FINAL REPORT

EVALUATION OF WASH INTERVENTIONS in URBAN SLUMS of MONROVIA AND BUCHANAN 2011-2012 LIBERIA

Submitted by

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Profile of the Consultant

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Stephen Ntow is currently, the Director of WASHealth Solutions (WHS), an international development consulting firm. He is a public health practitioner with specialization in Health Education and Health Promotion. He was the Country Representative of WaterAid, an international NGO specialised in water and sanitation based in the United Kingdom. He had previously served in the public sector, Ministry of Health and later Ghana Health Service (GHS) for 18 years in various capacities. He is associated with landmark operational research and training programmes that provided the much needed drive behind the health sector reforms in Ghana between the late 1980 to the early 2000s. His experience span diverse development areas including environment, demography and population studies, HIV/AIDS prevention education, and mainstreaming gender, equity and inclusion into pro-poor programmes. Stephen has undertaken several multi-sector training in health education and health and hygiene promotion. He has lead the design, implementation and monitoring of several public health, water, sanitation and hygiene promotion projects. He has also undertaken research assignments; baseline and evaluation of programmes in many African countries. The outcomes of many such assignments have since been published and turned into invaluable learning products. Others have greatly influenced sector policies and initiated reforms.

Profile of the assignment

The object of the assignment is an evaluation of European Commission for Humanitarian Aid (ECHO) funded 2011-2012 Urban WASH project targeting cholera prone urban slums in Monrovia and Buchanan (urban WASH I). It also assessed and generated data to provide baseline statistics for the new ECHO-funded Urban WASH II - 2012 also in Monrovia, Liberia. The assessments were conducted between August and September 2012. Data collection was carried out between 20th and 31st August. The assignment was implemented in collaboration with Liberia Institute of Statistics and Geo-Information Services (LISGIS) commenced on 1st August terminated on 1st October 2012.
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<tr>
<td>BH/HDW</td>
<td>Bore Hole / Hand-Dug-Well</td>
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<tr>
<td>CHT</td>
<td>County Health Team</td>
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<tr>
<td>CODES</td>
<td>Community Development Services</td>
</tr>
<tr>
<td>CLTS</td>
<td>Community- Led Total Sanitation</td>
</tr>
<tr>
<td>CWW</td>
<td>Concern Worldwide</td>
</tr>
<tr>
<td>ECHO</td>
<td>European Commission Humanitarian Organisation</td>
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<tr>
<td>FGD</td>
<td>Focus Group Discussion</td>
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<tr>
<td>FAAL</td>
<td>Foundation For All Ages Liberia</td>
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<tr>
<td>GB</td>
<td>Grand Bassa</td>
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<tr>
<td>HWTS</td>
<td>Household Water Treatment and Storage</td>
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<tr>
<td>HWWS</td>
<td>Hand Washing With Soap</td>
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<tr>
<td>IP</td>
<td>Implementing partners</td>
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<tr>
<td>JMP</td>
<td>Joint Monitoring Platform</td>
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<tr>
<td>KAP</td>
<td>Knowledge Attitude and Practice</td>
</tr>
<tr>
<td>KII</td>
<td>Key Informant Interview</td>
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<tr>
<td>LDHS</td>
<td>Liberia Demographic and Health Survey</td>
</tr>
<tr>
<td>LiCH</td>
<td>Liberia Care for Humanity</td>
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<tr>
<td>LISGIS</td>
<td>Liberia Institute of Statistics and Geo-Information Services</td>
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<tr>
<td>MoHSW</td>
<td>Ministry of Health and Social Welfare</td>
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<tr>
<td>MoPW</td>
<td>Ministry of Public Works</td>
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<tr>
<td>NGO</td>
<td>Non-Governmental Organizations</td>
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<tr>
<td>PCA</td>
<td>Program Cooperation</td>
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<tr>
<td>PRS</td>
<td>Poverty Reduction Strategy</td>
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<tr>
<td>PSI</td>
<td>Population Services International</td>
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<td>SPSS</td>
<td>Statistical Package for Social Sciences</td>
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<td>ToR</td>
<td>Terms of Reference</td>
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<td>WASH</td>
<td>Water Access Sanitation and Hygiene</td>
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</table>
Executive Summary

1.0 Introduction
UNICEF has in collaboration and support from ECHO embarked upon implementation of two Urban WASH projects in deprived communities in and around Monrovia and Buchanan. For purposes of this report they will be referred as Urban WASH I (UW I - 2011) and Urban WASH II (UW2-2012). The projects were meant to deliver sustainable water, sanitation and hygiene promotion services in urban slums to ensure continuous availability of the facilities and a permanent change in behaviours long after the project ends.

1.1 Objectives of the assignment
The objectives of the assignment is to provide data which will allow UNICEF to report to ECHO on the indicators and targets listed in urban WASH I, SM100429 proposal. In addition the evaluation will assess the impact, coverage, coherence, relevance/appropriateness, effectiveness and efficiency of the ECHO funded urban WASH I: SM100429 grant (implemented in Monrovia and Buchanan) and Baseline data for Urban WASH II.

1.2 Methodology
A random sampling method was used to represent selected characteristics of the survey population; social, cultural, economic indicators and also access to WASH facilities. The evaluation drew a sample size from a sample frame (population) of 135,000 and 120,000 respectively. Two-thirds of project communities were drawn as the sample size using a simple multiple stage random sampling procedure. Subsequently 18 and 12 project communities were randomly selected in a participatory manner at a meeting of all implementing agencies. From each community, between 26 and 27 houses were randomly selected. Enumerators further selected households and finally interviewed 484 and 322 woman with children five years old or less. A combination of data collection tools including, structures questionnaire, key informant interviews (KII) guides and Focus Group Discussion (FGD) guides and observation guides.

2. Findings
Information obtained as a result of the evaluation suggests the project largely achieved its objectives. It has suffered some challenges but these were the opportunities from which lessons would be learnt about providing WASH services to special populations living at the fringes of urban communities. Data for the baseline assessment has been compiled and attached as Appendix A of the main report.

2.1 Contribute to the reduction of incidence of cholera and other diarrhoea
A review of epidemiological data reveals an increase in suspected cholera and other diarrhoea diseases between the years 2009 and 2010 in Montserrado County. One year later some decline has been observed. The period of decline coincides with intervention suggesting a contribution of the intervention. However, the use of clinical-based statistics to measure of the project impact can be problematic and misleading. A systematic review of data over a much longer duration will be necessary.

2.2 An estimated 30,000 people have access to safe water (quality of WHO guidelines) with a consumption rate of 15l/c/d and a fetching time of less than 30 minutes.
### 2.2.1 Access to safe water drinking water

Survey report indicates 89% (433) of respondents depend on improved water sources which are expected to meet World Health Organisation’s (WHO) water quality standards. This is 1% over and above the 2010 status reported in JMP update (WHO & UNICEF 2012).

Projects sources indicate that a total of 8 water points 2 small water systems (SMS), 7 water kiosks and public stand pipes connected to LWSC mains with elevated poly-tanks have been provided through the actions of the project. Together, these are expected to provide 23,000 people with access to improved drinking water.

### 2.2.2 Water quality and HWTS

More than 77% (373) of respondents indicated they draw and store water in the recommended jerry cans with cap. About 29% (137) use open containers that are prone to contamination.

#### 2.3 Twenty percent (20%) of households use drinking water containing a proportion of free residual chlorine >= 0.2 mg/L

About 45% (218) reported treating their drinking water but tests were carried out suggest only 3% (23) met the recommended dosage of >=0.2 mg/l.

#### 2.4 Additional 10,000 persons use and maintain shared latrines in the targeted urban slums of Monrovia and Buchanan

A review of the project documents and analysis of key inputs, indicate that capacity has been created to provide sanitation access to more than 10,000 people. Most of these have been verified through field visits. Also, information derived from the survey indicates improvements in sanitation coverage. About 46% (216) of respondents have access to improved latrines (family latrines). Most respondents access latrine less than 50 metres away. About half of these respondents 42% (172) have the facility constructed at home.

#### 2.5 About 60,000 persons including school children from targeted urban slums will have access and use hand washing facilities with soap/ash at their homes and will adopt safe water handling practices.

#### 2.6 Construction of hand washing facilities

A total of 60 hand washing facilities have been constructed in selected communities and schools in Monrovia and Buchanan. However, the number and locations will require further analysis to determine adequacy. About 81% (291) reported hand washing after using the latrines but only 29% (37) of persons did so during an observation mission designed as part of the survey.

#### 2.7 Hygiene promotion

There is evidence to suggest that extensive community education and promotion has been implemented in various forms to educate communities. The themes cover the need to draw and convey water in a safe manner, and to treat water at the point of use with “WaterGuard”. Other topics included safe disposal of human excreta and regular hand washing with soap at critical moments. However, these are too broad. Planning of the hygiene promotion component could have targeted specific WASH behaviours for higher impact.

### 3.0 Sustainability and related issues

Urban WASH I was appropriate, relevant and coherent. It has had a wide coverage; it has been effective and efficient. The project had in-build sustainability mechanisms. Above all,
the project set out to implement actions to address WASH needs of deprived populations. Without doubt, this has been largely accomplished and hopefully, it will contribute to reducing the endemic cholera and other diarrhoea diseases.

4.0 Lessons learnt Conclusions and recommendations

4.1 Contribution to reduction of cholera and other diarrhoea diseases
Much as it tempting to associate the decline with the intervention, the rather fluctuating trend of endemic cholera especially in Monrovia does not lend the situations to making deductions based on data generated over short spans of time.

4.2 Water
Water quality tests and monitoring assessment elements of the programme are missing. Absence of water tests is at variance with sector requirements. It presents a health risk to the population a reputational risk to the implementing agencies.

Recommendation
UNICEF should facilitate a process of ensuring that MOH&SW and the CHT perform the relevant water quality tests at the water kiosks and all the point sources provided under the project.

4.3 Sanitation
Some defects have been detected in and around the some latrine blocks constructed. Some have pools of water around the facility such that potential users may have to wade in water. Others emit foul odour which can cause serious setbacks for land acquisition in future. Some hand washing facilities cannot hold water therefore making it impossible for hand washing to occur after defecation.

Recommendations
It is recommended that the implementing agencies are assisted by the WASH Section in UNICEF to correct the defects.

4.4 Handwashing facilities
Hand washing facilities have been provided but the numbers seen inadequate to be supportive of newly captivating hand washing behaviours crowded neighbourhoods and large institutions of learning where limited time is allocated for using toilet and other facilities.

Recommendation
A time and motion observation is recommended as a practical measure and basis for helping to determine appropriate number handwashing facilities to be installed in school or institutional latrines.

4.5 Community entry approaches
A community entry and participatory does not stand out in the programme. It also does not look like the distinction between community mobilization and core hygiene promotion activities. Whereas the two can and should be carried out by same cadre of people, it may be necessary to plan for both separately in order to make the desired impact of mobilizing the community and effectively change behaviours.

Recommendations
In future UNICEF should distinguish between community mobilization and core hygiene promotion activities separately. They can be delivered as one package but they both
deserve special attention at the planning stage and adequate resources. The use of tools such as the wealth ranking and other baseline data gathering processes should be made essential elements of urban WASH projects.

4.6 Hygiene promotion
The absence of a baseline to determine behaviour benchmarks will often lead to over generalization and also lead to missing some risk behaviours. It makes the targeting of audiences and the development of messages difficult.

Recommendations
All partners involved with the Urban WASH project should agree on a harmonized approach based on informed behaviour benchmarks conducted prior to the intervention.

4.7 Communication and Advocacy
Some advocacy and communication issues have emerged. These will require further scrutiny in order to develop appropriate strategies to address the issues. Any steps steps taken in this direction should further strengthen efforts aimed at sustaining gains achieved under the project.

4.8 Visibility for European Commission for Humanitarian Aid (ECHO)
Some of the latrine facilities do not carry the marks of the donor –ECHO. This needs to be redressed to meet some of the provisions project agreement.

