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Value for Money and Sustainability in WASH programmes (VFM-WASH)

Assessment of DFID's SHAWN-I programme in
Nigeria

Final report, short version

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Abstract

This report presents summary findings for the value for money (VFM) analysis of SHAWN-I between 2010 and 2013. SHAWN-I (Phase 1 of the ‘Sanitation Hygiene and Water in Nigeria’ programme) is a DFID-funded programme, implemented by UNICEF-Nigeria. It aims to accelerate and sustain progress in safe excreta disposal, adoption of improved hand-washing practices and consumption of safe water for 2.3 million people, across four states in Nigeria.

The VFM-WASH project

This note is an output of the VFM-WASH project, which stands for “Value for Money and Sustainability in WASH programmes”. It is a two-year research project funded by DFID, which entails carrying out operational research into DFID’s WASH programmes in 6 countries. A consortium of 5 organisations, led by OPM, has carried out the work. Research Partners include the University of Leeds, Trémolet Consulting, the London School of Hygiene and Tropical Medicine and Oxfam.

The project has 2 main objectives:

1. To identify how VFM and sustainability can be improved in DFID-funded WASH programmes through operational research in six countries (Bangladesh, Ethiopia, Mozambique, Nigeria, Pakistan and Zambia). In each of these countries, the project team conducted a VFM analysis of a DFID-funded WASH programme. The focus programmes were implemented by the country’s government, large organisations such as UNICEF or small NGOs;
2. To assess the sustainability of rural WASH services in Africa and South Asia by carrying out nationally representative household surveys in 4 countries (Bangladesh, Ethiopia, Mozambique and Pakistan), alongside gathering secondary data for a larger group of countries (e.g. existing surveys and Water Point Mapping initiatives).

See the project website for more information: <http://vfm-wash.org>

Acknowledgements

This analysis is based on work conducted between January 2014 and June 2015 by members of the VFM-WASH consortium. The research team included Dr. Lucrezia Tincani from OPM, Dr. Adam Biran from the LSHTM and Dr. Isaiah Oke. The team benefitted from the support and facilitation of Boluwaji Onabolu and Kannan Nadar at UNICEF-Nigeria, Amy Potter and Esther Forgan at DFID Nigeria and Laura Westcott at DFID-UK.

In Abuja, meetings were held with DFID country office, WaterAid, the EU delegation in Nigeria and the independent monitoring organisation NEWSAN. During a visit to Benue and Katsina States, meetings were held with the State-wide RUWASSA and with WASH units in two LGAs per State. Two community visits per State were carried out together with the LGA WASH units, with group interviews were held with the WASHCOMs.

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List of Abbreviations

AMCOW	African Ministers' Council on Water
CLTS	Community Led Total Sanitation
DFID	Department for International Development (UK)
DHS	Demographic and Health Survey
DSA	Day's Subsistence Allowance
FCT	Federal Capital Territory
HIF	Hygiene Improvement Framework
HPBH	Hand pump-fitted borehole
JMP	Joint Monitoring Program (World Health Organization and UNICEF)
LAM	Local area mechanic
LGA	Local Government Area
LSHTM	London School of Hygiene and Tropical Medicine
MBH	Motorised borehole
MTR	Mid-Term Review
ODF	Open Defecation Free
OPM	Oxford Policy Management
PCR	Project Closure Review
RBDA	River Basin Development Authorities
RWASSA	Rural Water Supply and Sanitation Agency
SHAWN	Sanitation, Hygiene and Water in Nigeria
VHP	Volunteer Hygiene Promoter
VLOM	Village Level Operation and Maintenance
WASH	Water, Sanitation and Hygiene
WES Depts	Water and Environmental Sanitation Departments
WESCOM	Water and Environmental Sanitation Committees
WSMP	Water and Sanitation Monitoring Platform

1 Introduction

1.1 Objectives

The objective of the present analysis was to assess the Value-for-Money (VFM) of Phase 1 of the ‘Sanitation Hygiene and Water in Nigeria’ programme (SHAWN-I). SHAWN-I was a DFID-funded programme, implemented by UNICEF-Nigeria, which began in March 2010 and was completed in November 2013. Its objectives were to accelerate and sustain progress in safe excreta disposal, adoption of improved hand-washing practices and consumption of safe water across four states in Nigeria.

When this VFM study was initiated in October 2013, DFID-Nigeria was in the process of designing Phase II of SHAWN. This VFM analysis could inform DFID’s broader involvement in the WASH sector in Nigeria and assist with the formulation of VFM indicators for SHAWN-II.

