



The Chars Livelihoods Programme: Delivering WASH in Extreme Poor Communities

Background

The Chars Livelihoods Programme (CLP) began its second phase (CLP-2) in April 2010 and is scheduled to end in 2016. Its purpose is to improve the livelihoods, incomes and food security of up to 1 million extremely poor women, men and children living on island *chars* in the north west of Bangladesh. CLP-2 is co-funded by DFID and AusAID, sponsored by the Rural Development and Cooperative Division (RDCD) of the Ministry of Local Government, Rural Development and Co-operatives of Government of Bangladesh (GoB) and managed by Maxwell Stamp PLC.

Implementing good WASH (water, sanitation and hygiene) practices is essential in meeting the CLP's objectives. The CLP delivers a number of interventions aimed at improving WASH on the *chars*. Although much support is focused on the CLP's 67,000 Core Participant Households (CPHHs), many interventions involve the wider community as well. This brief outlines the key interventions currently in operation, and explains how these respond to the unique and challenging environment of the *chars*.

The Char Environment

Working on the *chars* presents a number of challenges to the effectiveness of the WASH campaign. The *chars* are remote, impoverished areas where transport costs are high and limited materials are available locally. *Char* soil is light and sandy, and erodes easily. Erosion is a constant feature on the *chars*, and households are forced to migrate to new locations several times during their lifetimes. Severe flooding is also a predictable event which may persist for several months. In addition, arsenic is present in the groundwater in some areas.

The CLP has tried to address all of these challenges with approaches which are suitable for the *chars* conditions, protected from flooding and using predominantly low-cost, locally available materials. Where possible, designs that have a degree of portability are favoured.

Clean water: private ownership, shared access

Challenges

Although tube wells are available locally, many of the poorest households on the *chars* do not have access to a tube well, and many available wells are at risk of contamination. Most commonly, this is because they are of insufficient depth, are contaminated by flooding inflow



WASH under CLP-2: At a Glance

Objectives

- To provide all CPHHs with access to clean drinking water, including during flood time.
- To stop open defecation, with all households in the CLP's working villages using sanitary latrines.
- To ensure that *char* dwellers are better aware of the positive impact of sanitation, hygiene and health and that the incidence of waterborne diseases falls.

Outputs

- 140,000 sanitary latrines installed by 2016.
- 2,000 new tube wells installed and 18,000 existing tube wells upgraded to CLP standard, benefiting at least 55,000 households.
- 15,000 tube wells tested for arsenic, mapped and made publicly available via the CLP website.
- 2,680 social development groups formed, delivering comprehensive education on sanitation and hygiene.

or do not have a concrete platform to prevent contamination from the well head.

The CLP has devised the following standards for a tube well to be considered a clean water source, taking into account the environmental conditions on the *chars*:

- Tube well base is situated above the flood line;
- At least 40 feet deep;
- No less than 10m from a latrine;
- Has an arsenic level of lower than 50 ppb (parts per billion);
- Has a bacterial load of lower than 100 cfu (coliform forming units); and
- Has an intact concrete platform.



CLP Response

The CLP has developed a private ownership model that improves value for money and sustainability. Where new tube wells are required, the CLP offers a tube well subsidy to households that contribute Tk 1,000 (about £10) of their own capital to install a well to CLP standards. While the purchasing household remains the owner of the well, the subsidy is subject to the agreement that access for other households will be permitted. Maintenance is a major problem for donor provided wells, and the private ownership agreement overcomes this by ensuring that each well continues to be maintained.

Where tube wells already exist, the CLP will meet the cost of installing a concrete platform at wells that meet the rest of the CLP standards, in return for the same access agreement.

Costs (as at 2012)

Unit	CLP contribution (approx.)	Recipient contribution (approx.)
New tube well (incl. platform)	Tk 8,100	Tk 1,000
Platform only (at existing wells)	Tk 3,750	None

100% of the cost of installing the well is met by the CLP in the case of schools and households headed by a disabled member.

CLP-2 aims to provide at least 55,000 households (67,000 CPHHs) with access to a clean water source by 2016. 18,000 platform subsidies will be disbursed to upgrade existing tube wells to CLP standards, and 2,000 new tube wells will be installed.

Arsenic Contamination Challenges

Naturally occurring arsenic in groundwater poses a serious long-term health risk to *char* dwellers, who are often unaware of the presence of arsenic or of the dangers of arsenic contamination. Furthermore, drilling to additional depth to avoid arsenic may be an additional cost that households are unwilling or unable to meet.

CLP response

The CLP monitors a sample of all tube wells every year to detect where arsenic levels are dangerous. GPS data results are recorded and used to compile a map identifying arsenic hotspots, and the CLP is working to make this publicly available via its website.

Where dangerous levels of arsenic are found, tube well spouts are painted red while the CLP seeks to identify depths where arsenic levels are low. CLP subsidised tube wells in arsenic affected areas are generally deeper than elsewhere.

Delivering Community-Wide Sanitation Challenges

Open defecation is widely practiced on the *chars*, which can be source of disease and infections which can in turn lead to poor nutrition, lost income or school absence. This is primarily a result of poor understanding of the hazards of open defecation, as well as limited access to latrines. There are a number of *char*-specific challenges which make improving coverage difficult.

