

Water supply and sanitation in Liberia: turning finance into services for 2015 and beyond

An AMCOW Country Status Overview

Strategic overview

A fourteen-year civil conflict (1990-2003) undermined Liberia's development prospects. However, in 2006, Liberia ushered in Africa's first female president through a democratic process and has since been relatively stable. Momentous changes and reforms continue to accompany the post-conflict era. A poverty reduction strategy (PRS 2008-2011) which includes water and sanitation, was developed and is being implemented, an Integrated water Resource Management Policy (IWRM) as well as a Water Supply and Sanitation policy (WSSP) were approved by the Liberian Cabinet in 2008 and 2009 respectively. Post-conflict reconstruction of service delivery and sustainability of existing infrastructure remain as the main challenges. A PRS II (2012 – 2017) is currently being developed and will be concluded by the end of 2011.

Government capacity to lead, coordinate and deliver services was severely compromised by the conflict but is beginning to re-emerge with aspirations to make a full transition to a country-led process in service delivery, data management, regulation and sector oversight. Recognising that the policies were not being fully operationalised the Government of Liberia and development partners negotiated the Liberia WASH Compact. This compact, agreed in early 2011 as part of the Sanitation and Water for All (SWA) initiative, sets out four joint commitments on institutional capacity, equity, monitoring and finance (see section 4).

Under its first PRS Liberia aims at increasing coverage to 50% of the population by 2011, from a reference point of 25% water coverage in 2008. For sanitation, the PRS, initially targeted 40% of the population but this has been revised to 33% in 2008 owing to a sector assessment that pointed to slow progress. The second PRS, sets targets at 77% for water supply and 56% for improved sanitation.¹

If UNICEF/ WHO Joint Monitoring Programme (JMP) data are used (68% for water), then Liberia could very easily achieve its MDG water target but the sector consensus is that coverage rates are well below those reported by the JMP. In relation to improved sanitation (17%) both the MDG and PRS targets will require significant progress to meet the targets.

Financing to the sector remains weak. Current estimates of government financing are below one percent of the total annual domestic budget and these are mainly indicated as grants to the urban focussed Liberia Water and Sewer Corporation. Financing for rural areas was improved in 2009-2010 through a major allocation to the Bureau responsible for rural water supply and sanitation. The bulk of the investment in rural sanitation is expected to be borne by households, with the current emphasis on the Community Led Total Sanitation approach. There is no urban sanitation strategy to address Liberia's rapidly growing urban population.

A well-articulated Sector Investment Plan will greatly enhance resource mobilization and utilisation for the sector. A sector strategic plan, which includes a basic investment plan, is due to be launched in 2011. The investment plan should be developed further to detail sub-sector requirements and anticipated

sources of funds including how complementary funding from revenues from users could be used to sustain services.

This AMCOW Country Status Overview has been produced in collaboration with the Government of Liberia and other stakeholders. Agreed priority actions to tackle these challenges, and ensure finance is effectively turned into services, are as follows:

Sector-wide:

- Operationalize the WSSP and its proposed institutions in consultation with stakeholders
- Undertake a sector capacity needs assessment and resource institutions to play assigned roles
- Prioritise WASH and increase the level of sector funding by linking PRS II and MDG targets to the domestic budget process
- Work towards a Sector Wide Approach in order to:
 - Capture and coordinate development partner budget and expenditure on WASH
 - Build a national information management system for the sector that consolidates reporting on schemes being built and monitors functionality
 - Institute an annual multi-stakeholder review to evaluate progress and set priority actions for the sector

Rural water supply:

- At community level enforce cost recovery and local management by of water points by CWSCs where they are not already established
- At county level build capacity to manage spare-part supply-chains and train pump mechanics
- At national level improve the registration, vetting and quality control of pump installers and roll out technical guidelines on hand-pumps and water quality

Urban water supply:

- Develop an urban water sector investment plan aligned to the sector strategic plan
- Develop a financing strategy that puts LWSC in a position to carry out basic efficiency improvements in its operations

Rural sanitation and hygiene:

- Clarify the institutional lead for sanitation and scale up Community Led Total Sanitation
- Adapt and adopt a nationwide hygiene promotion toolkit to scale up current levels of progress

Urban sanitation and hygiene:

- Develop appropriate sanitation technologies for densely populated urban slums

- **Clarify strategy for the promotion of sanitation in low income and peri-urban communities**
- **Identify low cost sanitation/sewerage options including small-bore sewerage and decentralized, neighbourhood-based treatment plants**

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Introduction

The African Ministers' Council on Water (AMCOW) commissioned the production of a second round of Country Status Overviews (CSOs) to better understand what underpins progress in water supply and sanitation and what its member governments can do to accelerate that progress across countries in Sub-Saharan Africa (SSA).² AMCOW delegated this task to the World Bank's Water and Sanitation Program and the African Development Bank who are implementing it in close partnership with UNICEF and WHO in over 30 countries across Sub-Saharan Africa. This CSO2 report has been produced in collaboration with the Government of Liberia and other stakeholders during 2009/10.

The analysis aims to help countries assess their own service delivery pathways for turning finance into water supply and sanitation services in each of four subsectors: rural and urban water supply, and rural and urban sanitation and hygiene. The CSO2 analysis has three main components: a review of past coverage, a costing model to assess the adequacy of future investments, and a scorecard which allows diagnosis of particular bottlenecks along the service delivery pathway. The CSO2's contribution is to answer not only whether past trends and future finance are sufficient to meet sector targets, but what specific issues need to be addressed to ensure finance is effectively turned into accelerated coverage in water supply and sanitation. In this spirit, specific priority actions have been identified through consultation. A synthesis report, available separately, presents best practice and shared learning to help realize these priority actions.

1. Sector overview: coverage and finance trends

Coverage: assessing past progress

The civil war significantly undermined the delivery of water and sanitation services. Liberia's first Poverty Reduction Strategy (PRS1) indicates that safe drinking water coverage fell from 37% in 1990, to 17% at the end of the war in 2003, rising to 25% in 2008. Access to sanitation fell from 17% in 1990 to about 7% in 2003 and has increased to 15% in 2008 (Figure 1).³

In its current plan, the PRS1 aims at increasing improved water supply coverage to 50% of the population by 2011, from 25% in 2008. For sanitation, the PRS1, initially targeted 40% of the population but this has been revised to 33% owing to a sector assessment that pointed to the slow progress. The PRS1 estimates, derived by a joint committee of Government and NGOs, are generally accepted as modest estimates of access to safe water and sanitation.⁴

The CSO2 also compares countries' own estimates of coverage with data from the UNICEF/ WHO Joint Monitoring Programme (JMP).⁵ The impact of these different coverage estimates on investment requirements is also assessed.

Based on JMP data, Liberia's access to improved water supply as of 1990 was 58% which had risen to 68% by 2008. Access to improved sanitation was 11% in 1990 rising to 17% in 2008.

A third source of data is Liberia's 2008 Housing and Population Census which reports improved water supply and sanitation access as 60% and 35%, respectively. These data are used by the JMP to build up a trend line from nationally representative household surveys.

In preparing its second Poverty Reduction Strategy (PRS2 2012-2017) Liberia has adopted targets of 77% for water supply and 56% for improved sanitation as its national sector targets.

Whether the water supply target can be achieved depends greatly on which water supply data are used as the starting point. Based on the conservative PRS1 estimates reaching the target would require building water supplies for around 342,000 people a year compared with around 190,000 people year based on the JMP estimates.

For sanitation, where both the JMP and PRS1 numbers are similar, achieving the target will require multiples of past effort.

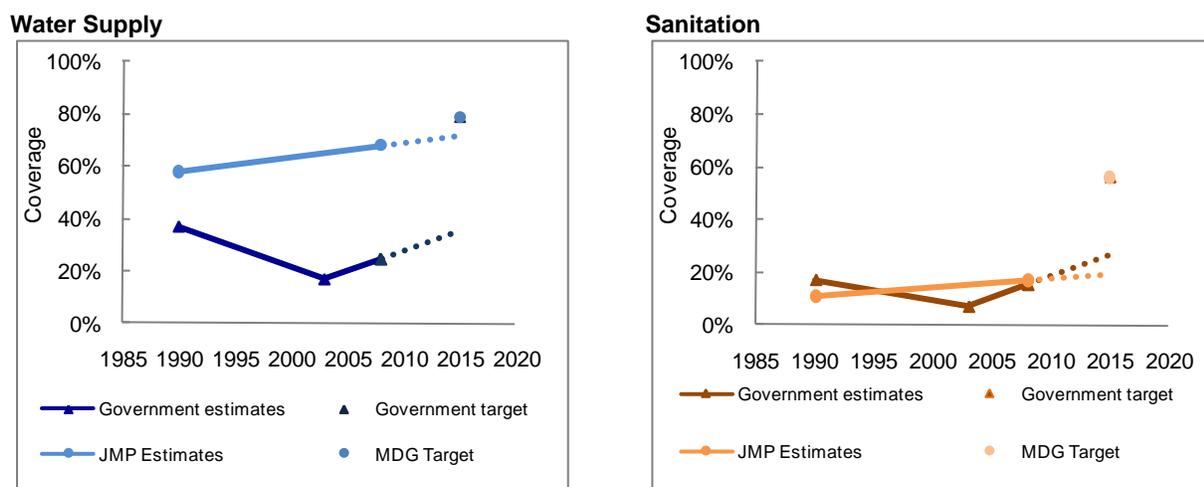


Figure 1: Progress in water supply and sanitation coverage

Investment requirements: testing the sufficiency of finance

An estimate of the investment required to meet the national 2015 targets was developed using the CSO2 costing model, using data on coverage, technology mix and lifespan, unit costs, and user contribution policy. The CSO2 costing model allows estimated capital investment (CAPEX) requirements to be compared with anticipated public investment, and the assumed contribution from households.⁶ Investment requirements for operations and maintenance (OPEX) are assessed separately.