A table containing summary of project results

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<th>Baseline Indicator</th>
<th>Project Outcome Indicators</th>
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<tr>
<td>R1. Targeted population from cholera prone urban slums have sustainable access to improved water sources through the construction, rehabilitation, operation and maintenance of water facilities and the social marketing/promotion of household water treatment products</td>
<td>30,000 people have access to safe water (quality of WHO guidelines) with a consumption rate of 15l/c/d and a fetching time of less than 30 minutes</td>
<td>- WQ 9 l/c/day (JICA) 50% take 5 min (CDC)</td>
<td>- WQ 4.4 l/c/day 67% - take &lt;30 mins (&lt;100 metres)</td>
<td></td>
</tr>
<tr>
<td>Results</td>
<td>30,000 persons (50% of total of 60,000 persons) treat their drinking water with a chlorine product</td>
<td>23% reported ever treated drinking water (CDC)</td>
<td>45% reported treating drinking water.</td>
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<td></td>
<td>20% of households use drinking water containing a proportion of free residual chlorine &gt; 0.2 mg/L</td>
<td>18% use some chlorine Products and 3% contain FCR (CDC)</td>
<td>Test reveal: 9.2% some chlorine products 2.9% free residual chlorine &gt;0.2 mg/L</td>
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<tr>
<td>Objective Verifiable Indicator</td>
<td>Baseline Indicator</td>
<td>Project Outcome Indicators</td>
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<td><strong>R2.</strong> Targeted populations from cholera prone urban slums have sustainable access to shared sanitation facilities through construction of shared peri-urban facilities</td>
<td>An additional 10,000 persons use and maintain shared latrines in the targeted urban slums of Monrovia and Buchanan</td>
<td>10,800 persons provided access to sanitation (Latrine).</td>
<td></td>
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<td>33% Practiced OD and 76% used Pit/flush latrines (CDC report)</td>
<td>12% practice OD, 40.5% reported access to shared latrine</td>
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<td><strong>R3.</strong> Targeted population in cholera prone urban slums understand the importance of hand washing and use hand washing facilities with soap or ash</td>
<td>60,000 persons including school children from targeted urban slums will have access and use hand washing facilities with soap/ash at their homes and will adopt safe water handling practices</td>
<td>52% reported that latrines have HWF attached.</td>
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<tr>
<td>CDC? LDHS? JICA?</td>
<td>60% reported washing hands after use of latrine.</td>
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<td></td>
<td>3% were seen washing hands after using latrine.</td>
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1. Introduction

UNICEF has in collaboration and support from ECHO embarked upon implementation of two Urban WASH projects in deprived communities in and around Monrovia and Buchanan. The project was meant to deliver sustainable water, sanitation and hygiene promotions to urban slums in a manner that will ensure continuous availability of the facilities and a permanent change in behaviours long after the project ends. This assignment therefore was to establish the extent to which the facilities and processes proposed have been adhered to. It was also expected to determine the potential sustainability of projects Outcomes.

1.1 Background to the assignment

Liberia is in a period of transition after over 14 years of conflict and humanitarian emergencies. The effects of these years were devastating to most of its sectors: infrastructure was heavily damaged and poverty rates are extremely high. Health and other social indicators are also very poor with under-five and maternal mortality rates amongst the worst in the world.

Between 1990 and 2008 the percentage of Liberia’s population with access to improved water sources in urban areas declined from 86% in 1990, to 82% in 2000, and 79% in 2008, due to conflict related rural to urban migration, and the degrading of urban pipe based water supply systems. The population of Montserrado has increased by 44% over the last 25 years from 491,078 in 1984 to 1,118,241 in 2008, mainly in the capital city of Monrovia (Census 2008). Indeed, the city has experienced a simultaneous decline in pipe based water supply of 73% from 16 million gallons/day in 1985 to 4.3 million gallon/day in 2008 (LWSC).

According to the Japan International Cooperation Agency (JICA)\(^1\) study, the average water consumption in targeted urban slum is around 9 l/c/day (about 2 gallons per household of 5 persons. Indeed a number of peri-urban communities presently rely on communal tap-stands and hand-pump wells for drinking. Given that the ground water level fluctuates greatly with season, many wells dry up and cannot be considered as safe and sustainable water sources. Dwellers usually use hand-pump wells and hand-dug wells separately for drinking and other usage.

1.2 Objectives of the assignment

The objectives of the assignment is to provide data which will allow UNICEF to report to ECHO on the indicators and targets listed in urban WASH I, SM100429 and urban WASH II: SM120084 proposals. In addition the evaluation is to assess the impact, coverage, coherence, relevance/appropriateness, effectiveness and efficiency of the ECHO funded urban WASH I: SM100429 grant (implemented in Monrovia and Buchanan) and provide baseline data for the urban WASH II: SM120084 grant in Monrovia. Refer to Appendix 1.TOR of the assignment for the details.

\(^1\) The master plan study on urban facility restoration and improvement in Monrovia: operation, maintenance and monitoring of Community based satellite water supply systems (JICA, 2010)
2. Methodology
A quasi-experimental design would have been appropriate for the evaluation but for financial limitation. Instead a descriptive study (examining conditions within project communities without comparators) with a robust analytical framework was deployed.

2.1 Preparation of planning and working formats
The Consultant developed relevant participatory planning formats/tools. These were used to develop an analytical framework and also used to collect data from various stakeholders.

2.2 Sampling
A random sampling method was used to represent selected characteristics of the survey population; social, cultural, economic indicators and also access to WASH facilities.

The evaluation drew its sample size from two thirds of the sample frame (population) of 135,000 and 120,000 respectively, using a simple multiple stage random sampling procedure. Subsequently, 18 and 12 project communities were randomly selected in a participatory manner at a meeting of all implementing agencies for UW I and UW II respectively. From each community, between 26 and 27 house were randomly selected. Enumerators further selected households and finally interviewed at random 484 woman with children who are five years old or younger.

Table 1: Sampling Table

<table>
<thead>
<tr>
<th>Name / Description of Project</th>
<th>No. of communities</th>
<th>Estimated Population</th>
<th>Convenient Sample size</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Planned</td>
<td>Sample Frame / Sample</td>
<td>Planned</td>
</tr>
<tr>
<td>Number of UW I beneficiary communities (evaluation)</td>
<td>12</td>
<td>26 (18)</td>
<td>90000</td>
</tr>
<tr>
<td>Number of UW II beneficiary communities (Baseline)</td>
<td>12</td>
<td>19 (12)</td>
<td>60000</td>
</tr>
</tbody>
</table>

2.3 Data collection and sources
The Consultant gathered data from a wide range of sources including:

- A review of literature and project documents
A range of relevant documents were accessed and reviewed. Together, these provided the list of communities, WASH access per community, demographic data,
number and geographical spread of schools and health facilities, the location and status of deprived populations. Others provided the policy, strategic and operational details. Some international literature was also reviewed to adapt guidelines and learn lessons.

- **Sources of data**
  Information was derived from key actors; implementing agencies, government’s sector agencies and WASH sector stakeholders. The list include; MPW, MH&SW, LWSC, MCC, Implementing Partners both International NGOs and Local NGOs. A detail list has been attached as appendix 7.

- **Development/review and adoption of relevant tools**
  Compilation of a data collection instruments were developed drawing heavily on both project documents and reference materials including the MICS data collection instruments. The following are data collection tools used during the assessment;

  - Key informants interview (KII) guides
  - Focus Group Discussion (FGD) guides.
  - Group/individual interview guides for WASH policy makers sector players.
  - Structured Interview questionnaire for Households.
  - Observation guides for facility users.

2.4 **Training for interviewers and field supervisors**
A training session was organised for ten (10) enumerators and two (2) field supervisors. The training included a field testing of questionnaires at Point 4 a slum area in Monrovia. At the end of the training session, the enumerators and consultant finalised the draft data collection tools.

2.5 **Collection, processing, management and coordination data**
Data collection began soon after enumerators training. This took place in the sampled communities. The processing and generation of cross-tabulations were done with the aid of the computer software SPSS. This was done in collaboration with LISGIS. The reputable institution was responsible for data entry and processing in accordance with national standards in Liberia. It is anticipated that this will ensure acceptability of the findings and to enhance opportunities for implementing relevant recommendations.

2.6 **Reported Indicators and targets**
In this report the extent to which selected programme indicators have been achieved has been presented as you will find in the ensuing sections of the document. The indicators include:

  - Contribution to the reduction of the incidence of cholera and other diarrhoea diseases in 12 urban slums areas.
• Proving 30,000 people with **access** to safe water (quality of WHO guidelines) with a **consumption rate of 15l/c/d** and a **fetching time of less than 30 minutes**

• Providing 20% of households use drinking water containing a **proportion of free residual chlorine >= 0.2 mg/L**

• Providing additional 10,000 persons access to and **maintaining shared latrines** in the targeted urban slums of Monrovia and Buchanan

• Providing 60,000 persons including school children from targeted urban slums with **access and use hand washing facilities with soap/ash** at their homes and will **adopt safe water handling practices**

### 2.7 Quality assurance
The Consultant resorted to high professional standards at all stages of the assignment to assure quality. The conduct of this assignment was also guided by the Code of Conduct prescribed by the United Nations Evaluation Group (2008).

### 2.8 Validation workshop
A stakeholder’s validation workshop was held. It was organised for the key actors and informants to verify, clarify and to further enrich preliminary information gathered during the evaluation. All major stakeholders invited were present. They also participated actively. They include local implementing partner agencies, community representatives and representatives of agencies forming the WASH Consortium in Liberia. Together they provided useful feedback and explanations. Find a completed list of participating agencies and individuals attached.

### 2.9 Limitations
Baseline information was not systematically gathered for the purposes of assessing outcomes and impact. Some proxy indicators were selected from publications not necessarily linked to this project.

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3. Findings

This section contains major results of the assessment according to objectives of the project. Each theme has two parts. The first part contains a synthesis of information gathered during the survey. It includes key outputs and outcomes of the intervention. The second parts contain analysis and conclusions reached on various themes.

3.1 Characteristics of respondents

A cursory review of the social and economic profiles of the respondents presents some element of vulnerability. The congestion, flood prone nature coupled with unemployment 34% (164) and a significantly high number of single female headed households 19% (94). This situation reflects some of the global picture aptly described in the Joint Monitoring Programme on Water and Sanitation (JMP) Update (UNICEF and WHO\(^3\), 2012). Almost all respondents 99.2% (480) have lived in the project communities than 6 months. This is considered long enough for any individual to understand and share WASH experience which could reflect the real situation. About two-thirds of respondents had acquired some form of formal education. The distribution of the occurrence has been presented in Table 3 below. Most residents live in their own dwelling houses or rented premises as indicated in the figure 1 below.

Most respondents were either married 31% (150) or in co-habitation 46% (224). There were widows 2% (9) and singles 15% (74). Respondents reported more of four member household sizes than any. The most populous households have more than 10 members as shown in figure 2 below. More than a fifth of the sampled population earned less than US$ 1.00 dollars a day\(^4\). UNICEF has been quoted as by Leonard Cheshire\(^5\) that people with disability constitute 16% of the population.

Together, the above information provided a substantial portion of the context within which discussions and further analysis of the likely impact on the urban WASH project which is the subject of this report.

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\(^3\) World Health Organisation and United Nation’s Children Fund.

\(^4\) 1 US$.000 = LD$70.00 August 2012

\(^5\) http://www.lcint.org/?lid=3565
3.2 Key findings

The core WASH related findings have been presented according to the objectives in the Terms of Reference (ToR) as presented below and key baseline indicators for UW II have been presented as Appendix A of this report.

3.3 Specific Objectives- Urban WASH I, SM100429:

3.3.1 Contribute to reduction in Cholera and diarrhoea diseases

ContrIBUTE TO THE REDUCTION OF THE IncIDENCE OF cholera AND OTHER diarrhoea diseases IN 12 urban slums areas.

Although the provision of WASH facilities and services is expected to contribute to a reduction in cholera and diarrhoea diseases, the use of clinic based information to measure improved access to such facilities may be problematic in shorter duration. This is particularly so under conditions where other confounding factors are not controlled in the immediate and remote environments. That notwithstanding, some clinic statistics have been gathered and organised in a manner that should provide useful insight in table 4 below.

Table 4: Annual Suspected Cases of Cholera Reported by MOH&SW (Liberia Weekly Epidemiological Bulletin)

<table>
<thead>
<tr>
<th>Year</th>
<th>No. Case</th>
<th>% Variance</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yr 2009</td>
<td>1050</td>
<td>0</td>
<td>100</td>
</tr>
<tr>
<td>Yr 2010</td>
<td>1546</td>
<td>47</td>
<td>147</td>
</tr>
<tr>
<td>Yr 2011</td>
<td>1277</td>
<td>21</td>
<td>121</td>
</tr>
</tbody>
</table>
3.3.2 Provide access to safe drinking water

An estimated 30,000 people have access to safe water (quality of WHO guidelines) with a consumption rate of 15l/c/d and a fetching time of less than 30 minutes.

