. This project, funded through a grant of Glaxo Smith Kline directly benefited nearly 20,000 students in 40 schools across 126 rural communities. The area has a high prevalence of childhood diarrhea and other water-borne diseases. Using an innovative peer education methodology called Child-to-Child, PHASE aimed to reduce diarrhea cases through sustainable practices in personal hygiene and sanitation. 1,067 children (child monitors) were trained in personal hygiene and sanitation and leadership. Under the guidance of teachers, they disseminated their knowledge to 9,393 children through functional groups of 15 children each. Moreover, mothers were motivated by children to practice more hygienic ways to prepare their meals, while fathers were encouraged by children to improve the household supply of water and sanitation services. **RESULTS:** After the first 3 years of PHASE, a 42 percent decrease in the cases of diarrhea among under-five children was documented. Moreover, the percentage of families (1) with access to safe water increased from 58 percent to 100 percent and (2) that have not reported cases of diarrhea in the past 15 days increased from 59 percent to 86.3 percent. The number of families showing improvement in handling and conserving drinking water tripled from 33.5 percent to 95.9 percent. **CONSEQUENCES:** The World Bank has included the PHASE materials and methods in a forthcoming toolkit for hygiene promotion. Additionally, Plan's programs in Dominican Republic, Paraguay, Ecuador Bolivia and Brazil are considering its widespread application.

## **Community Led Total Sanitation (CLTS)**

The CLTS process raises awareness and empowers all actors of rural communities, with the purpose of avoiding outdoor defecation and to promote construction and use of latrines with their own resources. CLTS is a key component of Plan's global effort to apply state-of-the-art sanitation principles (See Annex 1) and is currently being adopted in Asia, Africa and the Americas. In this global effort, Plan's global CLTS handbook (published in 2008) is being used as resource and guide for field practitioners and policy-makers alike worldwide. This handbook, authored by Dr. Kamal Kar and Dr. Robert Chambers of the Institute for Development Studies (IDS), was co-financed by DFID and Plan.

Examples of the field application of CLTS by Plan are numerous. In Cambodia and since 2005, Plan has expanded CLTS to 9 provinces and 258 villages where a total of 134 villages have attained Open Defecation Free (ODF) status. The number of latrines has substantially increased in 2007. While in most villages, the number of latrines do not yet match the number of households, the increase in coverage due to CLTS is already significant. Moreover, CLTS has resulted to emerging behavior changes among rural families. These changes are evident in use of latrines at home and in public places by adults and by children. Among household without latrines, behavior change can also be seen in the increased practice of *chhik korb* (burying feces on the ground). Finally, improved capacities of CLTS facilitators at provincial, district, and village level and of focal persons at commune and village levels are also a key achievement of the CLTS approach in Plan's Cambodia program. At the provincial and district levels, there are at least three to five well-trained facilitators serving as the key delivery mechanism of CLTS in the nine target provinces. At the commune level, there are two well-trained focal persons and at the village level, there are at least five village focal persons which include the village chief. Focal persons at village level have also been well exposed to facilitation skills training. In Bangladesh, Plan is promoting CLTS at the national and regional levels. Plan has reached over 1.3 million people (over 550,000 children) in 48 Unions that are now entirely ODF.

Plan is successfully raising funds for the scale-up of CLTS from private and government sources in Australia for Tanzania and in the Netherlands for Uganda. In April 2009, Plan's program in Kenya was designated as one of Plan's hubs to expand CLTS worldwide. The initiative will entail the establishment of a CLTS unit with training, research and documentation capacities.

**Case Study: Kenya – Pilot trial and scale-up of CLTS in Kilifi district, Kenya (2007-2009).**

Located in the Coast Region of Kenya, Kilifi district is inhabited by 450,000 people in 6 administrative divisions. Plan's development program only covers a fraction of the district's population. The first Plan-supported CLTS pilot experience was located in Jaburuni Village, through a joint effort of the MOH, Plan Kenya and the community. The village achieved Open Defecation Free (ODF) status in October 2007. All 42 latrines were built without external subsidies. Encouraged by these results, District government authorities and Plan Kenya decided to scale up CLTS in the full district, which is well beyond Plan's regular geographical scope for its programs. In May 2008, training of MOH staff on CLTS methods began and mass triggering sessions were initiated by them in villages, with different outcomes. In April 2009, the results were as follows:

- ✓ 46 of the 477 villages have had a CLTS triggering session.
- ✓ The number of fully-constructed latrines in these 46 villages increased from 386 to 3,590. An additional 871 latrines were under construction at the time of the evaluation.
- ✓ Two additional villages achieved ODF status; five villages were within 95-100% of implementation status and the remaining of the triggered villages was above 50% of implementation status.