The financing requirements to meet the PRS2/MDG targets for water and sanitation, presented below, are based on the PRS1 coverage estimates of 25% for water supply and 15% for sanitation in 2008.

Based on these PRS1 coverage figures a total annual capital investment requirement of US\$56 million has been established for water supply. This would extend access to an additional 342,000 people each year as well as replace services that have reached the end of their lifespan.

Of this US\$ 12 million per year is expected to be contributed by households (10 percent contribution in rural areas; 50 percent contribution in urban areas), leveraged by the US\$ 22 million per year anticipated in public investment (domestic and donor). This leaves a funding gap of US\$ 22 million per year, even assuming that funds can be allocated optimally between rural and urban subsectors (the current projections suggest the deficit is larger for urban water supply).

Achieving improved sanitation access for a quarter of a million people a year to meet the national target is assessed at US\$ 68 million annually, out of which public investment requirements are US\$ 27 million annually. The bulk of the investment in rural sanitation is expected to be borne by households, with the current emphasis on Community Led Total Sanitation. In urban sanitation, the rehabilitation of Monrovia's sewerage system is assessed at US\$18.3m and is to be executed over 3 years. The total estimated annual financing gap for sanitation is US\$41 million.

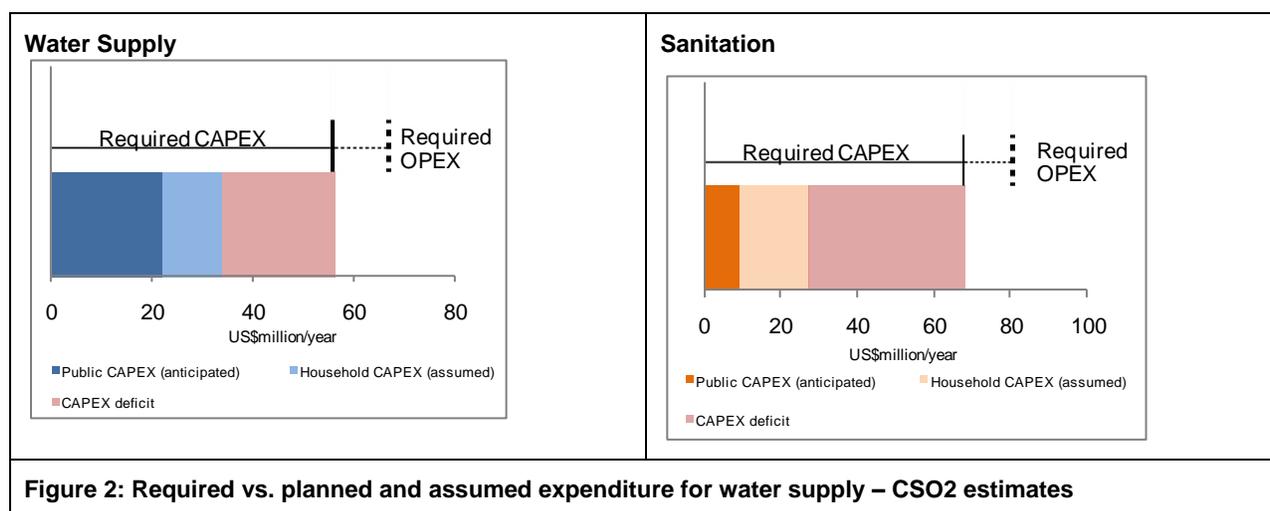


Figure 2: Required vs. planned and assumed expenditure for water supply – CSO2 estimates

Table 1: Coverage and investment figures – CSO2 data⁷

	Coverage		Target	Pop'n requir- ing access	CAPEX requirements		Anticipated public CAPEX			Assumed hh CAPEX	Total deficit
	1990	2008	2015		Total	Public	Dom-estic	Ex-ternal	Total		
	%	%	%	'000/year				US\$m/year			
Rural WS	34%	20%	67%	126	20	18	0	11	11	1	8
Urban WS	86%	30%	93%	216	36	18	1	10	11	11	15
WS total	58%	25%	77%	342	56	36	1	21	22	12	22
Rural S&H	3%	4%	52%	127	24	5	0	3	3	12	9
Urban S&H	21%	28%	61%	120	44	22	0	6	6	6	32
S&H total	11%	15%	56%	248	68	27	0	9	9	18	41

The above figures are based on the PRS1 coverage data and the PRS2/MDG targets for 2015. If the costing is repeated using JMP coverage estimated for 2008 the investment requirement would be around 20 percent lower for water supply but similar for sanitation.

There are a number of reasons why the above depiction of investments may be over-optimistic. The first is operation and maintenance requirements (Table 2). As in many countries, in Liberia there is an implicit assumption that O&M costs (OPEX) will be recovered from users, though in practice this is not always achieved. If any of the annual OPEX has to be subsidized from the public purse, for example to utilities that do not achieve operational cost recovery, it reduces the amount available for capital investment.

These considerations are only part of the picture. Bottlenecks can in fact occur throughout the service delivery pathway – all the institutions, processes and actors that translate sector funding into sustainable services. Where the pathway is well developed sector funding should turn into services at the estimated unit costs. Where it is not, the above investment requirements may be gross underestimates. The rest of this report evaluates the service delivery pathway in its entirety, locating the bottlenecks and presenting the agreed priority actions to help address them.

2. Reform Context: introducing the CSO2 scorecard

Table 2: Annual O&M, CSO2 estimates

Subsector	O&M
	US\$m/year
Rural WS	3
Urban WS	8
WS total	11
Rural sanitation	2
Urban sanitation	11
Sanitation total	13

The conflict period, 1990-2003, saw severe damage to the water and sanitation infrastructure leaving the facilities in a severe state of disrepair. For example, the Monrovia Water Supply System was damaged on

three occasions between 1990 and 1992. It was put out of operation again in 1996, and during the hostilities of 2003. This recent history puts the service delivery pathway in context, which can then be explored in detail using the CSO2 scorecard, an assessment tool providing a snapshot of reform progress along the service delivery pathway.⁸

The Mount Coffee Hydro – completely looted during the war, the round holes are where the pumps used to be.



Before the conflict, various actors and factors influenced sector reform. For example, the water and sanitation decade - 1980-1990 - helped to induce efforts at sector co-ordination leading to the creation of the National Water Resources Board to oversee sector developments. In the 1980s, the US Peace Corps assisted in the development of a National Rural Water Programme. These and other efforts were thwarted by the onset of the war. The post conflict era has since seen the development and approval (by Cabinet) of the Integrated Water Resources Policy (IWRMP) and the National Water Supply and Sanitation Policy (WSSP). These documents, among others, define Liberia's water and

sanitation policy objectives and the institutional arrangements to achieve them.

The IWRMP promotes a new integrated approach to manage the water resources in ways that are sustainable and most beneficial to the people. This new approach is based on the continued recognition of the social value of water, while at the same time giving due attention to its economic value. All water-using sectors are required to develop their own policies in line with the IWRMP, and the NWSP is the one that addresses drinking water supply and sanitation. Its main objective is to “provide guidance and direction in institutional, economic and legal reforms that will lead to improved water governance at national, local and community levels, and improved access to safe water supply and adequate sanitation, in an affordable, sustainable and equitable manner, to all the peoples of Liberia”. This is based on the principle of ‘**some for all**’ as opposed to ‘**all for some**’ and seeks to provide impetus for better distribution mechanisms.

The WSSP spells out the institutional set up and roles (figure 5 in next section) as well as the subsector approaches. A new Water Law is contemplated and is expected to give legal backing to the intentions spelt out in the policy documents. A sector strategic plan is currently under development, and due to be launched in 2011, which sets the stage for the initiation of a Sector Wide Approach (SWAp).

In the post conflict era, reform effort has concentrated ‘upstream’ in the service delivery pathway – on the enabling environment for service delivery. At the county level this is being done through the creation of strong county health teams which have led the planning, coordination and monitoring of services but Ministry of Public Works representation at country level is still thin.