1.2 Overview of DFID support to the Nigerian WASH sector

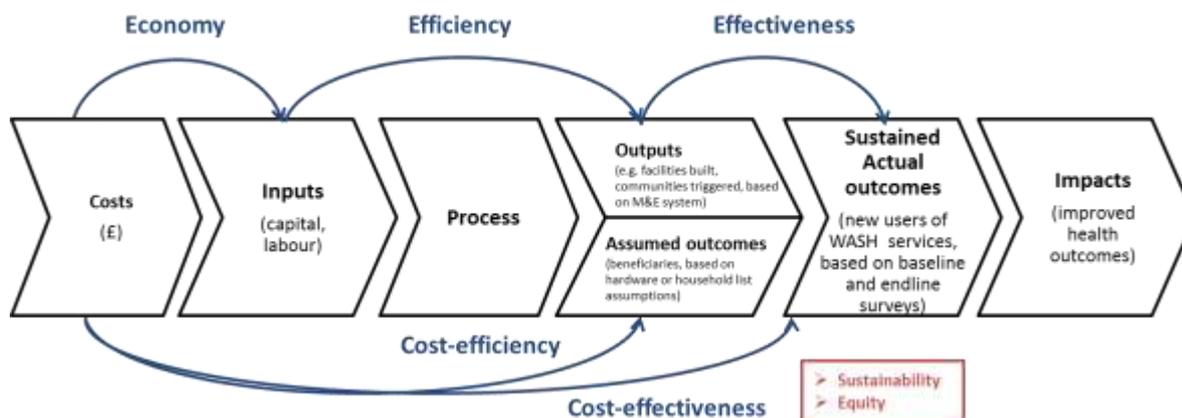
The SHAWN programme was a continuation of previous DFID support to the Water and Sanitation sector in Nigeria through its £19.4 million Water & Environmental Sanitation (WES) project (2002-2009). The WES project, which was also implemented by UNICEF, had focussed primarily on water supply in the context of the campaign for guineaworm eradication. As a result of WES, 1.2 million people across 8 states were estimated to have gained access to an improved water source through the construction or rehabilitation of boreholes and over 100,000 primary school pupils gained access to school sanitation (DFID 2009).

The SHAWN programme commenced in March 2010, working across four states, Benue, Jigawa, Katsina and Bauchi. SHAWN differed from previous DFID support to the WASH sector in having its primary focus on sanitation and hygiene rather than on water supply, though provision of water remained a significant component. More detail on SHAWN-I is given in Section 3.

1.3 Scope and methodology for the VFM analysis

Scope of the VFM analysis – The present study focuses on the investments DFID made through SHAWN-I between 2010 and 2013. Our analysis does not include the provision of water supplies and latrines in schools, as these activities were only carried out in a small number of pilot schools in 2010 and 2011. Our analysis also excludes the VFM analysis of capacity building activities (Outcome 3 and Outcome 4) as no monitoring data was available for the outputs and outcomes achieved through these activities.

Methodology. The present analysis follows a standard methodology for VFM analysis set out in the [“How to do Value for Money analysis for WASH programmes”](#) note released in May 2015 by the VFM-WASH consortium. This methodology explains how VFM can be evaluated along the WASH results value chain, as shown in Figure 6 below.

Figure 1. The WASH Results Chain

Source: Adapted by Authors from DFID WASH Portfolio Review (2013)

The WASH results chain uses the following definitions:

- An **output** is defined as an activity or product (infrastructure or software activity) that is the direct result of the programme and which can be counted as such (e.g. water points and small water supply systems constructed by the programme, number of CLTS campaigns conducted);
- An **assumed outcome** is the number of beneficiaries assumed to have gained access to WASH services as a result of the outputs of the programme's interventions;
- A **sustained actual outcome** measures the actual change in poor people's lives. It is the number of new people moving from using an unimproved water point to an improved one and who continue to use it over time.

A key step of the methodology consists of mapping out the programme results chain, as done in Section 3.2 below. The methodology then consists of computing VFM indicators across the five main dimensions of the VFM analysis, including economy, efficiency, cost-efficiency, effectiveness and cost-effectiveness. The way in which these indicators have been estimated in Nigeria is explained in Section xxx below.

Annual expenditure and VFM indicators presented in this report were calculated in NGN in nominal terms and then converted to USD using the average of official annual exchange rates from the World Bank database, averaged over the three years of the programme. An average was used as SHAWN spending was not available on an annual basis, but only for the whole programme.

1.4 Approach to the VFM analysis

The VFM analysis was carried out in a series of stages:

- In January 2014, the research team visited Nigeria and gathered expenditure and output data for SHAWN-I for March 2010 to September 2013. The team also collected documentation and reports on SHAWN-I and conducted interviews to identify areas for improvement.
- An interim report based on preliminary results was presented to DFID and UNICEF-Nigeria in June 2014. This report formulated recommendations to improve UNICEF's systems for tracking inputs and outputs so as to provide a stronger basis to analyse VFM going forward. The report

also included some programmatic recommendations for improving VFM under the next phase of the programme (SHAWN-II).

- In February 2015, the team received additional expenditure and output data from UNICEF for October and November 2013. This data was used to update the VFM analysis to include all outputs until programme-end in November 2013.