These results were achieved with relatively low Plan investments, i.e. start-up training workshops, community triggering events, plus follow-up funding for Plan and MOH staff. The majority of the follow-up and staff costs are being included as part of the MOH staff's regular schedule, i.e. institutionalized.

Apart from scaling up, Plan is trying innovative approaches, e.g. CLTS in urban areas (e.g. Bangladesh) and linking enhanced population demand with local private providers of water and sanitation hardware (i.e. sanitation marketing) or with government programs funding. For example, in Uganda, Mali and Bangladesh, Plan is working with local manufacturers for the latter to produce latrine slabs whose design and price better match consumers' needs and their willingness to pay.

**Case Study: Bangladesh - Successful prevention of open defecation through empowerment of schoolchildren.**

**THE PROBLEM.** 96% of children in rural Bangladesh are worm infested. Open defecation by children and adults is one of the direct causes of this problem. In the rural district of Jaldhaka, only 18% of households had latrines; most of them are located outside the living areas and are poorly built and maintained. **THE SOLUTION.** In 2008, Plan introduced the Child-to-Child (CtC) approach of child empowerment and participation to prevent open defecation among 100,000 children and adults in rural communities of Jaldhaka districts. As a child-centered adaptation of the increasing popular Community-Led Total Sanitation approach, the methods of CtC (e.g. student awareness, collaboration of parents and teachers, group commitment to achieve a specific objective, peer support and social pressure) were applied to prevent open defecation in school and community environments.

For example, children decided to blow whistles when they found anybody defecating in the open. Furthermore, child and community-friendly performance indicators were agreed upon and applied. Plan also provided subsidized materials and expertise for building family latrines. **THE RESULTS.** (1) Open defecation has decreased by up to 70% in schools and community areas; (2) Latrine construction has increased through the initiative of the families (3) Whistle blowing by children was a successful deterrent to open defecation and (4) Communities were more open to hearing and involving children.

**CONCLUSIONS.** Based on these initial results, Plan has expanded this project to four additional rural districts and the city of Dhaka (total coverage 500,000 pop).

## Sanitation Programme Principles



Vietnamese girls washing their hands with soap and water

### Goals

Plan Asia's community sanitation programmes are cost-effective and technically sound, make significant and lasting contributions towards improving the health and well-being of children and their families, support achievement of national and international targets such as the Millennium Development Goals, and contribute towards implementation of the Convention on the Rights of the Child and related human rights instruments.

### Applicability

These principles apply to community sanitation programmes in rural areas, though many are also relevant to emergency response efforts, as well as to urban and peri-urban programmes.

### Programme Principles

#### Focus and Commitment

1. The core of community sanitation programmes is to bring about positive behavioural changes that reduce health risks to women, children, their families and their communities. Such changes include ending open defecation, hand washing with soap at appropriate times, safe storage and handling of drinking water and food, and other environmental health practices.<sup>1</sup> The goal for such changes, especially for ending open defecation, is adoption by the entire community.
2. Community members are encouraged and supported to innovate and take on leadership and coaching roles, and to transfer their knowledge to other communities.
3. A long-term commitment is made to communities and partners to bring about comprehensive, effective and sustainable sanitation improvements; such a commitment is factored into work plans, staffing and training plans, budgets and resource mobilisation efforts.

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## Sanitation Programme Principles

4. Sanitation programmes and partners recognise that women and girls are usually the most acutely affected by poor community sanitation. Gender concerns, including ensuring appropriate project roles for women and girls, are integrated into the design of community sanitation and hygiene programmes.
5. Community sanitation programmes are child-centred and promote children's participation, minimise health-related hazards, and ensure children's safety and protection. Involvement of children is encouraged and is safe, culturally appropriate and supported by adult members of the community.