Figure 3 indicates that Liberia scores below its peers in the 3 building blocks of the service delivery pathway, reflecting weak performance in planning and budgeting, absence of a coherent sector/sub-sector investment plans, among others. The service delivery pathway also faces significant challenges characterized by poor resource allocation (including inadequate human resources), which limit the amount of services that can be provided. This signals the need for criteria to match resource allocation at national level with need at local level; and for systems to monitor output more effectively. Expanding and sustaining services remains critical. County administrations and community water and sanitation committees are expected to be in the driving seat to support service delivery but lack adequate capacity. This is further compounded by a lack of a nationally spare parts network, little or no-backstopping, either from the public or private sectors/NGOs. There is also a need to improve the functionality of systems by ensuring cost recovery and to improve the efficiency of service providers as well as the need for behaviour change at community level. For sanitation there is a need to establish the efficacy of community-led total sanitation (CLTS), which is the approach of choice as it requires minimum financial investment and promotes behaviour change and ownership, and to complement it with testing innovative sanitation marketing approached including micro-finance schemes to increase uptake.

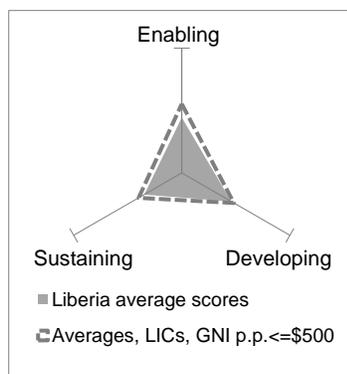


Figure 3: average scorecard results for enabling, sustaining and developing stages of the service delivery pathway, and peer-group comparison

Sections 4-6 highlight progress and challenges across three thematic areas – the Institutional framework, Finance and M&E – benchmarking Liberia against its peer countries based on a grouping by gross national income. The related indicators are extracted from the CSO2 scorecard and presented in charts at the beginning of each section. The scorecards for each subsector are presented in their entirety in sections 6-9.

Table 3 provides a chronology of significant sector reforms events.

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Table 3: Key dates in the reform of the sector in Liberia

Year	Event	Year	Event
1956	Public Health Law enacted	1992	Water and Sanitation Coordinating Committee (WATSAN) established and tasked with coordination of the activities of the water sector institutions
1975	Act Establishing the New Public Health Law of Liberia with. Chapter 24 had key objective of chapter 24 was to protect Liberia water resources	2002	Environment Protection and Management Law approved, with the key objective to ensure a sound management of environmental and natural resources.
1980	National Water Resources Board formed, with Ministry of Lands, Mines and Energy served as Chair and Hydrological Services as Secretariat.	2008	Liberia PRS (2008-2011) includes water and sanitation as part of Pillar IV, infrastructure and service delivery and sets targets for water and sanitation
1986	National Public Health Committee established to coordinate the water and sanitation affairs in the absence of the NWRSB.	2008	Approval of Integrated Water Resources Management Policy
1989	Beginning of civil war	2009	Approval of National Water and Sanitation Policy

3. Institutional Framework

Priority actions for institutional framework

- Operationalize the Water Supply and Sanitation Policy and its proposed institutions in consultation with stakeholders
- Undertake a sector capacity needs assessment and resource institutions to play assigned roles
- Clarify the institutional home for sanitation

The WSSP proposes changes to the current institutional arrangements to ensure sector leadership and effective co-ordination and to remove “fragmented mandates”. These changes are expected to improve subsector performance once fully implemented. In the meantime current levels of performance are assessed alongside related scorecard indicators, which look at the extent to which national policy addresses targets for water and sanitation, define institutional roles and (where these are in place) how national stakeholders have been engaged in these processes. Overall, Liberia performs poorly against its economic peer group, in all sub-sectors, except rural sanitation and hygiene, as depicted in Figure 4. This better than average performance in rural sanitation is due having a national policy and subsector targets in the PRS. The lack of sector leadership for sanitation and low budgets are remaining weaknesses.

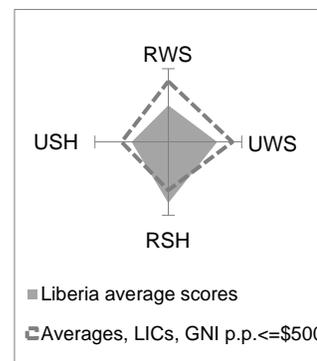


Figure 4: Scorecard indicator scores relating to institutional framework compared to peer group (see endnotes)⁹

Figure 5 presents the intended architecture for the sector and subsectors as set out in the policy.

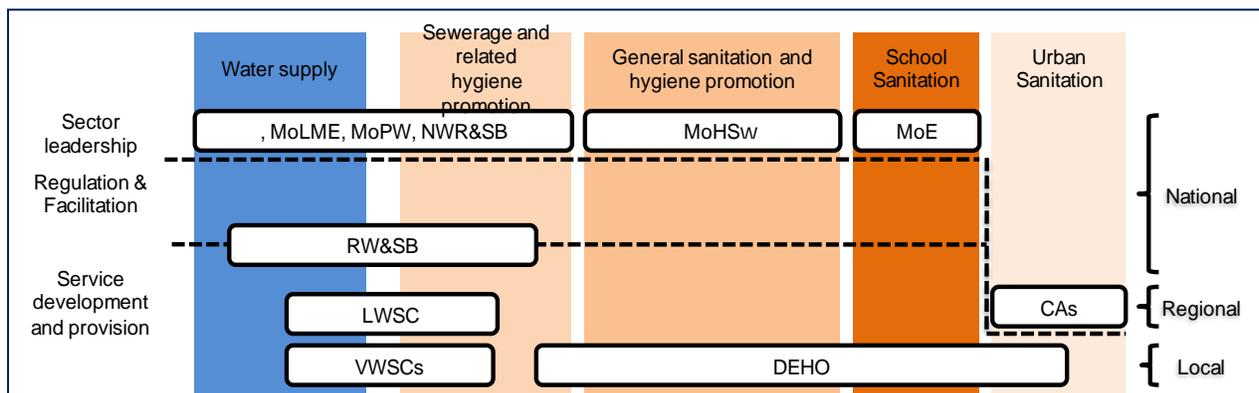


Figure 5: Institutional roles and relationships in the water supply and sanitation sector

National Water Resources and Sanitation Board (NWRSB): When established, NWRSB will be responsible for Sector Policy, Strategy, Planning, Technical Support, Coordination, M&E, HRD, Capacity Building, Decentralization, Programs, Financing, NGO Support, Management Information Systems (MIS), Donor Coordination and enforcement of standards, regulations and by-laws (including aspects of Public Health Laws, and Drinking Water Quality Standards in the Environmental Protection and Management Law). It will have oversight of the WSSC, and other entities: a) LWSC; (b) RWSSB; and (c) DCMHyP. Supporting the NWRSB will be the **National Water Sanitation and Hygiene Promotion Committee (NWSHPC)**. The board will be made up of the highest level of representation per ministry/agency and the NWSHPC will be made up of the technical staff that will be responsible for supporting the board.

Ministry of Lands, Energy and Mines: The ministry leads in policy formulation and has been responsible for the preparation of the IWRM Policy and the NWSP. Its water sector functions include: Provision of hydrological services (through the Liberia Hydrological Services Bureau), Water Analysis, and collection of hydrological data. It is also mandated to provide assistance and advice with the siting of boreholes and wells, and drilling techniques.

Ministry of Public Works (MPW): It is in charge of Infrastructure and Basic Services under Pillar IV in the PRS. It had led the sector coordination at national level. The Ministry is engineering-focused, handling among other tasks, the national rural water supply program. It also had oversight responsibility for LWSC. The ministry implements directly, and/or through contractors and NGOs.

Ministry of Health and Social Welfare (MoHSW): It is responsible for Health Promotion and Community Mobilisation, Environmental and Occupational Health, Hygiene Education and development of Sanitation facilities. It is also responsible to ensure the quality of domestic drinking water supply and sanitation and hygiene practices pursuant to the Public Health Law and setting standards of water quality control and environmental health. Its mandate includes among others, waste management, disinfection, drinking water, industrial waste, and sewerage.

Ministry of Education: The Division of School Health is responsible for School Health and Hygiene in the country's 4900 schools (Private and Public). It constructs hardware in collaboration with Education Facilities Unit in the ministry. Software activities related to water supply and sanitation in schools are developed in collaboration with the Department of Hygiene Promotion in the MOHSW.

Ministry of Finance: The ministry is mandated to collect revenue; engage in loan arrangement, disburse Government funds, and service the National Debt. State corporations like LWSC whose operations do not generate sufficient revenues to meet all O&M, capital maintenance and loan repayments have to rely on the ministry to stay in business.

National Water, Sanitation and Hygiene Promotion Committee: This will be a resource group made up of the Line Ministries and service agencies, civil society and development partners. The committee will operationalise the NWSP, including the development of strategies coordinate all water supply and sanitation activities.

National Water Supply & Sanitation Commission (NWSSC): The NWSSC will act as Service Regulator and Developer and shall among other functions, , establish measures and standards for water quality, serve as regulatory authority on water and sanitation activities and make policy decisions on water and sanitation (supported by the NWSHPC) within the framework of national legal institutions/instruments. The NWSSC will also have responsibility for: (i) promoting the rights of access to basic water supply and sanitation; (ii) setting standards and norms for consumer service standards; (iii) regulating tariffs charged to consumers; (iv) issuing Water Services Provider Licenses; and (v) promoting PPPs.