1.5 Report structure

The present report is organised as follows:

- **Section 2** provides key elements of context on Nigeria and the WASH sector;
- **Section 3** provides an overview of the SHAWN-I programme,
- **Section 4** presents key findings from the VFM analysis;
- **Section 5** formulates recommendations to strengthen UNICEF's programme management systems going forward, and specifically to inform VFM analysis under SHAWN-II.

In addition, a list of key references has been provided. A full bibliography, a list of people interviewed and additional information on underlying assumptions used for the analysis are available in the longer version of this report, which can be provided upon request.

2 Country context

2.1 General characteristics

This section provides key contextual elements on Nigeria and the rural WASH sector, including demographic and socio economic characteristics, and information on WASH services coverage. It then presents how the rural water and sanitation sector in Nigeria is currently organised and funded.

Geography – Nigeria’s climate varies hugely from the wet tropical coastal region to the arid Sahel region. Average rainfall for the country varies between about 250mm per year in the north (occurring mostly around April and September) and could be as high as 4000mm per year in the south (occurring mostly around March through October) depending on location. Nigeria’s main sources of drinking and irrigation water are river systems and dams. The two major river systems are river Niger and river Benue. Many northern rivers dry up in the dry season, while most southern rivers are perennial. There are 323 large, medium and small dams, which have been constructed and are operational in Nigeria¹. They have a total storage capacity of more than 30×10⁹ m³.

Economy and poverty – with an estimated population of 173 million, Nigeria is one of the most populated countries in Africa. However it is estimated that 54% of the population live on less than \$1 per day and GNI per capita is \$640. Nigeria’s economic strength is derived largely from its oil and gas reserves, which make up 99% of export revenues, 78% of government revenues, and 38.8% of the GDP. GDP growth rate is estimated at 5.4% (World Bank 2013). Nigeria’s HDI is ranked 152 out of 187 countries.

Current access to water and sanitation services – according to the Joint monitoring Programme², 35% of the rural population have access to improved water supply and 11% have access to rural sanitation services in 2012². This is considerably lower than coverage rates achieved in urban areas, with 78% improved water supply coverage in urban areas and 49% access to improved sanitation³ (see Figure 2 and Figure 3). This means that, despite recent improvements, Nigeria will not be able to reach its Millennium Development Goals, which included increasing access to drinking water to 77% and access to improved sanitation to 70%.

¹ Oke and Ismail 2013a

² JMP 2012 update; JMP 2013 update

² Akpabio E.M Water Supply and Sanitation Services Sector in Nigeria: The Policy Trend and Practice Constraints

³ These indicators should be treated with caution. Variations between sources (in particular between JMP (2014), the sector report on PRONASAR implementation in 2012 and the baseline study carried out by WEConsult and Metier in 2011) reveal that the level of uncertainty on coverage is still very high, however. This is partly due to the fact that assumptions underlying estimates of sector coverage data have recently been modified. In addition, data collection is not done on a regular manner and therefore generates considerable uncertainty.

Figure 2. Trend of access to safe water in Nigeria from 1990-2011 (JMP 2013)