The cost of installing a latrine of standard design is prohibitively expensive for many *char* dwellers, and materials used in standard designs (such as concrete rings) may have to be brought in from the mainland. Even for households with the means to pay, a latrine may be considered an unnecessary expense to households that lack sanitation awareness. Fully subsidising latrines can overcome this, but is expensive and when such a latrine is lost to erosion it is unlikely to be replaced unless the subsidy is available again. Traditional designs also require emptying, which households are often reluctant to do. The sandy soil on the *chars* makes unsupported pit latrines ineffective, as the sides of the pit quickly collapse. Furthermore, latrines that are inundated during the flood period may themselves become a serious health hazard.

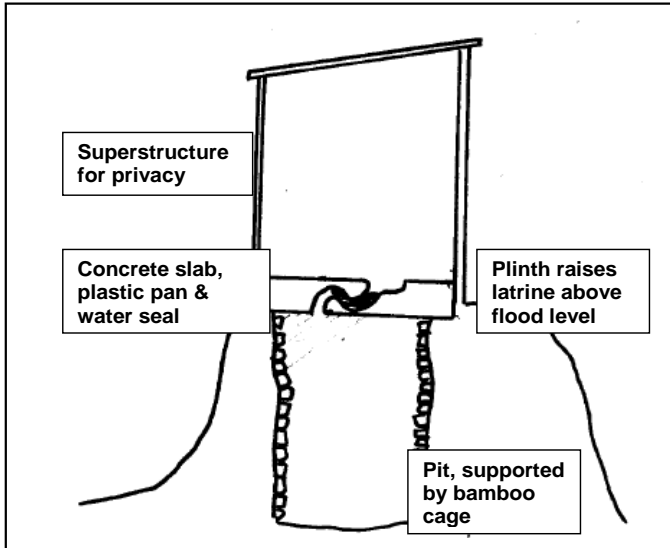
Taking into account the conditions on the *chars*, the CLP considers a latrine to be sanitary when it meets the following standards:

- The pit is supported internally by a suitable material (such as concrete rings or bamboo cage);
- The pit is covered by a concrete slab fitted with an intact plastic pan and water seal;
- The latrine is raised above flood level; and
- A suitable structure is in place to provide privacy.

CLP Response

To improve latrine coverage, the CLP provides a subsidy to all households in working villages, which can be used to construct a low-cost sanitary latrine to the above standards. The CLP provides a concrete slab (with plastic pan & water seal) and a cash subsidy, while the household is responsible for digging the pit, providing a suitable support structure (typically a bamboo cage lined with polythene) and installing a suitable structure for privacy. For households on a raised plinth, the cash component is Tk 400 (less than £4), while for all other households this increases to Tk 650, to cover the cost of raising the latrine on its own plinth (see diagram).

To develop understanding on the need for sanitary latrines, the CLP delivers comprehensive hygiene & health education, and campaigns against open defecation using methods based on Community Led Total Sanitation (CLTS) approaches (see next section).



These latrines are low-cost and made primarily from materials easily available on the *chars* – the entire latrine can be constructed in a single day for under Tk. 2000. The design is suitable for sandy soil, and by ensuring they are protected from floods, they do not become a health hazard. The most expensive single component is the concrete slab, which is provided by the CLP. Households can re-use this slab on a new site if they have to migrate due to erosion. Furthermore, when the pit becomes full it can be covered over and the slab moved to a new pit. The cost of digging a new pit is significantly lower than would be required to empty a full concrete-lined pit. The full pit can be left to decompose naturally, and poses a low risk of contamination. These innovations have responded to particular conditions on the *chars*. By making latrines easy to re-site when full or eroded, continued, long-term use of latrines becomes more likely.



A low-cost latrine in construction, with polythene-lined bamboo cage already installed.

By 2016, the CLP aims to deliver at least 140,000 sanitary latrines on the *chars* (67,000 to CPHHs), benefiting over 220,000 people.

Costs (as at 2012)

Unit	CLP contribution (approx.)	Recipient contribution (approx.)*
Low-cost latrine for households on raised plinth	Tk 770	Tk 700
Low-cost latrine for households not on raised plinth	Tk 1,020	Tk 850
5-ring slab latrine used in CLP-1 (shown for comparison only)	Tk 5,500	None

*This is an estimate, because the costs are normally provided 'in-kind' and will vary depending on the source and type of materials the participants decides to use.

Education and Training to Support Infrastructure Challenges

Physical measures such as tube wells and latrines are unlikely to have an impact unless hygiene and sanitation behaviour changes at the same time. Awareness of the links between hygiene and health is often poor on the *chars*. Many households have little or no understanding of the source of disease and infections, nor how these are spread. Furthermore, unless the whole community is engaged with the issues, some interventions (such as work against open defecation) cannot be successful. Given the socio-economic situation on the *chars*, interventions need to be realistic, low-cost and compatible with households' lifestyles.

CLP Response

The CLP addresses the challenges by delivering training, education and information across the community. All CPHHs receive comprehensive training on how diseases spread and what can be done to reduce risks. Simple, low-cost changes such as regular hand washing, using sandals at latrines, fingernail cutting and improved storage of food and water are discussed during weekly sessions. Where appropriate, the CLP also advocates techniques suited to the situation of *char* dwellers – such as using ash for hand washing when soap is unavailable.

In addition to CPHH training, the CLP runs community-wide workshops aimed at improving understanding of how disease spreads, particularly in relation to open defecation. The approach draws on CLTS techniques to motivate community members to install latrines at their own cost, or through the CLP latrine subsidy. Designs and techniques for constructing low-cost latrines using locally available materials are discussed, and the goal is 100% latrine coverage and eradication of open defecation within CLP working communities.

By 2016, the CLP aims to deliver hygiene and sanitation education to 67,000 CPHHs, and deliver community wide workshops in all CLP working communities.