Directorate of Community Mobilization & Hygiene Promotion (DCMHP): The Directorate will have a Bureau status within the Ministry of Health and Social Welfare, and supplemented with Community mobilization expertise, providing dedicated software support to the RWSSB.

Liberia Water and Sewerage Corporation: LWSC is mandated to: (i) engage in the, development, construction, installation, manufacture, operation, transmission, distribution, sale, and supply to all urban areas of water and sewerage services; (ii) establish and maintain water and sewer facilities, offices and/or agencies within and everywhere inside Liberia; (iii) determine fair and reasonable rates, fees, and charges which shall be charged in connection with the provision of water and sewage services. Some of these functions will be taken over by the NWSSC.

Rural Water Supply and Sanitation Bureau (RWSSB): The primary role of the RWSSB will be hardware delivery, provision of technical expertise and knowledge and building capacity in rural Liberia. This is required in the short to medium term as **County Administrations** and the **Community Water and Sanitation Committees (CWSCs)** have limited technical capacity – to undertake implementation.

Other significant players in the sector include both **Local and International NGOs (NGOs/INGOs)**, **civil society in the form of the WASH Working Group and the private sector**, which is yet to be adequately developed and resourced.

This section considers institutional challenges of operationalizing the WSSP which sets out the institutional roles and subsector approaches in detail, building on the snapshot provided by scorecard indicators.

Human resources and operational capacity: One of the legacies of the civil war was the severe loss of human resources from Liberia. While Liberia set out its water and sanitation targets in the PRS1 current institutional and human resource capacity at all levels (national and country) challenge translating these into services. Even where they are available, the lack of operational budget means that many sector institutions still depend on aid organisations to carry out both routine tasks and investment. As the WSSP concedes “there is an acute shortage of qualified staff especially engineers and accountants in the Agency. The Department of Occupational Environmental Health (DOEH) [for example] has one Sanitary Engineer trained at the University of Liberia, and needs capacity development to handle sanitation programs on a large scale”. Many employees fall into semi-skilled and unskilled categories.

Sector leadership needs further clarification: Institutional fragmentation, to a large extent, has led to the lack of a strong sector leadership in practice. This is partly responsible for the lack of visibility for water and sanitation issues in the national budget where the only institution with a dedicated WSS budget line is LWSC. The fragmentation and sector leadership are being addressed through the creation of the NWRSB and NWSHPC. However, it is not clear whether NWRSB will report to, be advisor to, or will operate above the MoLME and its sister ministries. The national policy notes that “the long-term objective of the proposed institutional framework is the eventual establishment of a Ministry of Water Resources and Sanitation”. The obvious question is: Why not now? The WSSP is going to take some time to operationalise all its intents and it will be useful to address all issues once and for all. The proposed ‘interim arrangement’ appears complex and may present political economy problems at the level of the Board, whilst sector leadership and a champion may still be missed.

Creation of the regulatory body and its autonomy: Currently, the regulatory function – particularly to review and implementation of tariff increments – is irregular as the institutional roles and responsibilities make it difficult for one of the institutions to exercise the arms-length regulatory function required. LWSC has some regulatory responsibilities which are inconsistent with its role as service provider, particularly in relation to tariff-setting and standards of performance. The NWSSC will address this. It will operate under the NWRSB, a body whose representation is made up of many of those to be regulated. However, as a referee it is likely to lack independence, a major requirement for it to enjoy the confidence and trust of both providers and consumers. There have also been concerns expressed about the creation of the commission as it has financial implications and as such its creation is not envisaged to happen in the near future. UNDP has a technical support program aimed at operationalising this body 2011-2013 and the cost of mobilising and running the WSSC for three years has been determined as \$3.3 million for which funding is actively being sought.

Governance of LWSC: There is a clear need to speed up the commercialisation of LWSC and review its objectives. The high level representation on its Board – Ministers of Finance, Justice, Planning and Economic Affairs - may have some advantages; however this is likely to compromise checks and balances and be a challenge for any regulator.

Role of the central government in direct service delivery: In transitioning from emergency service delivery to country-led development central government ministries will need to take up a strong leadership role in coordinating reconstruction activity, developing sector policy and building national capacity for service delivery. However, this leadership role should not be confused with taking over direct service delivery. Rather central government WASH agencies should develop a proactive facilitating role. This is consistent with regional good practice. However, the WSSP indicates that the **primary** roles of the RWSSB will be “hardware delivery, provision of technical expertise and knowledge and build capacity in the sector” in rural Liberia. In the medium-term such references to hardware delivery should be replaced

with a stewardship role i.e. facilitation, knowledge and capacity building and regulation of standards allowing counties, the private sector (and NGOs) to play the more hands-on role in service development and delivery (see priority actions set out in the rural water supply section 6).

Leadership for sanitation: The institutional home and champion of sanitation has been an issue in Liberia. Whilst many recognise the MoHSW as responsible for sanitation (through the Environmental Health Division), in practice the Division has not received adequate financial and logistical support.. It is noted also that the NWRSB will have oversight responsibility of the Directorate of Community Mobilization & Hygiene Promotion which will have a Bureau status within the Ministry of Health and Social Welfare. This again raises issues regarding reporting, supervision and accountability as it is not clear which body – NWRSB or MoHSW – takes ultimate responsibility for the work of the Bureau. Sanitation, which covers a very wide spectrum of activity (and not just WASH), should not be overshadowed by water and if it is to get the needed attention in relation to planning, budgeting and monitoring. More specificity is required on the aspects of sanitation that are not addressed in the WSSP.

4. Financing and its implementation

Priority actions for financing:

- **Prioritise WASH and increase the level of sector funding by linking PRS II and MDG targets to the domestic budget process**
- **Establish clear budget and expenditure lines for WASH to enable outputs to be measured and to capture and coordinate development partner contributions**
- **Support counties to prepare WASH Development Plans**
- **Establish a WASH Pool Fund**

Financing of the sector has been weak particularly from the domestic side which annually allocates below 1% of total annual Government budget to the sector. This is in large part a result of there being very little discretionary budget to allocate to infrastructure development. The entire national budget for 2009/10 was around US\$ 370 million. The legacy of a long-drawn out war and the need to spend a significant proportion of resources on security, limited economic activity (particularly in its traditional sources of tax revenue, including mining and forestry), widespread poverty and restrictions on borrowing have severely limited Liberia's ability to investment in the water and sanitation sector. Following HIPC debt relief in 2010 additional domestic resources will be freed up going forward.

Viewed against her peers as captured in Figure 6, Liberia falls short in all the sub-sectors in the area of financing. The factors for the low performance include the following:

Finalize the sector strategy and investment plan: The PRS1 articulated sector targets (*increase access to safe drinking water (from 25% to 50% by 2011, including to 45% of the rural population, and ensure the sustainability of 90% of water and sanitation facilities in the country*). It is particularly notable that there is a target for sustainability of facilities.¹¹

However, whilst the PRS is an instrument for setting sector targets, the sector strategy and investment

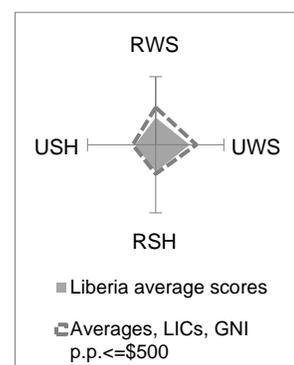


Figure 6: Scorecard indicator scores relating to financing, compared to peer group¹⁰

plan that will be launched in November 2011 are needed to articulate how these targets will be achieved. This will greatly enhance resource mobilization and utilisation for the sector.. The investment plan should be developed further to detail sub-sector requirements and anticipated sources of funds including how complementary funding from revenues from users could be used to sustain services.

Budgeting - inadequate financing: Liberia's PRS estimated that US\$143.5 million was needed for the sector up to 2011. However, estimated financing levels fall well below the expected funding levels. Liberia's budget shows the allocations for the LWSC, and these have been well below 1% of the national budget. For the three years, since 2006, the total allocation to the LWSC was approximately US\$1.9 million, provided as a grant. Spending by GoL on water and sanitation ranged from \$439,000 in 2006/7, \$900,000 (2007/8) and \$1,766,000 in 2008/9.¹² Corresponding allocations to Education (also major casualties of the war) were \$11m, \$45m, and \$58m over those same years. For Health these were \$10m, \$17m and \$23m. Clearly, the government's allocations for the sector are far below the required level of funding needed to reach the MDG target on water and sanitation. At 0.23% of the total budget, Liberia is one of the countries in Africa which allocates the lowest proportions of national resources to the sector.

Low disbursement rates of domestic funding: The low level of domestic funding is made worse by difficulties securing disbursements of these funds within the government systems. Some government departments in charge of water and sanitation have expressed difficulties in accessing the available if minimal domestic funding allocations. This is on account of difficulties to satisfy the new public finance management requirements. Annual budgeting processes now seek to improve budget allocations, disbursements and align planning to resource allocation within the parameters of the PRS.