3.3.2.1 Access to safe water drinking water

As part of the project outputs, a total of 8 water points 2 small water systems (SMS), 7 water kiosks and public stand pipes connected to LWSC mains with elevated polytanks have been provided through the actions of the project. Together these are expected to provide 23,000 people with access to improved drinking water. Further information on the facilities has been provided in Table 5 below.

Survey report indicates that 89% (433) depend on improved water sources which are expected to meet World Health Organisation’s (WHO) water quality standards. This is 1% over and above the 2010 status reported in JMP update (WHO & UNICEF 2012) captured.

Table 5: Water Facilities Provided under the Urban WASH-I

<table>
<thead>
<tr>
<th>Name of Implementing Agency</th>
<th>Bore Holes</th>
<th>Hand-Dug Wells</th>
<th>Small Water Systems</th>
<th>Water Kiosks</th>
<th>Estimated Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. FAAL</td>
<td>4</td>
<td>2(^b)</td>
<td>-</td>
<td>-</td>
<td>3000</td>
</tr>
<tr>
<td>2. OGB</td>
<td>-</td>
<td>2</td>
<td>1</td>
<td>-</td>
<td>4000</td>
</tr>
<tr>
<td>3. CWW</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>7</td>
<td>7000</td>
</tr>
<tr>
<td>4. CODES</td>
<td>-</td>
<td>2</td>
<td>1</td>
<td>-</td>
<td>3000</td>
</tr>
<tr>
<td>5. Total</td>
<td>4</td>
<td>4</td>
<td>2</td>
<td>7</td>
<td>23000</td>
</tr>
</tbody>
</table>

3.3.2.2 Volume of water

Although the installed capacities could take care of 23000 persons at 15 litres per head/day, this is not necessarily going to be available to the population for some reasons. Given that the average size of the household is about 5 persons, and granted that majority of respondents 88.6% (429) reported drawing “1 gallon” (22.5 litres) of drinking water a day for their households each day, it can safely be projected that each person consumes 4.4 litres a day. This factor is reinforced by the limited water storage facilities at the household level. This supported by the fact that 63% (306) of respondents use the same “gallons” to transport drinking water home. Various reasons were adduced to explain this situation during focus groups discussions. They include lack of space and inadequate resources to acquire the gallons among others.

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\(^{6}\) Two HDWs in Buchanan
3.3.2.3 Multiple sources of water for domestic use
Most households rely on other sources of water for other domestic uses besides drinking. Mostly these are shallow family wells. This practice is a potential means of contamination and infection due to the high possibility of using similar containers. Indeed the practice is a result of cost and distance to the sources of drinking water.

3.3.2.4 Distance from main sources of drinking water
Majority of respondents 79% (380) spend thirty minutes or less to access improved drinking water. The distribution of the occurrence has been provided in table 6 below. ‘I can go Momo Town for 3 to 4 hours to get drinking water” - FGD participant.

Table 6: Distance from main water source

<table>
<thead>
<tr>
<th>Category</th>
<th>Count</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>On Premises</td>
<td>57</td>
<td>12%</td>
</tr>
<tr>
<td>&lt;100 metres (Less than 30 minutes in and out)</td>
<td>323</td>
<td>67%</td>
</tr>
<tr>
<td>100 meters - &lt;500 metres (30 mins)</td>
<td>10</td>
<td>2%</td>
</tr>
<tr>
<td>500 metres – 1 kilometres (About 1 hours)</td>
<td>14</td>
<td>3%</td>
</tr>
<tr>
<td>More than 1 Kilometres (more than 1 hour)</td>
<td>23</td>
<td>5%</td>
</tr>
<tr>
<td>Don’t Know/Not stated.</td>
<td>57</td>
<td>12%</td>
</tr>
<tr>
<td>Total</td>
<td>484</td>
<td>100%</td>
</tr>
</tbody>
</table>

3.3.2.5 Water quality and HWTS
More than 77% (373) of respondents indicated they draw and 63% (306) store water in the recommended jerry cans with cap. About 29% (137) use open containers that are prone to contamination.

3.3.2.6 Water quality tests and regular monitoring
Although the project planned to undertake initial Water quality tests and regular monitoring, not much was achieved in this direction. The Ministry of Health and Social Welfare was unable to conduct the initial test required by sector guidelines (RoL 2010) due to shortage of reagents. This is at variance with provisions in the WASH sector strategy (Republic of Liberia 2010). The planned regular check for presence of chlorine including the use of “WaterGuard” has also not made progress as anticipated.

Also, no regular monitoring reports exist beyond the initial water quality results issued at the commissioning of the facilities by the utility. The Liberia Water and Sewerage Corporation reported paucity of such information due to limited resources but the company states that it sells bulk water at 30 gallons for $5.00 LD.

According to information derived from the survey, downtime for broken boreholes range between 3 days 28% (43) to 3 weeks 33% (36). This is enough time to undermine any gains made by providing the facility.
3.4 Household water treatment

20% of households use drinking water containing a proportion of free residual chlorine $>= 0.2 \text{ mg/L}$

About 45% (218) reported treating their water but when tests were carried out, only 3% (23) met the recommended dosage of $>0.2 \text{ mg/l}$. This is similar to the findings published by CDC/LISGIS/PSI\(^7\) (2008). Another 9.2% (74) had some presence of chlorine detected but far below the recommended dosage. The situation may be due to the lack of clarity shown by the respondents on appropriate moments for introducing the treatment agent – WaterGaurd. The curl outs below shows the different approaches adopted by respondents when they were asked how they treated their household drinking water.

3.4.1 Use of “WaterGuard”

Only 13.6% (30) of persons who reported treating their water regularly indicated their inability to pay for the cost of treating water regularly. For those who reported not treating their water, 74% (194) claim there is nothing they can use to treat and only 4.9% (13) said they cannot afford it. This suggests a huge potential exists for the promotion and utilization of “WaterGuard”.

3.4.2 Promotion and distribution of “WaterGuard”

Individuals have been identified, trained to promote set up retail outlets for distributing “WaterGuard”. The product is widely promoted on radio and other media channels. As a way of containing the spread of cholera during outbreaks, free samples of “WaterGuard” in white bottles are distributed. The expectation is

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\(^7\) Centre for Disease Control/ Liberia Institute of Statistics and Geo-Information Services / Population Services International
that once the contents of the white bottles are finished, the, users will switch to buying the blue bottle. It is not clear whether the different colour codes have achieved its aim but it presents a challenge to marketing the product. This point has been cited in a report compiled by PSI-Liberia (2012) and needs to be examined and acted upon. Indeed some FGD participants stated that they will not buy “WaterGuard” because they may get it for free.

3.4.3 Inability to access water due to cost
About 20% (98) indicated that they are unable to pay for adequate volumes of safe drinking water for their households. This issue is likely to affect sustainability of the project. It is a case for effective WASH communication and advocacy.

3.5 Access to sanitation

Additional 10,000 persons use and maintain shared latrines in the targeted urban slums of Monrovia and Buchanan

From a review of the project documents and analysis of key inputs, capacity has been installed to provide access to more than 10,000 people. Table 7 contains a summary of sanitation facilities constructed in selected neighbourhoods. The challenge is that the facilities are too few for the populations they are meant for in Monrovia but the situation in Buchanan is in sharp contrast to the former. There were much fewer people willing to use and maintain the sanitation facilities (latrines) provided. Also, some defects have been identified by UNICEF prior to the evaluation.

Table 7: Latrine Facilities provided under the Urban WASH I

<table>
<thead>
<tr>
<th>Name of Implementing Agency</th>
<th>Latrine Facilities</th>
<th>Estimated Population</th>
<th>Hand Washing facilities</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Monrovia</td>
<td>Buchanan</td>
<td></td>
</tr>
<tr>
<td>1. FAAL</td>
<td>8</td>
<td>5 (30 cubicles)</td>
<td>3900</td>
</tr>
<tr>
<td>2. OGB</td>
<td>8</td>
<td></td>
<td>2400</td>
</tr>
<tr>
<td>3. CWW</td>
<td>7</td>
<td></td>
<td>2100</td>
</tr>
<tr>
<td>4. CODES</td>
<td>8</td>
<td></td>
<td>2400</td>
</tr>
<tr>
<td>5. Total</td>
<td>31</td>
<td></td>
<td>10,800</td>
</tr>
</tbody>
</table>

Information derived from the survey also indicates the under listed state of sanitation.
3.5.1 Access to latrine

Information generated from the survey suggests an improvement of sanitation in the project areas since 2010. About 46% (216) of respondents have access to latrines (family latrines). The JMP reports 29% access to improved latrine. About 40.5% (196) have access to shared latrines (JMP reports 30%) and 12% practice open defecation (JMP reports 25%).

Fig 3: Newly constructed water points showing elevated poly-tanks

Information gathered from the Monrovia City Council (MCC) Sanitation and Environmental Department revealed special efforts aimed at promoting improved household latrines called “Bio-fill” Toilets. The project is implemented in collaboration with Oxfam Great Britain (OGB). This may be one of several splinter efforts contributing to improved sanitation. The impact may be greater if the efforts put together. However some of the facilities especially, those in Buchanan did not carry the visibility marks of the donor - ECHO.

3.5.2 Distance to latrine

Most respondents access latrine less than 50 metres away. About half of these respondents 42% (172) have the facility constructed at home. Only 6.1% (25) walk beyond 50metres to access a latrine facility. Close to 60% said the latrines do not have separate cubicles for men and women. Also, some latrines are reported as not child friendly. They said the children are afraid to use them.

For those who pay for the use of latrines, 16% (29) of them indicated their inability to continue to pay for the use of the facility.

3.5.3 Facilities to de-sludge latrines

The responsibility to de-sludge septic tank is carried out by LWSC and some private providers. Other organisations with large workforces and estates such as Firestone have acquired the equipment to service their properties. The average cost per truck load varies according to size of the tank and distance to be covered by the truck. The prices range from US$ 70 (central Monrovia to US$ 170 (Bushrod). Some private providers have initiated special rates for community manage latrines and are willing to grant further rebates when contacted.
The emergence of private providers in this subsector is an essential factor likely to enhance sustainability of the existing shared latrines and those provided under the Urban WASH project. However, the companies are reported as facing avoidable challenges.

“They are acting like referees and players in the game at the same time”

– Says a private cesspit operator.

They are enduring “unfair” competition from LWSC which is also responsible to supervising the services of private providers in collaboration with MCC. Legislations put in place to regulate or support the activities of these operators are said to be outdated.

3.6 Hand washing facilities and safe water handling

60,000 persons including school children from targeted urban slums will have access and use hand washing facilities with soap/ash at their homes and will adopt safe water handling practices.

3.6.1 Construction of hand washing facilities

A total of 60 hand washing facilities have been provided in selected communities and schools in both Monrovia and Buchanan. These were installed inside or the immediate environments of the latrines constructed. However some of these hand washing facilities were not functioning properly. Some cannot hold water. Others do not have water on site. Other hand washing facilities were rectangular shaped and so do not lend to effective cleaning and maintenance. The number of hand washing facilities for schools and institutions may be inadequate. Two hand washing facilities per block of latrine may not meet the demands of even 50 pupils who have less than 30 minutes to respond toilet needs and for recreation. According to data collected from the survey, several respondents 52% (241) said the latrines do have hand washing facilities close to the structure. A situation that is likely to reduce hand washing opportunities.

3.6.2 Reported hand washing behaviours

Almost all respondents perceive hand washing as beneficial. About three quarters of respondents reported regular hand washing with soap. About 81% (291) reported hand washing after using the latrines but only 29% (37) of persons did so during an observation mission. Figure 5 below presents other reported moments that respondents practised hand washing.
3.6.3 Garbage disposal

Although more than half of the sampled population did not see anything wrong with their methods of garbage disposal, only 4% of respondents disposed of refuse appropriately. Text box 1 contains various household disposal methods. When it comes to disposing garbage outside the home, 39% (167) dump the unwanted materials in open spaces. About 34% (146) engage the service of small scale garbage disposal agencies. Some of these private small scale providers have acquired permits from MCC but are not performing very well for lack of monitoring and supervision form the authorising agencies. Some of the private providers dump their unwanted materials into public drains and the sewer network. Some MCC officials lament the current situation but hinted that efforts are under way to develop guidelines as well as enact appropriate laws to guide their operations.
3.7 Hygiene promotion

There is evidence to suggest that extensive hygiene education and promotion has been implemented in various forms to educate communities but these have not yet resulted in the desired WASH related behaviour changes as presented early on. The themes cover the need to draw and convey water in a safe manner, and to treat water at the point of use with “WaterGuard”. Other topics included safe disposal of human excreta and regular hand washing with soap at critical moments. However, there seem not to be a much in terms of design, planning and resources for community mobilization and hygiene related issues.