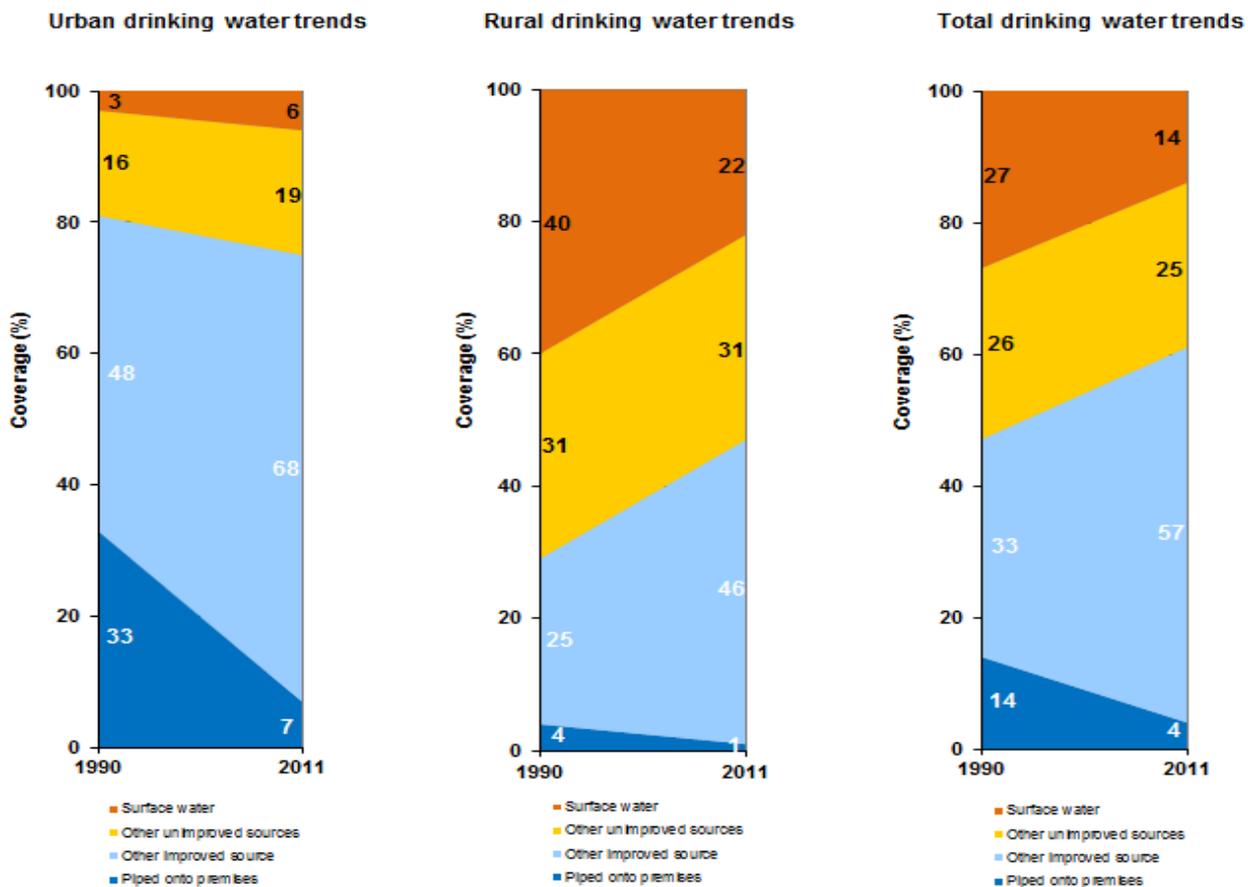
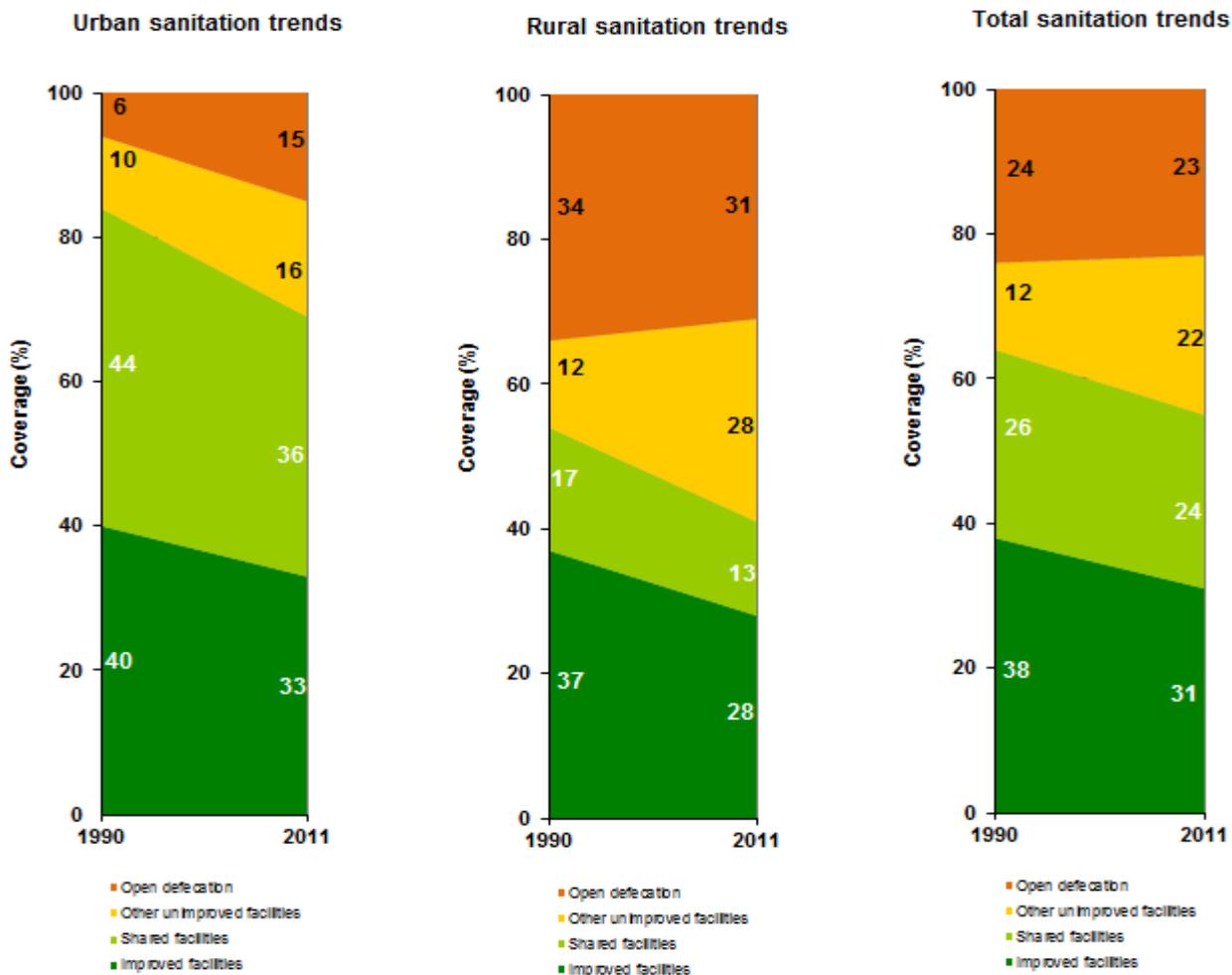