1. **Strengthening donor coordination and leadership:** Aid is crucial to the development of Liberia due to the years of massive destruction to infrastructure, high poverty levels exacerbated by high unemployment and limits imposed on borrowing part of the conditions for going through the HIPC process. In the absence of a SWAp, donor financing is project-based. MoPW initiated a sector donor coordination process in 2009 but it was poorly attended by the 6-8 sector donors. However, through 2010 and early 2011 significant progress has been made in donor coordination. The African Development Bank is the lead donor for WASH in Liberia, has the largest funding portfolio at US\$ 37 million and is due to set up mission in Monrovia in 2011. It is envisaged that the ADB will facilitate donor coordination for sector and the establishment of a WASH Pool Fund. The most significant milestone in the sector has been the development of the Liberia WASH Compact.¹³This Compact between the GoL led by the Ministry of Planning and development partners, under the global Sanitation and Water for All initiative, sets out a road map of action under four jointly agreed commitments: **Establish and Strengthen Institutional Capacity:** Appointing the National Water Resources and Sanitation Board; Operationalizing the required institutions [set out in the policy]; Mandate assessment and strengthening of county-level structures within existing policies
2. **Ensure Equity and Prioritized Service Provision:** Mandate implementation of WASH standards and regulation protocols; Mainstream WASH in the education system; Ensure policies support community led processes to sanitation and hygiene
3. **Develop a Monitoring System:** Establish monitoring mechanisms; Refine and disaggregate the structure of budgets; Share WASH data/information internally and externally; Institute reviews of the Compact.
4. **Improve Sector Financing Mechanisms:** Establish a detailed, prioritized Sector Investment Plan; Deliver on GoL previous financial commitments; Establish WASH pooled fund mechanism.

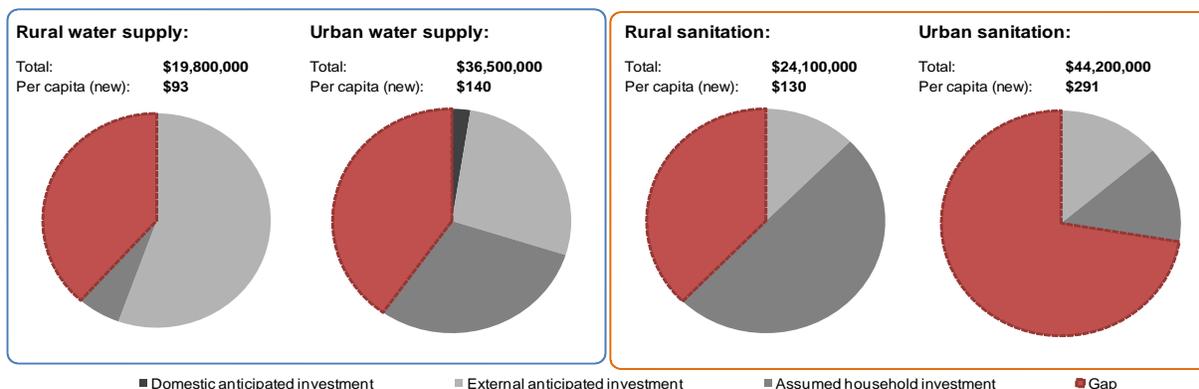


Figure 7: Overall and per capita investment requirements and contribution from different sources CSO2 estimates.

5. Sector Monitoring and Evaluation

Priority actions for sector monitoring and evaluation:

- Establish a national information management system for the sector that consolidates reporting on schemes being built and monitors functionality
- Institute an annual multi-stakeholder review to evaluate progress and set priority actions for the sector

Monitoring and evaluation of sector activities is still weak though significant progress has been made. The WSSP attributes the weak M&E framework to problems related to institutional fragmentation, geographical connectivity and mobility, besides lack of adequate trained manpower and funding. On the whole the average indicator scores, as captured in Figure 8, call for strengthening sector monitoring and evaluation. The following specific areas requiring improvement are discussed:

Quality, availability and systems for management: As the WSSP document concedes, “there are multiple sources of data indicating different coverage figures of water and sanitation in the country, and these are not necessarily comparable. There is also no proper reporting mechanism in place, besides ad hoc and inconsistent reporting of interventions by the partners to the Government”.¹⁵ This requires resolution, driven by a strong sector leadership that will bring all actors into line with agree definitions, indicators, and systems of data capture and management. As targeted in the PRS, all national statistics are expected to be fed into the Liberia Info database, managed by the Liberia Institute of Statistics & Geo-Information Services (LISGIS), and capacity will be developed to publish this online.

Linking local and national data to planning and outcomes: Liberia’s planning for service delivery should be anchored on credible data gathered through the nationally agreed M&E system. Current plans, particularly the PRS I, are a result of information derived from a joint government and NGO working group. The government has introduced the 90-day PRS deliverables cycle which tries to report progress on a 90-day basis. This is a welcome idea but it is also contingent on what implementing partners report

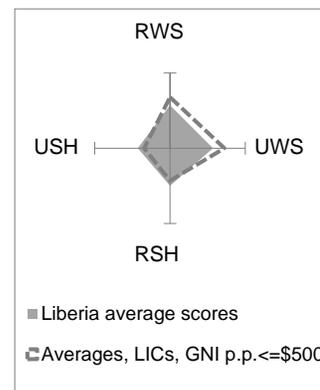


Figure 8: Scorecard indicator scores relating to sector M&E, compared to peer group¹⁴

combined with a proactive and pragmatic government-led process to acquire the information. For the PRS2 period renewed emphasis has been placed on reporting and it has been agreed that the NWSHPC will collate reports from GoL and development partners aligned with the PRS2 reporting schedule.

Annual sector review and consolidated annual sector reporting: There is the need to institute an annual multi-stakeholder to evaluate progress and set priority actions for the sector. This would bring all sector actors together to discuss sector plans and output and address its challenges. This should also involve a consolidated reporting of sector output.

6. Subsector: Rural water supply

Priority actions agreed for the rural water supply subsector

- **At community level enforce cost recovery and local management by of water points by CWSCs where they are not already established**
- **At County level build capacity to manage spare-part supply-chains and train more pump mechanics**
- **At national level improve the registration, vetting and quality control of pump installers and roll out technical guidelines on hand-pumps and water quality**

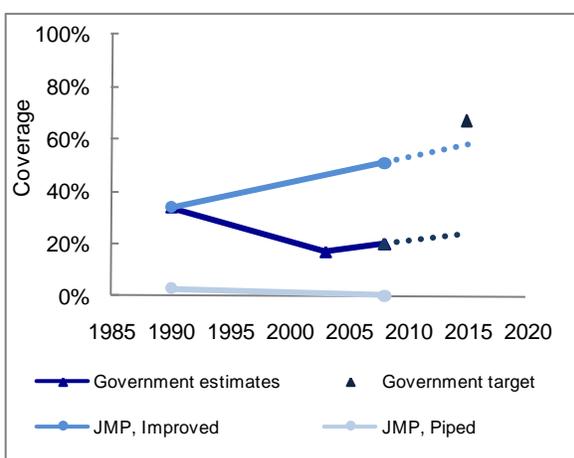


Figure 9: Rural water supply coverage

Before 2000 there is little subsector data on which to base estimates. The JMP includes the 1986 Demographic and Health Survey from which the 1990 baseline is estimated. Government has adopted this 1990 baseline for rural water supply but estimates 2008 coverage to have been 20% while JMP's estimate for the 2008 is 51 percent. There is no rural subsector estimate for 2003 (only an overall water supply estimate see section 2) but the PRS1 estimate of 17% coverage in 2003 is used here denoting coverage in the immediate post conflict period. The 2011 water point mapping survey confirmed that over 3000 rural water points have been build since 2005 strongly suggesting that the downward trend to 2003 has since been reversed.

The rural water supply target for the PRS2 period is 67 percent.

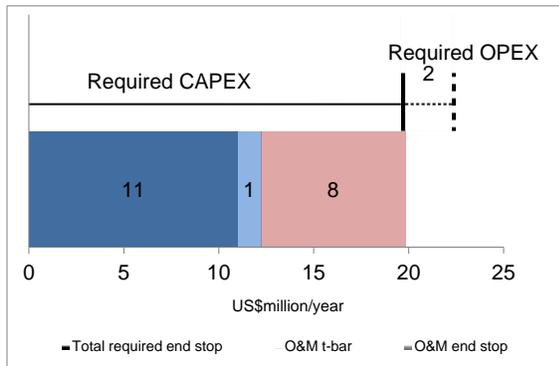


Figure 10: Rural water investment requirements

Based on the coverage figures adopted by stakeholders in the PRS1, and using the CSO2 costing model, an estimated US\$20 million is required annually, of which US\$18 million is to be sourced from public sources (domestic or donor). With an anticipated US\$11 million in annual external funding leveraging capital contributions of around US\$1 million from rural households, the sub-sector needs to raise an additional \$8 million annually.

Additional OPEX requirements are estimated at US\$2m/year – currently this is either a real or deferred burden on public finance, since recovery of operations and maintenance costs from user fees is rare for rural and small town schemes.’