### Programme Approach

6. Direct subsidies for household sanitation will be reduced, and ultimately phased out, to the maximum extent practicable. New Programme Units and project areas adopt a community-led total sanitation (CLTS) approach from the start, wherever feasible.
7. Community members are empowered to choose hygienic sanitation designs and approaches that best meet their needs.
8. Social marketing and mobilisation are used to increase demand for household and community sanitation improvements, rather than through provision of financial or material incentives.
9. Direct subsidies for household sanitation are only used where absolutely necessary and are limited to sub-surface or ground-level components needed for a 'basic level of service'. Subsidies are targeted towards those families most in need.
10. Motivation for sanitation improvements is not driven by financial rewards or incentives such as support for follow-up water supply or other projects. However, non-financial rewards are employed where appropriate, such as certification of open-defecation-free status and other forms of recognition.
11. Private sector involvement is supported wherever practicable, including promotion of innovative service providers and production of affordable sanitation commodities.

### Programme Consistency and Reach

12. Sanitation programme approaches are harmonised across all Programme Units and project areas, and approaches are clearly documented in Country Programme Outlines, Country Programme Frameworks and/or other relevant guidance.
13. Sanitation and hygiene promotion programmes in communities are linked with ongoing or new initiatives at schools, to ensure that both school and community environments are healthy for children and their families.
14. Pilot and demonstration projects are used to build awareness of, and confidence in, community-led approaches. Results are well-documented and disseminated.
15. Sanitation programmes are carried out in partnership with local government and civil society, and are consistent with, and supportive of, relevant national government policies and programmes.
16. Scale-up of successful approaches is promoted through communications, policy and advocacy campaigns, resource mobilisation and other means of raising awareness and improving the 'enabling environment' for community sanitation improvement.

## Sanitation Programme Principles

## Definitions

**Basic level of (sanitation) service**

The lowest-cost, technically feasible approach for disposing of human excreta that provides an effective barrier against excreta-related diseases, is accessible to all members of a household and does not have an unacceptable impact on the environment.<sup>2</sup>

**Community-led total sanitation (CLTS)**

A methodology for mobilising communities to eliminate open defecation completely. CLTS is characterised by participatory facilitation, community analysis and action, and no hardware (direct) subsidy. Through CLTS, communities mobilise themselves to construct latrines, address other environmental health risks and achieve 'total' sanitation (all households participating).<sup>3</sup>

**Direct (sanitation) subsidy**

A contribution from a government or external agency towards provision of sanitation services at the household level. This can take the form of cash, construction materials and/or labor. Direct subsidies do not include external agency support for social mobilisation, hygiene education or other activities designed to stimulate household demand for sanitation or to promote improved hygiene practices.<sup>4</sup>

**Enabling environment**

A broad concept that can include sector policy, legal and regulatory frameworks; governance and institutions; social and cultural context; investment climate and financial services; and the availability of physical and social infrastructure services.<sup>5</sup>



Above: Sri Lankan schoolboys cleaning their hands in a wash basin installed at an appropriate height for children

Right: A toilet being 'launched' at a celebration in Svay Popeas village, in honour of being the first community in Cambodia to become "open-defecation-free" through CLTS



- 1 May include community-level practices or concerns such as management of solid waste, animal waste, health care waste and wastewater, as well as household-level concerns such as indoor air pollution.
- 2 Further discussions of service levels can be found in the Bangladesh national sanitation strategy paper ([www.sanitation-bd.org/mr11\\_sanitation\\_country\\_strategy.php](http://www.sanitation-bd.org/mr11_sanitation_country_strategy.php)), a sanitation 'White Paper' from South Africa ([www.dwaf.gov.za/dir\\_ws/content/lids/PDF/summary.pdf](http://www.dwaf.gov.za/dir_ws/content/lids/PDF/summary.pdf)) and others.
- 3 For further details on CLTS, see [www.livelihoods.org/hot\\_topics/CLTS.html](http://www.livelihoods.org/hot_topics/CLTS.html).
- 4 Further details on subsidies and sanitation financing can be found at [esa.un.org/iys/docs/san\\_lib\\_docs/Sani\\_Hygiene\\_Promo.pdf](http://esa.un.org/iys/docs/san_lib_docs/Sani_Hygiene_Promo.pdf) and other sources.
- 5 Based on "Review of DFID Activities in the Enabling Environment", available at [www.enterprise-impact.org.uk/word-files/DFIDReviewEnablingdec04-TC.doc](http://www.enterprise-impact.org.uk/word-files/DFIDReviewEnablingdec04-TC.doc).