Figure 3. Trend of sanitation coverage in Nigeria from 1990-2011 (JMP 2013)



2.2 Water and sanitation sector overview

2.2.1 Legal and policy framework

A National Water Supply and Sanitation Policy was approved in 2000⁴ and marked the beginning of a push to improve the rural WASH sector. It set a target of 100% of the population to have access to safe water by 2011, which was later superseded by the MDG goal of 70% of the population with access to sanitation and 77% to water by 2015 – neither of which have yet been met. Recently the National Government renewed its commitments to the sanitation target by declaring 2025 as the year for the country to be ODF.

2.2.2 Sector institutional and financial arrangements

Three levels of government share responsibility for the delivery of water supply services. The Federal Ministry of Water Resources, which had been part of the Ministry of Agriculture for a period until 2010, is responsible for policy advice and formulation, data collection, monitoring and co-ordination at a national level. **In the 36 Nigerian States**, state-level structures providing water are divided between urban and rural areas, with State Water boards provide water to the urban areas, and the State Rural Water and Sanitation Agencies providing water and sanitation to the semi-urban and rural areas. The 774 **Local Government Authorities (LGAs)** are responsible for the provision of rural water supplies and sanitation facilities in their areas, through WASH Departments of Units, many suffer from resources and staff shortages. Financing arrangements

There is a significant funding gap in water and sanitation. The Federal Government of Nigeria estimates US \$2.5 billion annual investment is needed to meet the MDG target, of which only \$550 million is being met by Government and approximately \$100 million from development partners through loans and grants⁵.

To supplement funding, a series of international donors are active in the water and sanitation sector in Nigeria (see Table 1).

Table 1. International donors and sector of funding in Nigeria (Source: Akpabio, 2012)

Water Supply	Sanitation Promotion
AfDB ; EU ; UNICEF ; DFID ; USAID ; UNDP ; China; JICA; World Bank; and Water Aid.	AfDB; EU; UNICEF; DFID; USAID; JICA; and Water Aid

⁴ Federal Ministry of Water Resources. National water supply and sanitation policy. Department of Water Supply and Quality Control. January 2000

⁵ Federal Government of Nigeria. Nigeria Statement of Commitment. op. cit

3 Overview of SHAWN-I

This section provides an overview of SHAWN-I. It presents the programme's objectives, the activities funded, the programme's results chain and its geographical scope. Overall expenditure on the programme and main results achieved between 2010 and 2013 are then presented by component, providing the basis for the VFM analysis.

3.1 Programme objectives

SHAWN-I aimed to accelerate and sustain progress in safe excreta disposal, adoption of improved hand-washing practices and consumption of safe water for 2.3 million people, across four States in Nigeria⁶. The project funds were disbursed through UNICEF but implementation was carried out local government structures in an effort to increase the potential for sustainability and scale-up after the programme end (LGA-level WASH departments/Units and state-level RWASSAs). The programme's efforts to secure 50% counterpart funding for hardware costs from state and local governments marked a significant change from previous DFID funded work in the sector.

3.2 Activities, programme components and results chain

SHAWN-I implemented a variety of activities between 2010 and 2013 which contributed to four key outputs: increased ODF communities; increased access to safe water; scaling up WASH activities to State-level; and increased capacity building of State and LGA WASH departments. Only activities relating to the first two outputs were included in our VFM analysis, and are explained in more detail below:

- In order to increase sanitation coverage and end open defecation, the Community-Led Total Sanitation Approach (CLTS) was implemented through government local-government WASH units⁷, with support from a UNICEF consultant. Key activities included CLTS triggering events, subsequent support and verification of open defecation free (ODF) status.
- SHAWN worked to strengthen sector capacity through provision of training in CLTS methods to government and NGO staff members. It helped strengthen capacity at state and LGA level by providing mentoring through UNICEF consultants sitting within the state RWASSA and LGA WASH unit offices as well as through specific training activities.
- In order to improve hygiene practices, UNICEF's Hygiene Improvement Framework (HIF) was followed, which uses village-level volunteers to deliver hygiene education messages to households. Some activities were also carried out in schools in 2010 and 2011, namely the construction of latrines with hand-washing facilities.
- In order to increase access to and consumption of safe water, boreholes were constructed or rehabilitated, i.e. fitted with hand or motorised pumps. Construction was carried out by private contractors contracted by state RWASSAs. Some activities were also carried out in schools in 2010 and 2011, namely the construction of school boreholes.
- In order to improve the sustainability of water points, the capacity of LGAs and communities for village-level operation and maintenance (VLOM) was strengthened. This included establishing WASHCOMs, training of local artisans and pump caretakers, local area mechanics and private mechanics; as well as the establishment of supply chains. Preventive

⁶ In December 2011, DFID & UNICEF jointly agreed the Front-Loading and Deepening (FLD) plan for SHAWN which extended the programme to November 2013 and expanded the initial target of 12 LGAs to a total of 20.

⁷ Sometimes in partnership with one or more local NGOs, sub-contracted through the state Rural Water Supply and Sanitation Agency (RWASSA).

maintenance tools were provided to the trained mechanics and spare parts were provided as seed equipment for the supply chains.

Table 2 below presents an overview of SHAWN's results chain, which identifies the expected outputs, assumed outcomes, sustained actual outcomes and impacts for the main for Outputs 1 and 2 of the programme. These elements provides the basis for calculating VFM indicators of SHAWN, as presented in Section 0.

Table 2. Overview of SHAWN's results chain for Outputs 1 and 2

	Inputs	Outputs	Assumed outcomes	Actual outcomes	Impacts
OUTPUT 2 Water	Construction of water points; Rehabilitation of water points; Village-Level Operation and Maintenance system (VLOM)	New water points constructed; Existing water points rehabilitated; Mechanics trained; Creation of a retail outlet	Population with access to improved water sources	Population using improved water sources	Reduction of water-related diseases and improved health outcomes
OUTPUT 1a Sanitation	CLTS	WASHCOM set up; Communities triggered; Latrines built by community	Population living in ODF communities (thus having access to latrines)	Population disposing of excreta safely ⁸	
OUTPUT 1b Hygiene	Training of Village Hygiene Promoters (VHP)	Delivery of / attendance at awareness training	Population having knowledge of hand-washing with soap at critical times	Population adopting basic hygiene practices	

Source: SHAWN log frame (revised for the FLD phase); LGA monitoring data

In addition to the inputs listed in the table above, indirect programme support activities were considered as inputs into the programme as they contributed directly or indirectly to the results of the water and sanitation components presented above. However, it was not possible to track their results directly across the results chain and therefore to estimate the VFM of these inputs in an isolated manner. For the purpose of the analysis, the costs of these inputs were therefore allocated to the main programme components, either on the basis of a direct allocation (when a study was clearly related to one of the components for example), or based on the relative weight of these components in total programme expenditure or based on staff time allocated to these activities. The allocation rule varied according to the type activity. More detail is provided on this point in Section 3.6.1.

⁸ Safe disposal (in covered pits, lined where necessary to prevent collapse, and installed so as not to pollute ground water sources used for drinking) of adult, child and infant human faeces.

3.3 Geographical scope

In 2010, 12 LGAs in four States were selected for implementing the main activities of SHAWN. In each State, LGAs were invited to submit expressions of interest. Final selections were made by the technical steering committees at State-level and by UNICEF. LGAs were categorised into Medium, High and low according to criteria which included population demographics (gender, population under-five); commitment (government counterpart contributions); Public Health status (water and sanitation diseases prevalence); access to social services; institutional arrangements (existence of WASH unit); and synergies with other donor projects.

In December 2011, eight more LGAs in the same four States were added to the programme, making a total of 20 LGAs. VFM analysis was undertaken for all 20 LGAs.

3.4 Programme institutional and implementation arrangements

The programme itself was hosted within the state and local government structures in an effort to increase the potential for sustainability and scale-up after the programme end. The main implementing agencies were State RUWASSAs and the LGA WASH departments. However, in Benue State and Bauchi State, these structures did not exist when SHAWN started, and were thus created ex-novo to implement the SHAWN and ensure capacity for sustainability after the programme end. The programme's efforts to secure 50% counterpart funding for hardware costs from state and local governments also marked a significant change from previous DFID funded work in the sector.

Local governments did not carry out all activities themselves but did so through private contractors (for water point constructing activities), through local NGOs or CBOs (used to train WASHCOMs on CLTS, on HIF, and on community management training). In addition, some national NGOs were contracted by UNICEF for survey, capacity-building and monitoring work, including the certification of ODF communities⁹.

3.5 Programme management and monitoring systems

The programme is managed through UNICEF-Nigeria. Expenditure data is centrally tracked through UNICEF's finance system, but it is not coded based on categories of activities undertaken by the programme. Whereas the initial budget for the programme had been elaborated by activity, costs are tracked by expenditure category (staff, capital expenditure, goods and equipment, services, etc.) This means that it was necessary to allocate programme expenditure to activities manually.