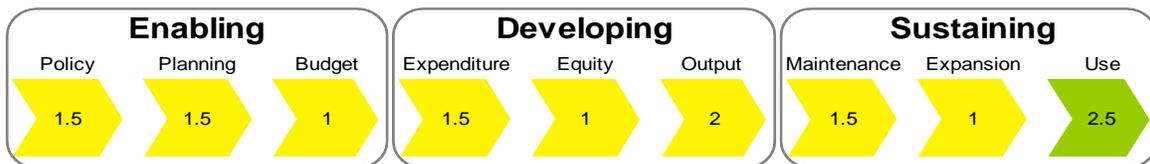


Figure 11: Rural water supply scorecard

Figure 11 shows the scorecard results for the rural water supply service delivery pathway. The scorecard uses a simple colour code to indicate: building blocks that are largely in place, acting as a driver on service delivery (score >2, green); building blocks that are a drag on service delivery and require attention (score 1-2, yellow); and building blocks that are inadequate, constituting a barrier to service delivery and a priority for reform (score <1, red). The assessment is based on contributions from sector actors.

The scorecard (represented by Figure 11) shows that there are concerns throughout the service delivery pathway in the rural water sub-sector. Liberia scores low in the ‘enabling’ and ‘sustaining’ building blocks whilst it is just above its peers in the area of ‘developing’ services (Figure 12). Some of the factors for this performance are discussed below.

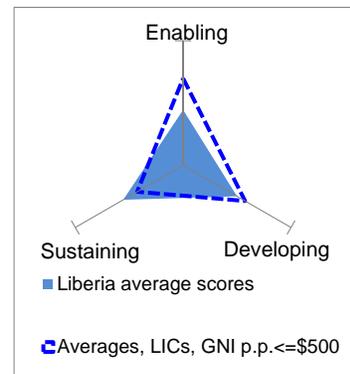


Figure 12: average RWS scorecard scores for enabling, sustaining and developing stages of the service delivery pathway, and peer-group comparison

Whilst the **policy** documents (PRS I and WSSP) have articulated the sector vision and targets, these are yet to be rolled out. Institution-building is required to ensure that those identified in the policy documents are established and strengthened. County administrations are expected to drive delivery and then sustain it through Community Water and Sanitation Committees CWSC, but both sets of institutions are challenged by capacity constraints. **Budget** allocations are very low, whilst utilisation rates and releases remain a challenge. In terms of developing services the **equity** building block scores poorly as a result of the absence of criteria and a systematic mechanism for allocating resources across counties and communities. Most interventions have been undertaken by NGOs and criteria have included logistical

concerns including levels of accessibility and security.

As in many other countries, there are concerns in Liberia about sustaining existing services (**maintenance** and **expansion**). Indicators for maintenance include conducting regular functionality surveys, raising user fees to finance O&M costs for service delivery and whether there is adequate back-stopping and a functioning spare parts delivery network.

With the long-drawn out war many facilities fell into disrepair. NGOs delivering services are not subject to gazetted national guidelines and solving immediate community needs (rather than long-term sustainable mechanisms) is what has driven projects. In many instances communities do not pay for the use of water and O&M as well as capital maintenance costs are rarely met.

Even for water points built since 2004 a third are non-functional according to the national water point mapping exercise carried out in 2011.¹⁶ The mapping exercise also revealed that over 80% of all rural waterpoints in Liberia are of just one type – the Afridev handpump and that there is considerable scope for repair and rehabilitation. County administrations, however, do not have the capacity to develop plans for maintenance support.

Three steps should be taken to improve the sustainability of rural schemes: Firstly, the water point mapping survey showed that active community water committees significantly reduce the likelihood of pump breakdown, yet thousands of points still have no CWSCs. CWSCs need to be put in place where they are not already established. Secondly, at the County level spare-part supply-chains need to be strengthened and more pump mechanics need to be trained. Third, at national level the registration, vetting and quality control of pump installers should be improved and technical guidelines on hand-pumps and water quality rolled out.

On the positive side indicators for **use** are high as around 84% of the rural population covered by improved sources spend less than 30 minutes (round-trip) to fetch water. Among sub-sector activities is a concerted effort by development partners to improve water storage and point of use treatment.

7. Subsector: Urban water supply

Priority actions for the urban water supply subsector

- **Develop a detailed urban water sector investment plan aligned to the sector strategic plan**
- **Develop a financing strategy that puts LWSC in a position to carry out basic efficiency improvements in its operations**

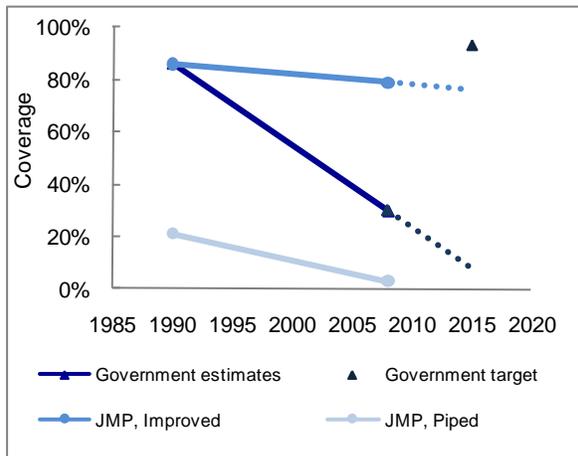


Figure 13: Urban water supply coverage

All estimates for urban water supply coverage show a decline in coverage between 1990 and 2008. Over the period of review the urban population has close to doubled driven by conflict induced rural-urban migration. While JMP data show a decline in coverage from 86% in 1990 to 79% in 2008 Government estimates suggest a far greater drop in coverage to 30% coverage in 2008. The PRS1 reports that Monrovia's water supply production fell from 18 million gallons daily to just 1 million gallons over the period of conflict. This has since recovered to 5 million gallons per day in 2010.¹⁷

The urban water supply target for the PRS2 period is 93 percent.

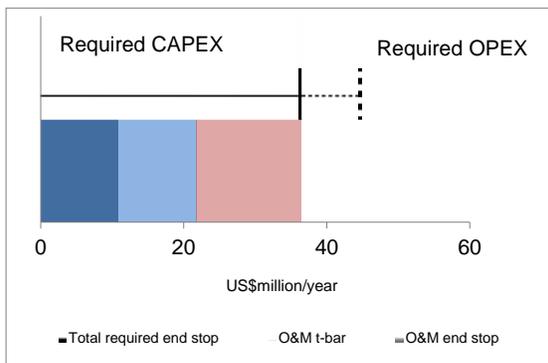


Figure 14: Urban water investment requirements

Based on the coverage figures adopted by stakeholders for 2008 for urban water supply, and using the CSO2 costing model, an estimated annual US\$36 million is required for investments in the sub-sector. Of this amount around US\$18 million is attributed to the public sector, of which US\$11 million is anticipated from domestic and donor sources. Urban households are required to meet another US\$11 million through cost recovering measures adopted through current policy intentions. OPEX requirements are estimated at US\$8 million, and the ability to recover these from user fees will determine the true extent of public sector funding requirements.

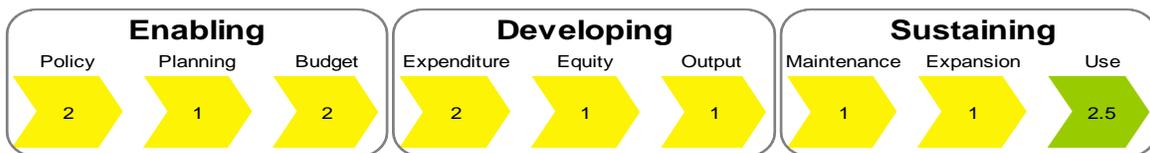
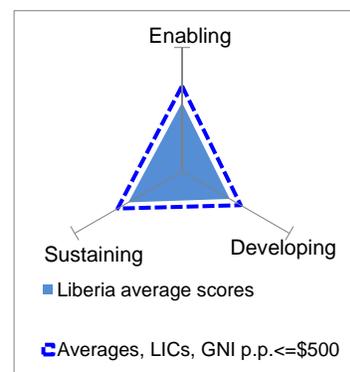


Figure 15: Urban water supply scorecard



The scorecard depicted in Figure 15 demonstrates that several of the building blocks in the service delivery pathway raise concerns for sub-sector performance. Compared to its peer group, Liberia underperforms in all 3 building blocks (See Figure 16). An examination of the scorecard highlights weaknesses in planning, equity, output, maintenance and expansion building blocks.

Figure 16: average UWS scorecard scores for enabling, sustaining and developing stages of the service delivery pathway, and peer-group comparison

Sector planning and co-ordination (for the sector as a whole) was very weak until early 2010 with only rough estimates of requirements to meet 2011 PRS1 targets in place. Since then a sector strategic plan has been under development. This includes a rudimentary investment **plan** but this is yet to be finalised and will need to be supported by a more detailed urban investment plan.