Frontline community based Community Animators and Community Health Volunteers were trained and have been conducting hygiene education sessions from house to house. The training of hygiene promoters according to stakeholders did not follow a standard content shared by all the agencies. The duration and approaches also differ from one agency to another. This may not make project outcomes and gains easy to measure and for purposes of learning. Behaviours were not benchmarked and so hygiene messages were too broad.

Participatory approaches have not been sufficiently deployed or at least mentioned as key methodology for community entry and mobilization. These are omissions that may not be over looked in future projects.

Some radio jingles and discussions sessions have also been aired with phone-in segments. The monitoring of the radio programmes were limited to counting of number of episodes played. Implementing agencies can engage with audiences and find out how many people are reached and to build their house-to-house education on these.

Print materials meant to promote key hygiene promotion materials have been developed but none of these have yet been cited in any of the project communities during the evaluation. Also, the colourful very attractive posters carry too many themes on the same surface. Perhaps some further editing and pre-testing may be required to make the desired impact from the publication of such materials.

Figure 6: Pictures showing newly constructed latrine with disability rails
3.7.1 Reported episodes of diarrhoea among children

It is usual to gauge the impact of interventions from the impressions they leave on the minds of beneficiaries. This was done in two main ways. Firstly, the Consultant looked out for unsolicited opinions expressed by residents. In most instances, members of beneficiary communities expressed appreciation anytime the UNICEF branded vehicle makes its way to the various sites. Secondly, as part of this exercise, respondents were asked to recall and the episodes of diarrhoea suffered by their children who are five years old or younger in the past one year. The previous six months was found to be lower than the most recent half year following after the Urban WASH intervention. The graph in figure 7 presents the statistics.

![Figure 7: Reported Diarrhoea Among Children 5 Years or Younger](image)

3.8 Behaviour change communication opportunities

One of the most appropriate education and communication decisions made under the use radio to disseminate hygiene related information. This is because about 80% (406) of respondents preferred that medium. Others sources include Environmental Health Workers. The pie chart in figure 8 below shows other means to aid decisions on future programme options.

![Figure 8: Sources of Information](image)
When it comes to community based interactions, data from the survey suggests that most 94% (453) women have high self esteem and feel confident in taking WASH related decision in their homes. The “gatekeepers” are husbands who should be treated as secondary audience. A good number of them place a lot of value on the influence of their husbands. The essence of this statistics is to help segment, target HP messages appropriately and select the media likely to make the most impact.

In order to provide a summary of direct project results, Table 8 has been curled from the project proposal document and adapted for the purpose as presented below.

**Table 8: Project summary results card**

<table>
<thead>
<tr>
<th>Title of the Action</th>
<th>Safe water, sanitation and hygiene promotion in cholera affected urban slums of Monrovia and Buchanan in Liberia</th>
</tr>
</thead>
<tbody>
<tr>
<td>Principal Objective</td>
<td>Contribute to the reduction of the incidence of cholera and other diarrhoea diseases in 12 urban slums areas</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Specific Objective</th>
<th>Objectively Verifiable Indicators</th>
<th>Pre-intervention Indicators</th>
<th>Indicators at Evaluation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Improved sustainable access to safe drinking water, shared sanitation facilities and hygiene promotion</td>
<td>30,000 people have access to safe water (quality of WHO guidelines) with a consumption rate of 15l/c/d and a fetching time of less than 30 minutes</td>
<td>- 9 l/c/day (JICA) - 50% take 5min (CDC)</td>
<td>- 4.4 l/c/day - 67% take &lt;30mins (&lt;100 metres)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Results</th>
<th>30,000 persons (50% of total of 60,000 persons) treat their drinking water with a chlorine product</th>
<th>23% Reported ever treated water (CDC)</th>
<th>45% reported treating drinking water.</th>
</tr>
</thead>
<tbody>
<tr>
<td>R1. Targeted population from cholera prone urban slums have sustainable access to improved water sources through the construction, rehabilitation, operation and maintenance of water facilities and the social marketing/promotion of household water treatment products</td>
<td>20% of households use drinking water containing a proportion of free residual chlorine</td>
<td>18% use some chlorine Products and 3% contain FRC</td>
<td>9.2% some chlorine products 2.9% free residual chlorine &gt;0.2 mg/L</td>
</tr>
</tbody>
</table>
R2. Targeted populations from cholera prone urban slums have sustainable access to shared sanitation facilities through construction of shared peri-urban facilities

- An additional 10,000 persons use and maintain shared latrines in the targeted urban slums of Monrovia and Buchanan

- 33% Practiced OD and 76% used Pit/flush latrines (CDC report)

31 Latrines constructed to 10,800 persons access to sanitation.

- OD 12% and, 40.5% reported access to shared latrine

R3. Targeted population in cholera prone urban slums understand the importance of hand washing and use hand washing facilities with soap or ash

- 60,000 persons including school children from targeted urban slums will have access and use hand washing facilities with soap/ash at their homes and will adopt safe water handling practices

- 60 HWF constructed.

- 52% reported that latrines have HWF attached.

- 60% reported washing hands after use of latrine.

- 3% were seen washing hands after using latrine.

**4. Sustainability issues**

About 29% (137) of respondents indicated that their sources of drinking water did not last all year round. Indeed Government sources indicate that 15% of water points out of this proportion, 37% (51) often turned to unprotected sources when their main sources of water failed. This is a pointer to a need to review the water source sustainability assessments with the view to forestalling perennial shortfalls.

It was also reported that acquiring space for the project was and remains a difficult aspect of the project. Some of the spaces acquired / offered for the WASH infrastructure were smaller than the space required for the facilities. As a result, the scope of some of the facilities had to be scaled down thus limiting the designed capacity. A long term view has been recommended in subsequent sections of this report.

The under listed factors have also been identified as underpinning the potential sustainability of the project. They include:

- An obvious lack of formal considerations for aged and poor at the water facility points, knowing the unemployed rate as presented above.
• Some executive members of the community WASH committee have taken the initiative to open bank accounts to instil confidence in the system. When this was verified it turn out the account was in the name of the individual.

• Most facilities are yet to formalise there financial management arrangements and are also not as transparent as will lead to considerable trust among the beneficiary communities. Indeed some members of the communities are not aware of the existence of the water facilities as special intervention or the various management teams.

• Caretakers managing some of the water kiosks close the facilities at some point in the morning and open only at scheduled times. This may limit access to water unnecessarily. It could also push households to turn to unwholesome sources of water.

• The latrines have been designed to be de-sludge every six months. At an estimated cost of US$100.00 and 120 users per day at LD$5.00 per user, the possibility of effective use, cleansing and maintenance can be sustained with other variable held constant. The arrangement also holds a potential to expand the facility in the long term.

4.1 Overview of project performance indicators

4.1.1 Impact of the project

The Urban WASH project has affected the beneficiary communities positively, at least in the short run. The spate of open defecation and stench in the project communities has abated to a large extent. According to project objectives, and as presented in the section on findings, some challenges have been identified and will need to be dealt with.

4.1.2 Coverage of the project

The project has produced outcomes which from which the mainstream population is benefiting; both men and women. However, some segments of the population will require special arrangements in order to benefit fully from the project. They include the poor, aged and persons living with disability.

4.1.3 Coherence of the project

The implementation of the project has followed key principles and plans contained in the proposal with some variations. The deviations were meant to meet unforeseen or changing needs of the population. Indeed structural changes were meant to enhance the facility. For example, changes made to the latrine blocks were to meet the needs of persons living with physical disability. Further changes could have been made to latrine blocks to meet the needs of children.
4.1.4 Appropriateness / relevance of the approach

The project set out to implement actions to address WASH needs of deprived populations thus contribute to reducing the endemic cholera and other diarrhoea diseases. Without doubt, this has been largely accomplished. It has also adhered to and enhanced management arrangements during the implementation process. The project communities were those in dire need and contributed most to the high cases of cholera in and around Monrovia and Buchanan.

Community leaders, key community actors and direct beneficiaries have explicitly expressed satisfaction with the project. In most cases these outflow of contentment came unsolicited. There is need however to go beyond consultations with formal leaders. In future there will be need to undertake much wider community consultations with whole or sections of the communities.

4.1.5 Efficiency of the project

An appraisal of project strategies alongside alternative arrangement suggest that the project adopted the most effective and efficient approaches under the various circumstances. The stringent but open procurement process within UNICEF was used to procure goods and services for the project. This provided assurance on “value for money”. Also, random selection of items and prices of similar facilities in the open market and other agencies suggest the costs applied under the project were competitive. Comparing the budget and expenditure report, there is not cost overrun. The management of the budget can also be considered as prudent.

4.1.6 Effectiveness of the project

Management arrangements put in place allowed challenges to be identified and actions initiated at various levels to address such issues. As a result, challenges related to acquisition of land for building water and latrine facilities were effectively handled. Another example is the timing of the project also met with torrential rains but the implementing agencies acquired appropriate equipment to mitigate the negative effects.

4.1.7 Accountability of the project

Although monitoring systems have been planned, these have not all played out as expected. Site meetings have been planned and conducted but these did not seem to address some of the anticipated challenges. There have been delays during the construction period and some construction errors could have been avoided if regular and monitoring and supervision achieved its aim. Also, the water quality monitoring did not occur as planned.
The Ministry of Health and Social Welfare had a responsibility to conduct water quality tests at the before the water facilities were commissioned and to test samples at regular intervals but these have not been done for lack of reagents. This only adds to already difficult situation where the LWSC is unable to carry out this responsibility along its own distribution network.

4.1.8 Sustainability of the project

Factors likely to ensure sustainability of WASH facilities are many and varied. Some of these have been considered at the conceptual and design phase of the project. Also, systems were put in place to ensure that all water supply and latrine facilities constructed were operated and managed by elected members of beneficiary communities. However, the cost of water seems a lot higher than it should be. Given that water is sold to them at a relatively cheaper rate than distributed by executives of the community WASH committees. This may have to be reviewed and possibly reduced to improve access.

The involvement of private individuals who have been trained to adopt social marketing approach to household water treatment is another sustainability component. This is aimed at encouraging household to purchase ‘WaterGuard’ while at the same time doing free distribution in case of cholera outbreaks. Hygiene promotion activities have dwelled mainly on dissemination of information and realm of affecting knowledge. These may not bring about the desired behavioural change among the beneficiary communities and make obtain sustainable impact.
5. Lesson Learnt Conclusions and Recommendations

Following a detail and systematic process of identifying and analyzing, some conclusions and recommendations have been made. In this section key lessons emerging from the project and subsequent assessment have also been presented under various themes. Naturally, major conclusions and recommendations have been presented at the end of each theme for purposes improving upon similar projects in the future.

To a very large extent Urban WASH -1 has been a successful project. The water supply, the provision of sanitation and hand washing facilities were successfully constructed but “soft” components. The behaviour change elements cannot be said to have achieved same measure of success. Until requisite behaviour changes are adopted, leading to sustained WASH programme impact, the expected decline in diarrhoea diseases, may take a while longer to achieve.

A review of relevant project documents and the outcomes of the synthesis of information emerging from the many different interviews suggest a well thought through project which also built into it spaces to pause and learn from its actions.

5.1 Lessons Learnt

5.1.1 There are people who cannot access improved water supply and sanitation services. The factors responsible are beyond the provision of physical access. These will always require detail attention at the design, implementation and monitoring stages of the project.

5.1.2 Great potentials exist in the communities for the distribution and use of “WaterGuard” but it will require much closer interaction with potential users in the project communities. It may also require monitoring of user statistics and related issues such as pricing and distribution strategies.

5.1.3 The mark-up and for that matter cost of water at the newly constructed water facilities provided under this project needs further analysis and possible reduction. This is important as cost could be lower than the current rate 3 gallons for $LD5.00, given that the cost of 30 gallons of water cost LD$ 5.00 from LWSC. Also, price and distance seem to affect the user decisions as reported in the previous section.