In addition there is a platform for annual sub-sector reviews of outputs which embraces all stakeholders and drives sub-sector agenda has yet to be put in place. No comprehensive **equity** criteria exist for the allocation of resources among urban centres and among segments of the population, even though all donor projects have incorporated components for service delivery to low income and peri-urban communities. **Maintenance and expansion** score low principally as a result of the lack of commitment to achieving cost recovery through improved tariff-setting mechanisms. As a result LWSC also has a weak financial position undermining its ability to finance O&M or put in place basic efficiency improvements. This situation is attributed to “inadequate tariff; weak billing & collection structure, high level of arrears and high Unaccounted-For-Water (UFW), amounting to 65-75% of the water production in most of the areas, and particularly in Monrovia.”¹⁸

8. Subsector: Rural sanitation and hygiene

Priority actions for the rural sanitation and hygiene subsector

- Clarify the institutional lead for sanitation and scale up Community Led Total Sanitation
- Adapt and adopt a nationwide hygiene promotion toolkit to scale up current levels of progress

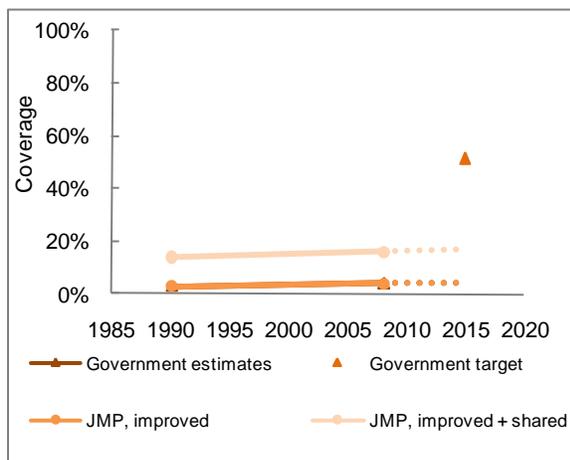


Figure 17: Rural sanitation coverage. Source CSO2 costing

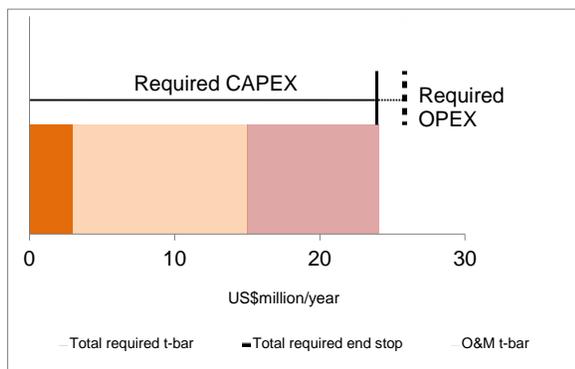


Figure 18: Rural sanitation investment requirements. Source: CSO2 Costing

All estimates for rural sanitation show that little progress has been made since 1990. The JMP estimates that open defecation rates have increased from 68 to 77 percent between 1990 and 2008. Access to improved sanitation has remained very low increasing from only 3 to 4 percent over the same period. The remainder of population share facilities. Government estimates for rural sanitation default to JMP estimates.

It is clear that Liberia has a long way to go, given that its commitment to achieving the MDG target remains unchanged. The rural share of this target for the PRS2 period is 52%.

CAPEX requirements for rural sanitation infrastructure are estimated at US\$24 million, of which the public component is around US\$5 million. This public component is expected to leverage the remainder (US\$ 19 million) from household expenditure using a low or no-subsidy CLTS sanitation approaches. The service delivery pathway for sanitation therefore needs to demonstrate the mechanisms for this leveraging of household expenditure by putting in place credible nationwide sanitation promotion including the budgets, staff and materials to carry this out.

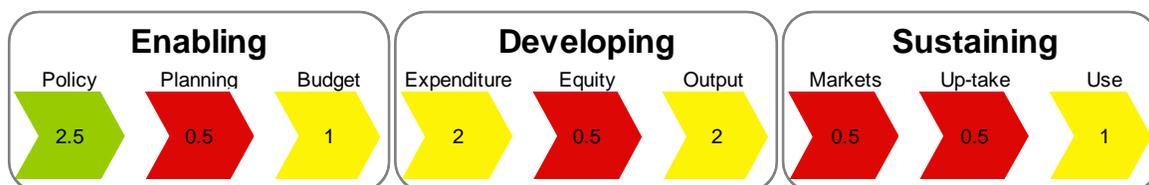


Figure 17: Rural sanitation and hygiene scorecard

An examination of the scorecard for rural sanitation (Figure 19) shows a poor performance throughout the service delivery pathway, with concerns in planning and budgeting, poor access, equity as well as all the building blocks pertaining to sustaining the delivery of facilities. Liberia's rural sub-sector underperforms its peer group (Figure 20), with average scores in the group reflecting the challenges that countries as a whole have in their sanitation agenda. The high score for **policy** is explained by the existence of the WSSP, one of the indicators in the enabling factors in the service delivery pathway. Whilst the policy clearly identifies household sanitation as essentially a household-driven activity the strategies for achieving this are not in place and it is not clear how households are to be encouraged to invest in sanitation, and how this will be financed – an especially urgent issue given the current emphasis on CLTS. The **equity** building block scores poorly as the key indicators for this – criteria for allocation of sanitation funding, procedures for local participation in planning, budgeting and implementation and periodic analysis by government and civil society to assess equity issues – are only beginning to take root or are not currently in place. The **markets** building block also scores poorly due to the absence of a supply chain for sanitation equipment to meet household needs and insufficient supply-side artisanal or technical capacity, major requirements to complement the CLTS approach. The indicators for **uptake** include the sufficiency of quantity and quality of facilities being rolled to meet the MDGs, and the percentage of rural households practising hand washing at critical times. The poor rating is more the result of the lack of data than an objective assessment of the current practices, even though there are some significant findings that could support the above verdict.¹⁹

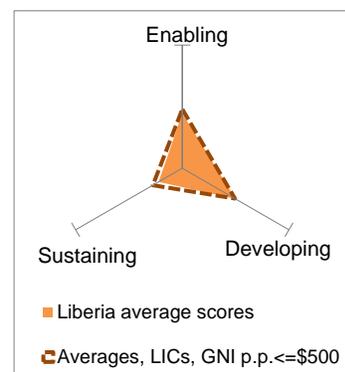


Figure 18: average RSH scorecard scores for enabling, sustaining and developing stages of the service delivery pathway, and peer-group comparison

9. Subsector: Urban sanitation and hygiene

Priority actions for the urban sanitation and hygiene subsector

- **Develop appropriate sanitation technologies for densely populated urban slums**
- **Clarify strategy for the promotion of sanitation in low income and peri-urban communities**
- **Identify low cost sanitation/sewerage options including small-bore sewerage and decentralized, neighbourhood-based treatment plants**
- **Clarify use of shared facilities (based on researched evidence on quality, appropriateness) and incorporate in decision-making regarding investments**

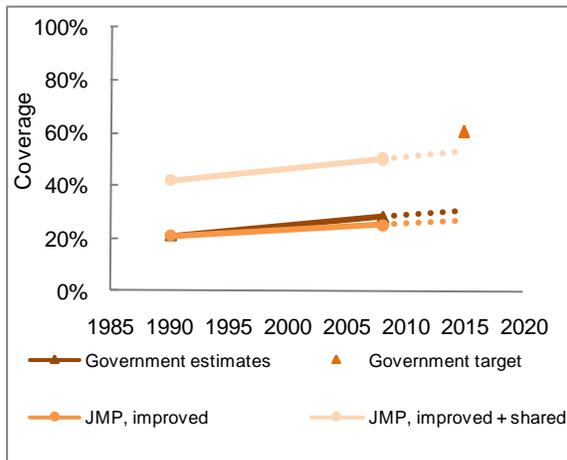


Figure 21: Urban sanitation coverage

With a rapidly growing urban population, sanitation in urban areas is critical. The JMP estimates that open defecation rates have increased from 15 to 30 percent between 1990 and 2008. Access to improved sanitation increased marginally from 21 to 25 percent over the same period with a similar proportion of the urban population sharing facilities. Monrovia is by far the largest urban centre with a population of over a one million. There are reported to be only 724 household sewer connections in Monrovia with a further 15% of households being connected to the septic tanks.²⁰ Government estimates for urban sanitation are very close to JMP estimates. The urban sanitation target for the PRS2 period is 61 percent.

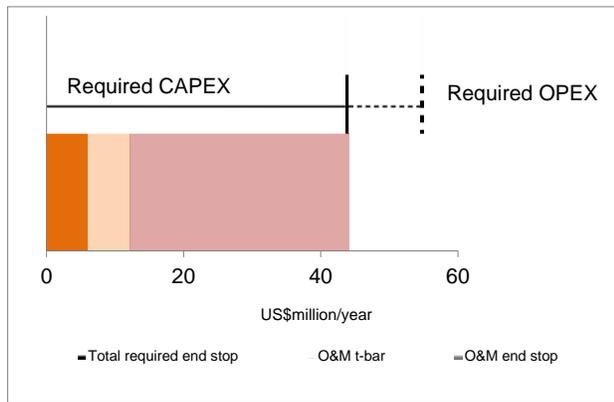


Figure 19: Urban sanitation investment requirements

Based on the CSO2 costing, an annual CAPEX of US\$44 million is required to finance investments in urban sanitation and hygiene. Of this amount US\$22 is expected from public funding (domestic and donors), whilst household contributions leveraged through the public investment are estimated at US\$6 million. There is a financing gap of US\$32 million, given that only US\$6 million is anticipated in public expenditure. Furthermore the programmed public investment in urban sanitation is principally for rehabilitation of the Monrovia sewerage system. For the poor living in informal and peri-urban communities, it is noted that CLTS may not be effective, but there is as yet no clear strategy for promoting sanitation delivery in such communities.