5.1.4 Sustainability of the latrines constructed is high but will not occur as a matter of course. There are key community actors especially, executive members of WASH committees with different interest and challenges. There is need therefore, for legislation/regulation and guidelines are crucial. There should also regular consultations with the various stakeholders. Where resources will permit, these actors should be brought together at regular intervals to dialogue.
5.1.5 Respondents do not always tell it as it is. This is shown in the wide variance between reported hand washing behaviours and observed hand washing after defecation. WASH practitioners should always make provision for this and adopt appropriate filters during assessments of all kinds. After all sanitation is first a private issue before it becomes a public health topic.

5.1.5 Every community is different whether they look alike or not. It is therefore necessary to assess the dynamics and inter-relations before WASH implementation begins. Assessments can be practical and least expensive.

5.2 Contribution to reduction of cholera and other diarrhoea diseases
The contribution of the project to a potential decline in cholera and other diarrhoea diseases as discussed in the previous section needs further analysis. However, the Consultant is inclined to suggest that it is too early to confirm a sustainable decline and also stretch it to cover related contribution of the project.

5.3 Water
Water quality tests and monitoring assessment elements of the programme are missing. Absence of water tests is at variance with sector requirements. It presents a health risk to the population a reputational risk to the implementing agencies.

The price of water is relatively high compared to the cost LWSC rate of $5.00 LD for 30 gallons. It can be reviewed and revised downwards.

Recommendations
1. UNICEF should facilitate a process of ensuring that MOH&SW and the CHT perform the relevant water quality tests at the water kiosks and all the point sources provided under the project.

2. Closer collaboration between UNICEF, the implementing agencies and LWSC will be helpful at the higher levels to sustain similar relationships at the community level. This way a formal platform will be created to ensure regular monitoring of water quality and also create opportunities discuss and establish a responsive mechanism for setting realistic tariffs. From the water rates presented above it should be possible to revise the water tariffs at the water kiosks lower than the current rate of LD $5.00 per bucket by the community WASH committees.

3. UNICEF should continue in its direct project support arrangements to enable:
   - MOH& SW conduct water quality tests on samples from the facilities.
   - The CHT continue with regular water quality monitoring.

4. For purposes of learning and effective management of the WASH facilities, The WASH Consortium (WASH sector players) should encourage the formation of a
federation of Community WASH Committees in the urban communities. Through regular meetings, this will encourage exchange of practical experiences and also promote transparency and accountability.

5.4 Sanitation
Some defects have been detected in and around some of the latrine blocks constructed. Some have pools of water around the facility such that user will have to wade in water. Others emit foul odour which can cause serious setbacks for land acquisition in future. Some hand washing facilities cannot hold water therefore making it difficult for hand washing to occur after defecation. These may be signs of inadequate supervision.

Recommendations
1. It is recommended that UNICEF should assist the implementing agencies to correct the defects. This should be preceded by very thorough site inspections.

2. Apart from site meetings with individual implementing agencies, UNICEF should in future organise regular on-site capacity building activities for all partners at locations where specific lessons are to be learnt or issues to be addressed.

2. Besides workshops, on site construction hands tips could be organised for artisans and Construction Supervisors. This would results in knowledge and skills rub off.

5.5 Hand washing facilities
Hand washing facilities have been provided but the numbers seen inadequate to be supportive of newly acquired hand washing behaviours crowded neighbourhoods and large institutions of learning. The case can be made for schools where limited time is allowed for using toilet facilities and other recreational activities.

The distance between latrines and hand washing facilities and those without hand washing facilities are significantly high. These facilities are not necessarily, those constructed under the project but they constitute a latent threat to the uptake and nurturing or hand washing behaviour.

Recommendations
1. UNICEF should assist implementing agencies to correct the defects.

2. Apart from site meetings with individual implementing agencies, regular meeting of all partners should be planned at locations where specific lessons are to be learnt or issues to be addressed.
3. Health Promotion Unit of the MoH&SW in collaboration with MoPW to intensify educational themes on the need to construct HWF close to the latrines.

5.6 Community entry approaches
Following a review of project documents, it can be said that community entry and participatory plans do not stand out. It also does not look like there is a distinction between community mobilization and core hygiene promotion activities. Whereas the two can and should be carried out by same cadre of people, it may be necessary to separately plan for both in order to make the desired impact for communities to effectively mobilise and to effect change in behaviours voluntarily. The absence of participatory approaches to entering the communities could create missed opportunities for whole communities to work together.

The differences between the communities around Monrovia and those of Buchanan bring home the lesson that each community is different and must be treated as such when it comes to designing and developing interventions.

There are difficulties in acquiring land purposes of constructing WASH facilities. This has limited the scope and shape of some facilities provided under this project. This will require some innovative thinking to overcome.

Recommendations

1. In future UNICEF and partners should distinguish between community mobilization and core hygiene promotion activities. They can be delivered as one package but they both deserve special attention at the planning stage and also require adequate resources. More resources than allocated under this project.

2. The use of tools such as the wealth ranking and other baseline data gathering processes should be made essential elements of urban WASH projects. Opportunities should not be spared in identifying other vulnerable groups when it comes to planning and implementing Urban WASH programmes.

3. It should be most appropriate for National NGOs to compile a register of landlords in the various communities who are able and willing to provide land even before funding can be raised for future projects. This way, a more systematic process of planning community entry approach will be achieved to implement Urban WASH projects in future.

5.7 Hygiene promotion
The absence of a baseline to determine behaviour benchmarks will lead to over generalization of the risk behaviours, make the targeting of audiences, the development of messages difficult and result in limited impact. All partners are implementing their messages their own ways. At the validation workshop was revealed that some partners are not satisfied with the quality some health promotion materials and have decided not to take delivery of them for distribution.
Hygiene promotion posters have not been sufficiently distributed and mounted in vantage positions within the project communities. The torrential rains may not provide a good reason.

The hygiene promotion messages are generic. Such messages hardly make the desired impact. Also the crowding of several themes on the same surface of poster can create difficulties for the audience to understand the messages.

**Recommendations**

1. All partners involved with the Urban WASH project should agree on a harmonized approach based on informed behaviour benchmarks conducted prior to the intervention. The use of a standardized HP manual/guideline will be appropriate if it seeks to develop relevant contents and duration of the different capacity building activities related to HP.

2. A standard hygiene promotion manual for Urban WASH is recommended.

3. It is recommended that UNICEF would make provision for:
   - A baseline assessment to be designed and carried out to determine at least the specific behaviours that need to be targeted.
   - HP materials to be designed and developed on a basis of well researched behaviours.

**5.8 Communication and advocacy issues**

Some advocacy and communication issues have emerged and need to be addressed in support of efforts aimed at sustaining gains likely to be achieved under the project. This will provide the necessary launch pads for turning relief and rehabilitation programmes into sustainable development urban WASH initiatives.

The realization that some individuals perceive themselves to be unable to pay for water and sanitation services bring up the case for the core urban poor who may require some safety nets built into the Urban WASH management arrangements at the community level.

Small scale private providers of garbage disposal in the urban setting are able to do what large companies cannot as a result of limited spaces and land tenure issues. They hold a great potential for sustainability of such services. This may not work without well crafted regulations and supervisory arrangements.

The length of time it takes to repair water points and or restore the flow of improve water is long and presents risks to users. This can whittle away any gains made by the project.

**Recommendations**
1. The needs of the “have nots” should be factored into local WASH management and sustainability considerations. This among others should feature at the concept, planning and training of Community Animators and Community WASH Committees, and also at the intervention stage.

2. As part of a wider advocacy strategy LWSC should be supported to provide other core mandates other than de-sludging so she can concentrate on supervising the services of private cesspit truck operators.

3. UNICEF should also prioritize and lead sector to demand the development of the necessary regulatory and supervisory framework for supervision of private sanitation service providers. This applies to both garbage disposal and cesspit de-sludging service providers.

5.9 Visibility for European Commission for Humanitarian Aid (ECHO)
Some of the facilities constructed especially, latrine facilities constructed in Buchanan do not carry the marks of acknowledging the donor – ECHO. This needs to be redressed to meet some of the provisions project agreement.
6. References


7. Appendixes

7.1 Appendix 1: Terms of Reference

1. Purpose of the assignment.

To evaluate the ECHO funded 2011-2012 Urban WASH project targeting cholera prone urban slums in Monrovia and Buchanan (urban WASH I) and provide baseline data for new ECHO funded 2012 Urban WASH project in Monrovia (urban WASH II).

2. Validity start date: 1 August 2012

3. Validity end date: 30 September 2012

4. Section, duty station: CSD/WASH, Monrovia, Liberia

5. Consultant’s manager - name and title: Zainab Al-Azzawi, M&E Specialist

6. Authorised officer - name and title: Isabel Crowley, Resident Representative

7. Background and Justification.

UNICEF has implemented an ECHO funded WASH project from November 2010 to December 2011, in collaboration with five NGO partners to improve access to water and sanitation and to increase better hygiene practices in targeted cholera-prone urban slum communities in Monrovia and Buchanan (urban WASH I: SM100429). The proposed external evaluation an agreed component of the ECHO urban WASH I project and will help to identify gaps and challenges to enhance future urban WASH interventions. This evaluation will also provide baseline data for the ECHO funded 2012 Urban WASH project (urban WASH II: SM120084).

8. Objective and targets of the assignment.

The proposed external evaluation will provide data which will allow UNICEF to report to ECHO on the indicators and targets listed in urban WASH I, SM100429 and urban WASH II: SM120084 proposals. In addition the evaluation will assess the impact, coverage, coherence, relevance/appropriateness, effectiveness and efficiency of the ECHO funded urban WASH I: SM100429 grant (implemented in Monrovia and Buchanan) and provide baseline data for the urban WASH II: SM120084 grant in Monrovia.

9. Specific activities to be completed to achieve the objectives

a. Collection and analysis of secondary information including: donor proposal, project documents, progress reports, sales records of “WaterGuard” data from health facilities, data collected by NGOs, financial records of water and sanitation facility management entities, IEC materials used, GPS data, etc.

b. Collection and analysis of primary information through:

i. Structured interviews, focus group discussions, questionnaires, and meetings with key stakeholders including: NGO partners, and UNICEF project staff, local representatives, local health workers and community leaders, beneficiaries, non-beneficiaries etc.

ii. Structured observation of quality of facilities, usage, hygiene practices etc.
iii. Sample collection and analysis of drinking water to measure free residual chlorine.

- Provide analysis of targets and objectively verifiable indicators detailed in urban WASH I, SM100429 and urban WASH II: SM120084 proposals, and of the following elements:

<table>
<thead>
<tr>
<th><strong>the impact of the project</strong></th>
<th>Measure and assesses the extent to which the project contributed towards achievement of the principle and specific objectives detailed in the project proposal/s.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>the coverage of the project</strong></td>
<td>Measure and assesses the extent to which the project reached groups targeted in the proposal, including children and their caregivers.</td>
</tr>
<tr>
<td><strong>the coherence of the project</strong></td>
<td>Assess whether the project was implemented in line with the plan outlined in the proposal</td>
</tr>
</tbody>
</table>
| **the appropriateness/ relevance of the approach** | Assess whether the project was in line with identified needs and priorities of the target population  
- Assess the satisfaction of the beneficiaries with the project  
- Assess the level of beneficiary involvement including women in the project design, implementation and monitoring- participatory approach developed/ used for assessment and project implementation? |
| **the efficiency of the project** | Measure the qualitative and quantitative outputs achieved in relation to the inputs and compare strategies to see whether the most efficient approaches were used  
- Assess the level of cost effectiveness/ appropriate use of the budget |
| **the effectiveness of the project** | Assess any factors that affected the effectiveness of the project and how the factors were addressed during implementation |
| **the accountability of the project** | Assess monitoring systems put in place for quality control |
| **the sustainability of the project** | Measure the extent to which the beneficiary bears ownership of the project, local capacities is strengthened, and sustainable management arrangements have been put in place. |

**10. Tangible and measurable outputs of the work assignment**

a. **Final written report**
b. **Oral presentation to UNICEF, ECHO, and the implementing partners**

**11. Performance indicators for evaluation of results**

Timely submission of comprehensive final report written in English containing the following elements:

- Cover page
- Table of contents
- Executive summary (Describing the programme, main findings of the evaluation, conclusion and recommendations.)
- Main body (Background information, methodology, findings)
- Conclusions and recommendations
- Annexes
Report to cover indicators/targets listed in proposals to ECHO:

Urban WASH I, SM100429:
• Contribute to the reduction of the incidence of cholera and other diarrhoea diseases in 12 urban slums areas
• 30,000 people have access to safe water (quality of WHO guidelines) with a consumption rate of 15l/c/d and a fetching time of less than 30 minutes
• 20% of households use drinking water containing a proportion of free residual chlorine >= 0.2 mg/L
• An additional 10,000 persons use and maintain shared latrines in the targeted urban slums of Monrovia and Buchana
• 60,000 persons including school children from targeted urban slums will have access and use hand washing facilities with soap/ash at their homes and will adopt safe water handling practices

Urban WASH II, SM120084:
• Contribute to the reduction of incidence of cholera and other diarrheal diseases in slums in Monrovia.
• Users/improved water point
• Users/latrine cubicle
• %age of population reporting always or frequently washing their hands with soap before feeding children; after cleaning up following childrens defecation; before preparing food; and after using toilet
• Percentage of drinking water samples tested in the home with free chlorine residual >0.2mg/l
• Percentage of households transport and store their water in 5 gallon (20 litre) plastic jerry cans
• Percentage of households using a pit latrine or flush toilet
• Percentage of population observed to wash hands with soap after using the toilet

12. Deliverables and payment.
Deliverable 1: Workplan 5th August 2012
Deliverable 2: Interim report 15th September 2012
Deliverable 3: Final report 30th September 2012

13. Official travel involved, if any
a. Itinerary: N/A
b. Estimated ticket costs: To be procured by consultant

14. Funding and coding.
b. G/L account:
c. WBS element: i) 2550/A0/07/008/001/003; ii) 2550/A0/07/008/001/004
d. Fund:
e. Grant: i) SM120084 (US$ 15,000 + DSA) ii) GC – regular resources (US$ 14,070)

15. Qualifications, Specialised Knowledge and Relevant Experience Required
Level of academic qualifications: Master’s degree
Field of academic qualifications: Water & Environmental Sanitation, Hygiene/Health Education, Civil Engineering, Public Health, or Monitoring and Evaluation

Necessary experience: Experience in conducting WASH evaluations. Knowledge of local context an advantage.

Number of years of relevant experience: Eight years of experiences in WASH planning, implementation, and monitoring and evaluation
## Appendix 2: Work Plan

**WORK PLAN**

**ECHO FUNDED URBAN WASH PROJECT - UNICEF LIBERIA**

**1ST AUGUST - 30th SEPTEMBER 2012**

<table>
<thead>
<tr>
<th>Activities</th>
<th>Date</th>
<th>Duration</th>
<th>August</th>
<th>Sept</th>
<th>Oct</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Planning and finalization of Administrative processes</td>
<td>1st – 2nd August</td>
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<td>3. Completion and submission of work plan for August and September.</td>
<td>5th August 2012</td>
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<tr>
<td>4. Review of selected project documents &amp; reference materials.</td>
<td>Aug-Sept</td>
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<td>5. Familiarization visit to project sites</td>
<td>8-10th Aug</td>
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<td></td>
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<tr>
<td>6. Development of data collection tools and consultation with stakeholders:</td>
<td>6th-10th August</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>7. Interviewer Training and Field Testing data collection data collection</td>
<td>13th – 17th August</td>
<td></td>
<td></td>
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<tr>
<td>8. Printing of data collection instruments</td>
<td>17th – 18th August</td>
<td></td>
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<tr>
<td>9. Data Collection</td>
<td>20th Aug-1st Sept</td>
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<tr>
<td>10. Data Entry and Analysis</td>
<td>4th-12th Sept</td>
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<tr>
<td>11. Compilation of draft reports</td>
<td>12th - 20th Sept</td>
<td></td>
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<td></td>
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<tr>
<td>12. Submission of draft reports</td>
<td>20th &amp; 25th Sept</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>13. Validation Workshop</td>
<td>26th Sept 2012</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>14. Revision of draft reports</td>
<td>26th - 30th Sept</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>15. Submission of final reports</td>
<td>30th. Sept 2012</td>
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<td></td>
</tr>
</tbody>
</table>
7.3 Appendix -3: Map of the Liberia showing the counties
Map of the Project Communities in Monrovia
## 7.4 Appendix 4: Logical Frame work of the Intervention

### Objectives, Results and Activities:

#### Operational Overview of the Action: Log-frame

<table>
<thead>
<tr>
<th>Title of the Action</th>
<th>Safe water, sanitation and hygiene promotion in cholera affected urban slums of Monrovia and Buchanan in Liberia</th>
</tr>
</thead>
<tbody>
<tr>
<td>Principal Objective</td>
<td>Contribute to the reduction of the incidence of cholera and other diarrhoea diseases in 12 urban slums areas</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Specific Objective</th>
<th>Intervention Logic</th>
<th>Objectively Verifiable Indicators</th>
<th>Sources of Verification</th>
<th>Risks and Assumptions</th>
</tr>
</thead>
</table>
|                    | Improved sustainable access to safe drinking water, shared sanitation facilities and hygiene promotion | • 30,000 people have access to safe water (quality of WHO guidelines) with a consumption rate of 15l/c/d and a fetching time of less than 30 minutes\(^8\)  
• 30,000 persons (50% of total of 60,000 persons) treat their drinking water with a chlorine product  
• 20% of households use drinking water containing a proportion of free residual chlorine >= 0.2 mg/L | Baseline survey  
Progress reports  
Evaluation report | The water supply main in Monrovia is accessible in a reasonable distance |

**Results**

**R1.** Targeted population from cholera prone urban slums have sustainable access to improved water sources through the construction, rehabilitation, operation and maintenance of water facilities and the social marketing/promotion of household water treatment products

**R2.** Targeted

An additional

\(^8\) It has been estimated that this project will achieve a realistic standard (15l/c/d) and not that of 25l/c/d
<table>
<thead>
<tr>
<th>Activities</th>
<th>Result #1</th>
<th>Result #2</th>
<th>Result #3</th>
<th>Result #1, 2 and 3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• Construction/Rehabilitation of 6 small water systems (baseline study, extension, tank, tap stands),</td>
<td>• Construction and management arrangement for 40 gender sensitive community shared latrines in targeted urban slums.</td>
<td>• Hygiene promotion focussing on home water treatment, handling of water and hand washing (development and production of communication tools, radio, theatre, interpersonal animation, etc).</td>
<td>• Reporting, Monitoring and supervision, and Evaluation.</td>
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<tr>
<td></td>
<td>• Social marketing of household water treatment products in 12 urban slums, and</td>
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<td></td>
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<tr>
<td></td>
<td>• Support setting up private/community operation and management arrangements for 6 urban slum water systems,</td>
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<tr>
<td>Pre conditions:</td>
<td><strong>The security conditions in the country remain stable</strong></td>
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<td></td>
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</tbody>
</table>
## 7.5 Appendix 5: List of project communities

<table>
<thead>
<tr>
<th>Output Structure code</th>
<th>Zone</th>
<th>Community</th>
<th>Community detail</th>
<th>Community Code</th>
<th>GPS Coordinates North (00 00.000')</th>
<th>GPS Coordinates West (00 00.000')</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public toilet and shower block (6+2) + O&amp;M</td>
<td>CODES/Lat/1 Paynesville Pipeline Pipeline Road (Moses booth)</td>
<td>1114</td>
<td>06 17.984'</td>
<td>10 41.416'</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Public toilet and shower block (6+2) + O&amp;M</td>
<td>CODES/Lat/3 Paynesville S.D.Cooper S.D Cooper Road</td>
<td>1101</td>
<td>06 15.353'</td>
<td>10 42.630'</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Public toilet and shower block (6+2) + O&amp;M</td>
<td>CODES/Lat/5 Paynesville Pipeline Pipeline Road (Whein Town Block B)</td>
<td>1114</td>
<td>06 19.250'</td>
<td>10 41.437</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SWS + O&amp;M</td>
<td>CODES/SWS/1 Lakpazee New Matadi New Matadi</td>
<td>803</td>
<td>06 18.105'</td>
<td>10 46.189'</td>
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<tr>
<td>Public toilet and shower block (6+2) + O&amp;M</td>
<td>FAAL/Lat/1 New Kru Town Point Four</td>
<td>114</td>
<td>06 21.847'</td>
<td>10 47.397'</td>
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</tr>
<tr>
<td>Public toilet and shower block (6+2) + O&amp;M</td>
<td>FAAL/Lat/3 Gardnersville Chicken Soup Factory Chicken Factory - Block D</td>
<td>1212</td>
<td>06 19.643'</td>
<td>10 43.463'</td>
<td></td>
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</tr>
<tr>
<td>Public toilet and shower block (6+2) + O&amp;M</td>
<td>FAAL/Lat/5 Gardnersville Chicken Soup Factory Chicken Factory- Golf Block F</td>
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<td>10 43.336'</td>
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<td></td>
</tr>
<tr>
<td>Public toilet and shower block (6+2) + O&amp;M</td>
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<td>1212</td>
<td>06 20.074'</td>
<td>10 43.183'</td>
<td></td>
<td></td>
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<tr>
<td>Borehole + O&amp;M</td>
<td>FAAL/BH/3 Logan Town Jamaica Road Cow Factory</td>
<td>201</td>
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<td>10 46.985</td>
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<tr>
<td>Public toilet and shower block (6+2) + O&amp;M</td>
<td>OGB/Lat/4 New Georgia New Georgia New Georgia</td>
<td>1308</td>
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<td>10 45.463'</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Public toilet and</td>
<td>OGB/Lat/6 Gardnersville Barnersville Road Barnersville</td>
<td>1206</td>
<td>6 21.170'</td>
<td>10 44.257</td>
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### List of Urban Beneficiary Communities in Buchanan

<table>
<thead>
<tr>
<th>No</th>
<th>Community</th>
<th>Population</th>
<th>Latrines/Cubicles</th>
<th>HW</th>
<th>Well</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Kordua</td>
<td>11,000</td>
<td>11</td>
<td>4</td>
<td>1</td>
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<tr>
<td>2</td>
<td>Bassa Community</td>
<td>4,210</td>
<td>5</td>
<td>2</td>
<td>0</td>
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<tr>
<td>3</td>
<td>Juah Town</td>
<td>1,100</td>
<td>5</td>
<td>2</td>
<td>1</td>
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<tr>
<td>4</td>
<td>Joe Quarter</td>
<td>986</td>
<td>5</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>5</td>
<td>Deki Early Learning School</td>
<td>412</td>
<td>4</td>
<td>2</td>
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<td></td>
<td><strong>TOTAL</strong></td>
<td><strong>17,708</strong></td>
<td><strong>30</strong></td>
<td><strong>12</strong></td>
<td><strong>2</strong></td>
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</table>

### 7.6 Appendix 6: List of Implementing Agencies

<table>
<thead>
<tr>
<th>Implementing Agency</th>
<th>Category</th>
<th>Name of Contact Person</th>
<th>E-mail</th>
<th>Telephone</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Community Development Services (CODES)</td>
<td>National</td>
<td>Tamba Bundor</td>
<td><a href="mailto:comdevservices2005@yahoo.ca">comdevservices2005@yahoo.ca</a></td>
<td>0886514325</td>
</tr>
<tr>
<td>2. Foundation For All Ages Liberia (FAAL)</td>
<td>National</td>
<td>Daogogoe H. Fahnbulleh</td>
<td><a href="mailto:daogogoe@gmail.com">daogogoe@gmail.com</a></td>
<td>0886570760</td>
</tr>
<tr>
<td>3. Oxfam Great Britain (OGB)</td>
<td>International</td>
<td>Abdoulaye Fall</td>
<td><a href="mailto:AIFall@oxfam.org.uk">AIFall@oxfam.org.uk</a></td>
<td>0776364397</td>
</tr>
<tr>
<td>4. Concern Worldwide Liberia (CWW)</td>
<td>International</td>
<td>Jacob Blamah</td>
<td><a href="mailto:jacob.blamah@cernold.net">jacob.blamah@cernold.net</a></td>
<td>0886521159</td>
</tr>
</tbody>
</table>
### 7.7 Appendix 7: List of Persons Contact During the Assignment