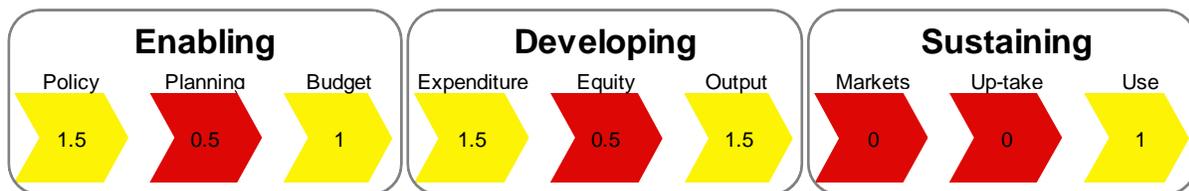


Figure 20: Urban sanitation and hygiene scorecard

The scorecard for urban sanitation (Figure 20) shows a poor performance throughout the service delivery pathway, with concerns in **planning, equity** as well as very low scores in the building blocks sustaining the delivery of facilities namely **markets** and **uptake**. Liberia's urban subsector underperforms its peer group (Figure 21), with the very low average scores in the peer group reflecting the major challenges that these countries have in addressing the urban sanitation agendas.

Though there are national targets set for urban sanitation in both the PRS1 and PRS2 the national WSS Policy (WSSP) does not provide any policy guidance for the urban sanitation subsector other than to say that pro-poor services should be adopted and that this should be done at full cost recovery. The policy does not stipulate a lead agency for urban sanitation nationally or mention the role of Monrovia City Council.²¹

Monrovia is by far the largest urban centre with a population of over one million and accounts for over a third of the country's population. Monrovia City Corporation (MCC) is the agency that has taken on the charge of solid waste and on-site public sanitation (public toilets). Piped Water Supply and Sewerage are the responsibilities of the Liberia Water and Sanitation Company (LWSC), while drainage is the responsibility of the Ministry of Public Works (MPW).²²

In Monrovia, the sewage from the flush toilets and sewage from hundreds of septic tanks (collected by vacuum trucks) is discharged into the sewer network. However since the sewage treatment plant is not operational the sewage eventually finds its way untreated into the environment. A multi-donor project managed by LWSC is rehabilitating the waste stabilization ponds.

In fast growing, unplanned areas of the city, space for on-site sanitation is limited, the water table high and resorting to open defecation common. In an effort to meet the huge un-met demand for sanitation facilities communal latrines were constructed in urban communities during the humanitarian period but many of these filled up, fell into disrepair, and were abandoned. Since then MCC and its development partners have implemented a number of rehabilitation programs aimed at reviving and expanding public sanitation facilities. Though still limited in number these public facilities are becoming a well used solution. The two challenges have been to:

- Identify and put in place effective management models across different types of public facilities: those with users not resident in the immediate vicinity; those in unplanned settlements with users from the resident community; and those that have both resident and non-resident users.
- Finding solutions for efficient emptying, transfer and disposal of faecal sludge while maintaining the affordability of public facilities to users.

Nevertheless, additional initiatives are also needed to promote and improve household sanitation solutions in urban areas as public toilets alone will not mitigate the high faecal contamination of ground water in shallow wells used by the majority of the city's residents.²³ This will need to include developing a strategy for the promotion of sanitation uptake and mobilization of markets for sanitation services for densely populated urban slums as well as low cost sewerage options including small-bore sewerage and decentralized, neighbourhood-based treatment plants in the medium and lower density urban areas.

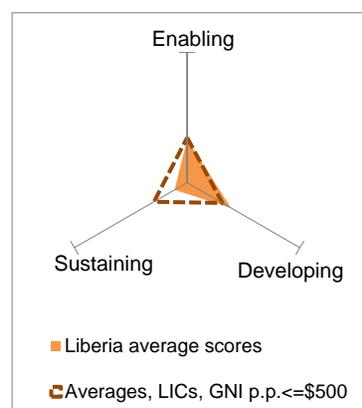


Figure 21: average USH scorecard scores for enabling, sustaining and developing stages of the service delivery pathway, and peer-group comparison

Notes and references

¹ PRS2 targets for water supply and sanitation. The target for sanitation is for unshared sanitation. The target for sanitation including shared sanitation is 63%.

² The first round of CSOs was carried out in 2006 covering 16 countries and is summarized in the report, "[Getting Africa on-track to meet the MDGs on water and Sanitation](#)".

³ IMF 2008. Liberia: Poverty Reduction Strategy Paper (pg 106)

<http://www.imf.org/external/pubs/ft/scr/2008/cr08219.pdf>

⁴ Government of Liberia, UNDP, UNECA (2008) Liberia's Progress Towards the Millennium Development Goals.

<http://www.lr.undp.org/Documents/RecentPublic/Liberia-MDG-Report-2008-small.pdf>

WaterAid 2008. Scoping Study to Liberia, London

⁵ JMP estimates are based on a linear regression of nationally representative household surveys. WASH stakeholders in Liberia feel the LDHS access figures for water and sanitation have not been realistic over the years. The baseline access figures quoted on page 106 of PRS 2008 are attributed by the sector to the joint Government-NGO working group on Water and Sanitation. These figures were said to have been extrapolated using the year 2004 as baseline and accounting for the water and sanitation projects undertaken nationally by the Government and partners since that time. They are used as the baseline indicators for the Government's strategic objectives in Water and Sanitation, including the MDGs, with the proviso that these baselines and targets may be adjusted during the PRS implementation period.

⁶ In the absence of a clear policy on user contributions, the proportion of capital costs assumed to be met by households was estimated in Ministry of Infrastructure Task Force meetings, as: 5% for rural water supply, 0% for urban water supply and 70% for both rural and urban sanitation subsectors.

⁷ Due to rounding, component figures may not sum to totals

⁸ The CSO2 scorecard methodology and conceptual framework are discussed in detail in the synthesis report.

⁹ Indicators relating to the Institutional framework section are as follows: **All subsectors**: targets in national development plans/ PRSP; subsector policy agreed and approved (gazetted as part of national policy or as stand alone policy); **RWS/ UWS**: institutional roles defined; **RSH/ USH**: institutional lead appointed

¹⁰ Indicators relating to the Financing section are as follows: **All subsectors**: programmatic Sector Wide Approach; investment program based on MDG needs assessment; sufficient finance to meet MDG (/subsidy policy for sanitation); % of official donor commitments utilised; % of domestic commitments utilised

¹¹ The national water point mapping survey carried out in 2011 indicates that progress on the sustainability of systems is yet to be achieved. Of the 7,500 rural water points surveyed 29 percent were not functional and a further 11% functional but with problems e.g. water available for only part of the dry season.

¹² Figures provided by official of Ministry of Finance

¹³ www.wash-liberia.org

¹⁴ Indicators relating to the Sector M&E section are as follows: **All subsectors**: annual review setting new undertakings; subsector spend identifiable in budget (UWS: inc. recurrent subsidies); budget comprehensively covers domestic/ donor finance; **RWS, RSH, USH**: domestic/ donor expenditure reported; **UWS**: audited accounts and balance sheets from utilities; **RWS, RSH, USH**: periodic analysis of equity criteria by CSOs and Government; **UWS**: pro-poor plans developed and implemented by utilities; **RWS/ UWS**: nationally consolidated reporting of output; **RSH/ USH**:

monitoring of quantity & quality of uptake relative to promotion and subsidy efforts; **All subsectors**: Questions & choice options in household surveys consistent with MDG definitions

¹⁵ NWSP, section 3.4.3

¹⁶ GoL (2011). Liberia Waterpoint Atlas: http://wash-liberia.org/uploads/Final_Review_Version_-_Waterpoint_Atlas_Investment_Plan_x.pdf

¹⁷ LWSC Operation Department. Monthly report. December 2010

¹⁸ AfDB, Project Appraisal Report, Liberia, Monrovia Water Supply and Sanitation Rehabilitation project, 2007

¹⁹ A study by Subah-Belleh Associates on hygiene-related behaviour in around 1,000 communities in eight counties in Liberia in early 2008, made the following findings: 60% practised open defaecation; and 43% did not practise hand-washing with soap.

²⁰ Ministry of Lands, Mines and Energy (2009). Water Supply and Sanitation Policy.

²¹ *ibid.*

²² Sen, Somnath (2007). Improved Management of Public Toilets in Monrovia by Outsourcing

²³ WSP (forthcoming). Survey of water quality in Monrovia's public water supplies.