<table>
<thead>
<tr>
<th>Date</th>
<th>Name</th>
<th>Designation/Address</th>
</tr>
</thead>
<tbody>
<tr>
<td>02/08/12</td>
<td>Zainab Al-Azzawi</td>
<td>M&amp;E Specialist, UNICEF Liberia.</td>
</tr>
<tr>
<td>02/08/12</td>
<td>Sam Treglown</td>
<td>WASH Specialist, UNICEF Liberia</td>
</tr>
<tr>
<td>02/08/12</td>
<td>Edwin Rogers</td>
<td>WASH Specialist, UNICEF Liberia</td>
</tr>
<tr>
<td>02/08/12</td>
<td>James Massaquoi</td>
<td>WASH Specialist, UNICEF Liberia</td>
</tr>
<tr>
<td>02/08/12</td>
<td>Paul Jablai</td>
<td>WASH Specialist, UNICEF Liberia</td>
</tr>
<tr>
<td>07/08/12</td>
<td>Joe Nyan</td>
<td>LISGIS, Monrovia</td>
</tr>
<tr>
<td>09/08/12</td>
<td>Sarnifa M Kromah</td>
<td>Technical Supervisor, FAAL, Point 4</td>
</tr>
<tr>
<td>09/08/12</td>
<td>Marcus Bleye</td>
<td>Technical Supervisor , LICH</td>
</tr>
<tr>
<td>10/08/12</td>
<td>Jacob Blamah</td>
<td>Concern World Wide (CWW)</td>
</tr>
<tr>
<td>10/08/12</td>
<td>Kharkay Gharmondgue</td>
<td>Oxfam GB</td>
</tr>
<tr>
<td>10/08/12</td>
<td>Abdoulaye Fall</td>
<td>Oxfam GB</td>
</tr>
<tr>
<td>10/08/12</td>
<td>M. Gailey Barday</td>
<td>LICH</td>
</tr>
<tr>
<td>10/08/12</td>
<td>Den Vamba</td>
<td>LICH</td>
</tr>
<tr>
<td>21/08/12</td>
<td>Wokie Gardner</td>
<td>Secretary - County Hqrs</td>
</tr>
<tr>
<td>22/06/12</td>
<td>Joseph Nugba</td>
<td>Secretary. WASH Committee Korduah</td>
</tr>
<tr>
<td>22/06/12</td>
<td>Elaine Jackson</td>
<td>Chair Lady, WASH Committee Korduah</td>
</tr>
<tr>
<td>22/06/12</td>
<td>Eric Blay</td>
<td>Chair, WASH committee, Bassa Com’ty</td>
</tr>
<tr>
<td>22/06/12</td>
<td>J. Diggs</td>
<td>St. John River Schools</td>
</tr>
<tr>
<td>22/06/12</td>
<td>John Payne</td>
<td>Suwetha Memorial Public school</td>
</tr>
<tr>
<td>22/08/12</td>
<td>Harry Tarr</td>
<td>Zone Leader, Confan Community</td>
</tr>
<tr>
<td>28/08/12</td>
<td>Jeff Nyadibo</td>
<td>NC Sanitation Services</td>
</tr>
<tr>
<td>29/08/12</td>
<td>Tamba</td>
<td>CODES</td>
</tr>
<tr>
<td>29/08/12</td>
<td>Hassan Fambulleh</td>
<td>FAAL</td>
</tr>
<tr>
<td>29/08/12</td>
<td>Abraham Dees</td>
<td>LIBRA</td>
</tr>
<tr>
<td>29/08/12</td>
<td>Eugene King</td>
<td>Env &amp; Sanitation Coord., MCC</td>
</tr>
<tr>
<td>29/08/12</td>
<td>Caroline Page</td>
<td>Dir. Env Health Dept, MCC Monrovia</td>
</tr>
<tr>
<td>29/08/12</td>
<td>Abraham Ganuo</td>
<td>Advisor to Mayor on Sanitation, MCC.</td>
</tr>
<tr>
<td>30/08/12</td>
<td>Gabriel Flabo</td>
<td>Ag. CEO, LWSC, Monrovia</td>
</tr>
<tr>
<td>04/09/12</td>
<td>Rebecca Lincoln</td>
<td>EHO/CHT JFK Cholera Unit, Monrovia</td>
</tr>
<tr>
<td>07/09/12</td>
<td>Amos Gbokie</td>
<td>MOH&amp;SW, Monrovia</td>
</tr>
<tr>
<td>07/09/12</td>
<td>George Worwonyon</td>
<td>MOH&amp;SW, Monrovia</td>
</tr>
<tr>
<td>18/09/12</td>
<td>Reid Moorsmith</td>
<td>Country Representative, PSI - Liberia</td>
</tr>
</tbody>
</table>
Introduction

UNICEF has in collaboration with other national and international organisations implemented an Urban Water Access, Sanitation and Hygiene (WASH) programme in selected communities around Monrovia and Buchanan in the past year and more.

Together the Urban WASH project has provided access to 180,000 beneficiaries. The aim is to ensure a halt subsequent decline in cholera and other WASH related illness such as diarrhoea diseases in the targeted communities presenting as the most affected, especially among children, women and disadvantaged members of the different communities.

You have been selected as a member of an evaluation team charged with the responsibility to gather relevant information using this questionnaire. This questionnaire will require that you systematically follow instructions that will lead you to an eligible household. You will then select a mother with at least one child who is five years old or less in that household. You will need to be thorough, polite and diligent in administering the questions as provided below.

Read the questions and instructions carefully and record the responses legibly. Refer to your supervisor when you encounter any challenge or when you are in doubt.

Time: Started: ______________

Section A: Particulars

1. Initials of Enumerator:_____________  2. Date (DD/MM/YY): __/__/2012

3. Name of Community/EA___________  4. District: _____________________________

5. County:_________________________  6. Questionnaire no: MT/UB1/1114/01/01
Good morning/afternoon. My name is ……………………….. I am a member of a team collecting information on behalf of the Government of Liberia in collaboration with support from UNICEF. The project in this community has an aim to improve access to safe Water, Sanitation and Hygiene situation. I would like to speak with the head of household or a mother who has a child not more than five years old about the water, sanitation and Hygiene situation in your compound/unit and also in this community. I will be grateful if you take some time to answer them. You are under no obligation to answer any of the questions. However, if you choose to participate, nothing you say will be used against you now or in the future. I also promise that the information you give will be used solely for the purposes of the project only. Do I have your permission to proceed with the discussion?

  a. Yes, agreed (continue with Interview)n
  b. No, (Discontinue and look for respondent).

7. How long have you lived in this community? ____/___/ (YY/MM)

8. How old is your youngest child? .............

  a. 5 years or less (Continue with interview).
  b. No child or more than 5 years (Discontinue and find another respondent).
Section B: Background Information

<table>
<thead>
<tr>
<th>1. Name of Respondent: ____________________________</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. No. of household members: __________ (List names of members of the household overleaf)</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>4. Highest Educational level:</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>5.</td>
</tr>
<tr>
<td>6. Occupation: 1-Farmer. 2-Trader. 3-Teacher. 4-Public Servant. 5-Unemployed. 6-Others (specify) ............</td>
</tr>
<tr>
<td>7. What is your legal marital status?</td>
</tr>
<tr>
<td>1-Single; 2-Married; 3-Separated; 4-Cohabitation; 5-Widower(er); 6-Others (Specify.........)</td>
</tr>
<tr>
<td>8. How much money do you earn in a day?</td>
</tr>
<tr>
<td>(Record any amount in LD$ ........... and convert to nearest equivalence in US$ ............)</td>
</tr>
</tbody>
</table>

Section C: HWTS drinking water

1. What is the main source of drinking water for your household?    
   1. Pipe in dwelling
2. How long did it take to repair your water facility the last time the facility broke down?
   1. Three days or less
   2. Between 4 to 7 days
   3. Between 1 – 2 week
   4. Three weeks or more
   5. Never had a breakdown (Explain why?....................................................................)
   6. Not Applicable
   7. Others (Specify)........................................................................................................

3. How far is your main source of drinking water from your dwelling place?
   1. On Premises
   2. <100 metres (Less than 30 minutes in and out).
   3. 100 meters - <500 metres.
   4. 500 metres – 1 kilometers.
   5. More than 1 Kilometres
   6. Don’t Know.

4. Does your main source of drinking water serve you throughout the year?
   1. Yes (skip to Q6)
   2. No

5. (If no,) What other sources are accessible to you?
   1. Protected (Public Tap /Small water system, Hand dug well or borehole with pump)
   2. Unprotected underground water (hand dug well, etc)
   3. Unprotected surface water (River/stream/pond)
   4. Others (specify)........................................................................................................
6. Who fetches/draws drinking water for your household? (Accept multiple entry)
   1. Myself
   2. Children
   3. My partner
   4. Siblings/Family members or friends
   5. Others (Specify)………………………………………………………………………

7. In what containers do you mainly store your household’s drinking water?
   (Note for EA: Verify container before you select an answer (Accept multi-entry).
   1. Bucket with lid.
   2. Jerry can with cap
   3. Jerry can without cap.
   4. Wide containers with lid
   5. Others (specify)……………………………………..

8. What quantity of drinking water do you use in your household a day?
   Note: Indicate actual volumes reported following the steps listed below;
   a. Type of container
   b. Estimated volume
   c. Number of times water is drawn
   d. Estimated volume per day:………………………….

9. Is there anything you expect to be done in order to make your drinking water safe to
   prevent cholera and other diarrheal diseases?
   1. Yes
   2. No
   3. Not sure

10. Do you fix (treat) your household drinking water?
    1. Yes (skip to Q12)
    2. No

11. Why do you not treat your drinking water?
    1. There is nothing I can use to fix (treat) (skip to 14).
    2. I cannot afford the cost of treatment (skip to 14).
    3. It takes too much time to treat (skip to 14).
    4. Water treatment gives water a different taste or smell I do not like (skip to 14).
    5. Others (Specify)………………………………………………………

12. How often do you treat your household drinking water?
    1. Each time I fill the container with fresh water from the source.
    2. As often as I feel there is a need.
    3. Anytime I have access to the chemical /treatment agents.
    4. I do not treat my drinking water.

13. Are you able to buy adequate safe drinking water for your household?
    1. I am able
    2. I am not able due to lack of resources / finance
3. It is not my priority.
4. Others (Specify)........................................................................................................

14. Did you receive any education on hygiene in the past 10 to 18 months?
   1. Yes
   2. No. (Skip to Q.15)
   3. Can’t remember. (Skip to Q.15)
   4. Others (specify)............................................................................................... (Skip to Q.15)

15. What are you doing differently because of the hygiene education received (Accept multiples responses).
   1. Acquired jerry can.
   2. Fix (treat) drinking water with WaterGuard/PUR/AT.
   3. I use bleach powder
   4. Others (Describe).................................................................................................

16. Do officials come to test the quality of drinking water in your home?
   1. Yes
   2. No (Skip to 18)

17. What were you told the last time any official visited your house to test the quality of water in the past few months (six months)?
   1. I was told to treat my water.
   2. I was asked to obtain a jerry can
   3. I was not told anything.
   4. There was such visit in the past six months.

18. Do you pay for safe drinking water at any one moment?
   1. Yes
   2. No
   3. Others explain (.................................................................................................)

19. Are you and your household able to pay for safe and adequate volumes of water always?
   1. Yes
   2. No.
   3. Don’t know
Section E: Sanitation

1. Where do you and your household members defecate regularly?
   1. Family Latrines
   2. Public / Communal(Shared latrine).
   3. Dig and bury (Skip to Q6)
   4. Open defecation (At the beach, in bush, poly bags, others (Explain)? (Skip to Q6)
   5. Others (specify) ...................................................................................................................... (Skip to Q6)

2. How far do you walk in order to use a latrine?
   1. in dwelling house
   2. <50 metres away
   3. 50 or more away
   4. Don’t know.

   Record estimated duration........................................................................................................

3. Do you have hand washing facilities attached or close to the latrine?

   (Note for Enumerator: Verify the availability of HW facility before you select option 1 (Facility must be seen from the latrine or less than 10 steps to see it).
   1. Yes
   2. No

4. Who cleans or maintains the latrine you use?
   1. Female adults in the community
   2. Male adults in the community
   3. Children
   4. Other members of the family
   5. The community or community groups/ Members of the camp. (specify)

5. Do you have separate latrines or designated places for males and females to defaecate?
   1. Yes
2. No

6. How do you dispose of children’s feces in this household?
   1. Throw it along bath water into the open
   2. Dig and bury
   3. Use chamber bucket and drop it in the latrine
   4. Others (Specify)…………………………………

7. Do you pay to use a latrine at any one moment?
   4. Yes
   5. No…(Skip to Q9)
   6. Others explain (………………………………………………)(Skip to Q9.)

8. Are you and your household able to pay for each time you use the latrines?
   1. Yes
   2. No
   3. Don’t know.

9. What education have you received as a result of the Urban WASH project?(Multiple response)
   1. Regular hand washing with soap at critical moments (after latrine, before cooking and eating, after cleaning a child’s feces and before feeding a child)
   2. Safe Treatment and storage of water (fixing of drinking water at the point of use)
   3. Use of latrine and abandoning open defecation.
   4. Others (Specify)…………………………………………………………………………..

10. What are you doing differently as a result of the hygiene education you received? (Accept multiple response).
    1. I avoid open defecation.
    2. Dig and bury my feces.
    3. Intend to build or built a household latrine.
    4. Keeping the environment clean.
    5. Not applicable.
    6. Others (Specify)……………………………………………………………..

11. What Challenges do you face with access to and use of latrine your use household?
Section F. Garbage disposal

1. How do you dispose household garbage in the house?
   1. Covered household refuse container
   2. Open household refuse container
   3. Dig and bury (Skip to Q3)
   4. Indiscriminate disposal
   5. Burn. (Skip to Q3)
   6. Others (specify)………………………………………………………………

2. Where do you finally dispose of garbage in this household?
   1. Public refuse skip
   2. House to house collection
   3. Dig and bury
   4. Burn
   5. Throw away in the open
   6. Others (Specify)………………………………………………………………

3. Do you consider your methods of disposing of garbage in this household appropriate?
   1. Yes ……………………………………………………………………
   2. No. (Why Explain?) …………………………………………………

4. What challenges confront your household on garbage disposal? (Accept multiple responses)
   1. Dirty surroundings
2. Fly nuisance
3. Smelling neighborhood
4. No challenge
5. Others (Specify) …………………………………………………………………………

G. Hand Washing With Soap (HWWS)

1. Do you wash your hands with soap regularly?
   1. Yes
   2. No (skip to Q3)

2. Under what circumstances would you wash your hands with soap? *(Accept multiples responses but do not suggest any of the options below!!)*
   1. Before meals,
   2. Before feeding a child.
   3. Preparing/serving a meal.
   4. After latrine
   5. After cleaning a child’s feces or changing dippers
   6. After meals
   7. Others (Specify) ………………………………………………………………………

3. Do you think there is any benefit in washing your hands with soap regularly?
   1. Yes
   2. No (skip to Section H).

4. What are you doing differently as a result of the hand washing education?
   1. Wash hands with soap regularly.
   2. Build/built/would buy hand washing facilities.
   3. Educate child(ren) to wash hands regularly.
   4. I was not educated/Don’t know.
   5. Others (Specify) ………………………………………………………………………

5. How many episodes of diarrhea has your child (under five years experienced in the past six months)?
   1. None
   2. Once
3. Twice
4. Thrice
5. More than thrice.
6. Others (Specify) .................................................................

6. How many episodes of diarrhea has you child (under five years) experienced six months previously (Note: previous to the period referred to above)?
   1. None
   2. Once
   3. Twice
   4. Thrice
   5. More than thrice
   6. Others (Specify) .................................................................

H: Assessing behavior triggers

1. Are you able to making good hygiene decisions to prevent diseases and improve your health?
   1. Yes
   2. No.
   3. Not sure / Don’t Know

2. Who matters to you most when it comes to taking household WASH related decisions?
   1. Myself
   2. Landlord/lady
   3. Religious leader
   4. Traditional leader
   5. Head of family
   6. Political representatives
   7. Government Officials
   8. Others (Specify).....................................................................

3. Who influences water, sanitation and hygiene related behaviors in this unit or household?
   1. Myself
   2. Landlord/lady
   3. Head of family
   4. Community leader
   5. Husband
   6. Other tenants / family members/settlers.
   7. Public Health Inspectors
4. Who takes the important water, sanitation and hygiene related decisions in this household? (Accept multiple responses)

1. Landlord/lady
2. Head of family
3. Husband
4. Myself
5. Other tenants / family members
6. Public Health Inspectors
7. Community volunteers
8. Others

I. Preferred sources of information and education

1. Which sources do you receive information including WASH education programs from? (Accept multiple responses. Note; There should be no prompting).

1. Community Leaders
2. Radio
3. Cinema/Video shows
4. Health / Environmental workers
5. Community Volunteers
6. Friend/relatives
7. Posters
8. Billboards
9. Others

2. Is there any information you feel like passing on to help you access WASH facilities and services?
End of the interview. Thank you very much.

**Section J: Pool Test**

Take a sample of water from the household's drinking water source. Apply test and record the result below.

After testing I found:

1. There is no indication of a presence of chlorine.
2. Some residual chlorine but below 0.2 mg/l exist.
3. Residual chlorine >0.2 mg/l exist.
4. Others (Specify)………………………………………………………………………….

**Time Ended: __________(hh/mm)**

-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------
### Section K: Latrine User Observation checklist

<table>
<thead>
<tr>
<th>County:</th>
<th>District:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Community:</td>
<td>Type:</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Observations:</th>
<th>Comments:</th>
</tr>
</thead>
</table>

1. State of latrine (Describe the state of latrine);
   a. Is the immediate environment clean? 1. Yes 2. No (.........................)
   b. Proper disposal of anal cleansing? 1. Yes 2. No (.........................)
   c. Is there Odor? (Foul smell) 1. Yes 2. No (.........................)
   d. Is it accessible to children? 1. Yes 2. No (.........................)
   e. Is there any defect on the structure? 1. Yes 2. No (.........................)

2. Is there hand washing facility near latrine? 1. Yes 2. No (.........................)
   b. Hand washing facility has soap/ash? 1. Yes 2. No (.........................)
   c. Is there water available for washing? 1. Yes 2. No (.........................)
   d. Availability of soap on site 1. Yes 2. No (.........................)

3. Observation of an individual latrine user:
<table>
<thead>
<tr>
<th>Question</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>f. The person using the latrine wash hands?</td>
<td>1.</td>
<td>2. No</td>
</tr>
<tr>
<td>g. Hand washing done properly?</td>
<td>1.</td>
<td>2. No</td>
</tr>
</tbody>
</table>

Initials of observer:…………………….. Date:……………………………………

Supervisor’s Initials: ………………….. Date: …………………………… ………
Section L: Key Informant Interview Guide for Community Animator (KII 1)

County……………………… District ……………………… Community………………

Name of Informant……………… Date:………………… Time stated……… …

1. Did you receive any training or orientation on Urban WASH service delivery?
   1. Yes.
   2. No. (Skip to Q6)
   3. Others (Specify)……………………………………………………………………………

2. Who carried out the training?
   1. Name(s) ……………………………………………………………………………………….
   2. Organization) ..………………………………….. ………………………….…………… ….

3. How long did you train;
   1. A few hours
   2. 1 Day
   3. 2 Days
   4. 3 days
   5. Others (Specify)……………………………………………………………………………

4. What were the contents of Urban WASH Programme training you received(Accept
Multiple responses):
   1. HH water treatment
   2. Sanitation (Explain………………………………..)
   3. Hand Washing with Soap
   4. Monitoring water quality
   5. Others (Specify)……………………………………………………………………………

5. Benefits derived from the training: (Knowledge/skills, Allowance, Other incentives,
Nothing, Others. etc,)
   1. Nothing ………………………………………………………………………………………
   2. Allowance/Cash……………………………………………………………………………
   3. Collaterals and other incentives……………………………………………………………..
   4. Others (Specify)……………………………………………………………………………

6. Activities planned to be carried out at the end of the training:
   o HH promotion of Urban WASH programme
   o Community promotion of Urban WASH programme
7. Activities carried out:
   - Train other colleagues
   - Others

   Note: Verify plans

6. Achievements (list below)
   - ...........................................................................................................
   - ...........................................................................................................
   - ...........................................................................................................
   - ...........................................................................................................

7. Challenges encountered.
   - ...........................................................................................................
   - ...........................................................................................................
   - ...........................................................................................................
   - ...........................................................................................................

   - ...........................................................................................................
   - ...........................................................................................................
   - ...........................................................................................................

9. If you have another opportunity what will you do differently?
   - ...........................................................................................................
   - ...........................................................................................................
   - ...........................................................................................................

End of Interview - Thanks you very much.
Interview Guide for Community Health Volunteer (KII 2)
URBAN WASH - II Baseline Assessment - MONROVIA

County………………………………. District ………………….
Community………………………..

Name of Informant………………………. Date:………………… Time
stated………………………….

1. Contents of Urban WASH training received:
   a. HH water treatment
   b. Sanitation
   c. Hand Washing with Soap
   d. Monitoring water quality

2. Training was carried out by (Name(s) & organization) ……………….
   How long did you train;
   a. ------Days
   b. ------Hours per day (time).

3. Benefits derived from the training: (Knowledge/skills, Allowance, Other incentives, Nothing,
   Others. etc.)
   ..........................................................................................................................
   ..........................................................................................................................

4. Activities planned to carry out at the end of the training:
   a. HH promotion of Urban WASH
   b. Community promotion of Urban WASH
   c. Train other colleagues
   d. Others

5. Activities carried out:
   ..........................................................................................................................
   ..........................................................................................................................
   ..........................................................................................................................
   ..........................................................................................................................

   Note: Verify plans

6. Achievements (list below)
   ..........................................................................................................................
   ..........................................................................................................................
   ..........................................................................................................................
7. Challenges encountered.


Any other comments?

End of Interview.

Thanks you very much.
### 2.4: List of Participants at the Validation Workshop

<table>
<thead>
<tr>
<th>No.</th>
<th>Name</th>
<th>Organisation</th>
<th>Cell Contact</th>
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<tbody>
<tr>
<td>1.</td>
<td>Jefyne Bates</td>
<td>PSI - Liberia</td>
<td>0886693917</td>
</tr>
<tr>
<td>2.</td>
<td>Thomas A. khallon</td>
<td>PSI - Liberia</td>
<td>0886578800</td>
</tr>
<tr>
<td>3.</td>
<td>Mammene D. Quaquu</td>
<td>ECHO</td>
<td>0886578800</td>
</tr>
<tr>
<td>4.</td>
<td>Gawolo Duwena</td>
<td>LWSC</td>
<td>0886990561</td>
</tr>
<tr>
<td>5.</td>
<td>Daniel G. Glay</td>
<td>LWSC</td>
<td>088650003</td>
</tr>
<tr>
<td>6.</td>
<td>Sanno Wuanti</td>
<td>Concern Worldwide</td>
<td>0886567468</td>
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<td>7.</td>
<td>Edwin Rodgers</td>
<td>UNICEF/WASH</td>
<td>0770267468</td>
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<td>8.</td>
<td>Yorfee L. Sumouwar</td>
<td>LICH</td>
<td>0880322923</td>
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<td>9.</td>
<td>Howard K. Nyella</td>
<td>MCC</td>
<td>0886022300</td>
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<td>10.</td>
<td>Jennie K. Barclay</td>
<td>LICH</td>
<td>0886531920</td>
</tr>
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<td>11.</td>
<td>Khakey Garmodju</td>
<td>Oxfam GB</td>
<td>0886575015</td>
</tr>
<tr>
<td>12.</td>
<td>Leeghatray Vonn</td>
<td>LICH</td>
<td>0880784972</td>
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<td>13.</td>
<td>C. Kerye Winta</td>
<td>MCC</td>
<td>0886563664</td>
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<td>14.</td>
<td>D. Hassan Fahnbulleh</td>
<td>FAAL</td>
<td>0886570760</td>
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<tr>
<td>15.</td>
<td>Philo B.M. Koffa</td>
<td>CODES</td>
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<td>16.</td>
<td>Faizah Samat</td>
<td>UNICEF/M&amp;E</td>
<td>0880438513</td>
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<tr>
<td>17.</td>
<td>Sam Treglown</td>
<td>UNICEF/WASH</td>
<td>0770267464</td>
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<tr>
<td>18.</td>
<td>Laura O'Hara</td>
<td>UNICEF/CS</td>
<td>0770267450</td>
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<td>19.</td>
<td>Stephen Ntow</td>
<td>WASHealth Solutions</td>
<td>0880640892</td>
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<tr>
<td>20.</td>
<td>Paul Jablai</td>
<td>UNICEF WASH</td>
<td>0770267401</td>
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