SHAWN's M&E data rely on the M&E activities of the LGA WASH departments, which report data on inputs, outputs and assumed outcomes was obtained from UNICEF, for each project LGA. Results data is recorded on excel at LGA level, and compiled by UNICEF-Nigeria into quarterly reports.

Data on outcomes and impacts were not available for SHAWN programme areas. An impact study was carried out in 2014 by a research team from the Royal Tropical Institute from Amsterdam, however this study covered in six Nigerian States; a larger geographical area than the LGAs covered by SHAWN. As SHAWN programme areas could not be isolated in this study, the results of the

⁹ The national task group on sanitation (comprising key government stakeholders and civil society) and NEWSAN (the Association of NGOs in Nigeria) were involved in certification/ validation of ODF communities.

impact evaluation could not be used to calculate cost-effectiveness for this VFM study. Results of the impact study are presented in Section 4.1.3 and 0 for illustrative purposes only.

3.6 Programme's expenditure

This section analyses the expenditure made by the whole programme, including any funds used in addition to DFID funding. In Section 3.6.2 we explain in more which other stakeholders that have contributed to programme results, and particularly to sustained actual outcomes.

3.6.1 Programme's expenditure by main components

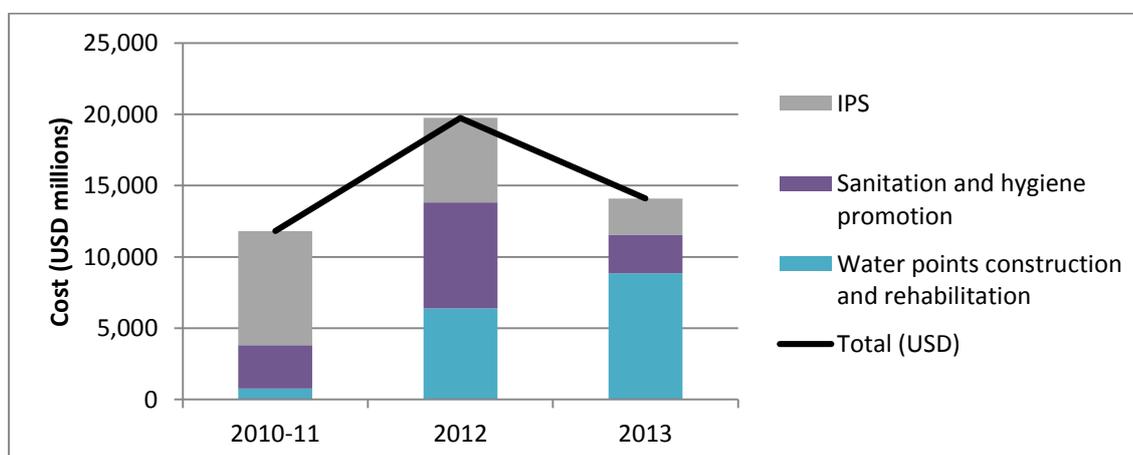
SHAWN-I disbursed about US\$ 55.3 million from March 2010 to Nov. 2013, of which 45.7 million was DFID spending. The whole DFID budget was disbursed, as any cost savings were reinvested to fund more outputs. Programme spending over time varied though this could not be compared against annual budgets.

Annual breakdown of spending was only available for DFID, not for other programme contributions (see). As a result, this annual breakdown could not be used to track annual VFM performance. VFM analysis was done for the whole programme, instead of annually (see). Under this research, expenditure was allocated to programme components for the duration of the whole programme. Indirect programme support (IPS) was the main component as this included capacity building activities for local government. It accounted for 51% of total SHAWN spending.

While not used in this VFM analysis, we briefly describe the annual variations in DFID spending below:

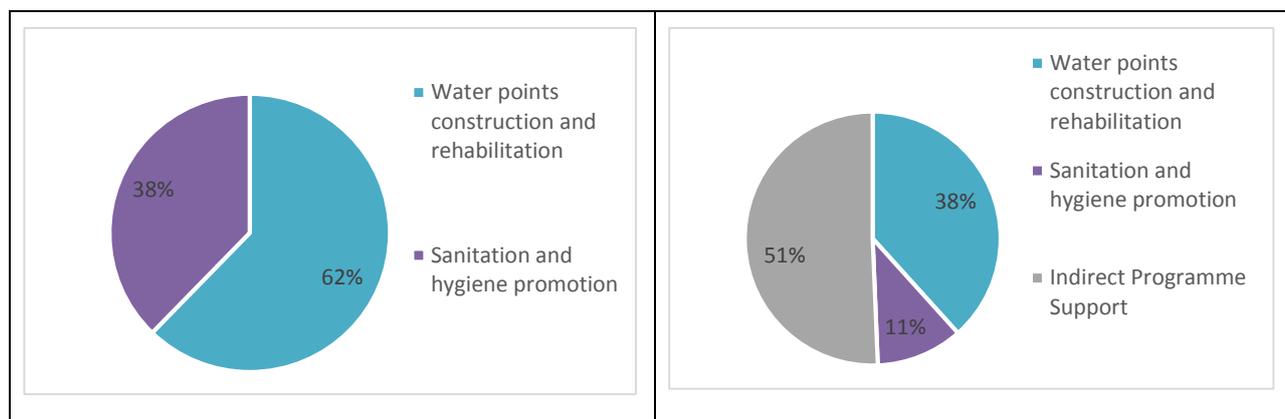
- **Expenditure in the sanitation & hygiene sector** peaked in 2012 because most triggering activities occurred then.
- **Expenditure in the water sector** was scaled up over the programme, as the programme had experienced delays in construction in 2011, due to delays in the award of construction contracts, securing counterpart funding for hardware.
- **Expenditure on IPS** were high in 2011, due to initial set-up costs of the programme, including baseline studies and reports. They remained high in 2012 due to significant capacity building activities for local government.

Figure 4. SHAWN-I expenditure, DFID only (in USD)



Source: PCR report. (*) Sanitation and hygiene activities in schools are included.

Figure 5. Distribution of total expenditure by components: with IPS allocated to components (left graph) and with IPS identified separately (right graph) (2010-2013)



Source: Estimated by authors

3.6.2 Contributions from other stakeholders

In addition to DFID's financial inputs, other stakeholders provided resources (financial or in nature) that contributed to reach the programme's outputs and sustained actual outcomes over the longer term. These costs, which are referred to as "non-programmatic costs", are presented in Table 3 below. Of these, only the contributions UNICEF and by the government of Nigeria could be estimated. Household contributions could not be estimated.

Table 3. Contributions from other stakeholders

Activity	Funding source	Type of expenditure
Construction and rehabilitation of water points	Households	Initial capital expenditure on constructing a latrine
	Districts	Costs of constructing school latrines
CLTS	Households	Initial capital expenditure on constructing a latrine
	Districts	Costs of constructing school latrines
All components	Government (State- and LGA-level)	Cost of planning and implementing SHAWN, borne by government administration at all levels (staff, administration overhead costs etc.)
	UNICEF	Staff salaries for non-project UNICEF staff

Source: Authors.

With respect to government personnel costs, it is important to note that most of the staff costs relative to programme management are covered by national WASH budgets and are therefore not formally included in SHAWN's budget. For the purposes of the VFM analysis, however, we sought to estimate these staff costs so as to identify the government's additional contribution to indirect support costs. As of July 2013, a total of \$6 million USD had been received as counterpart funding for hardware costs, as well as and estimated US\$ 200,000 to cover the salaries and operational costs of LGA WASH departments members working on the programme. The latter were estimated based on to

an average contribution of 50,000 Naira per month¹⁰ -- which is a likely underestimate as other overheads such as office rent and equipment could not be estimated – totalling only 43% of expected government funds based on UNICEF's counterpart funding agreement with the government. Adding these to SHAWN's total expenditure represents an increase of 21% to SHAWN's total expenditure.

In addition, households have contributed in-cash and in-kind to building latrines, and contributed towards hardware costs for the construction of new water points.

- With regard to the sanitation component, households spent around 11,000 Naira (around 68.75 USD) for average pit latrine construction costs (KIT 2014)¹¹ though the total contribution to the programme could not be estimated as the number of latrines constructed was not known. Labour time for a simple pit latrine is reported at 3-7 days, though a value could not be allocated to this.
- With regard to the water component, communities were required to match 3-5% of donor funding for hardware construction costs (up to US\$ 1million, which corresponds to up to US\$ 0.95 per beneficiary) and were encouraged to put aside 2.5% of hardware costs as a fund for operation and maintenance (O&M). It was not possible to obtain data on the extent to which the contribution to hardware costs and the O&M fund were achieved. Interviews with UNICEF staff stated that sometimes the contribution to hardware costs was made in form of labour and in-kind materials.
- With regard to the hygiene component, WASHCOM members and Volunteer Hygiene Promoters (VHPs) were required to make regular inputs of time for meetings and household visits respectively. Household visits by VHPs would have required an equivalent time input by household members. Inputs were reported as 10 members of the WASHCOM meeting monthly for 1-2 hours, two members of WASHCOM to inspect latrines weekly (reported as 2 hours per week but conceivably much less, perhaps 30 minutes), up to three visits per month to each of 10 households for up to 1 hour by each VHP reported (this was not verified and the actual inputs may conceivably be much less).

UNICEF and other non-project sources

CLTS training by Kamal Kar was provided for key staff at state RWASSA and LGA level, UNICEF consultants and selected NGOs prior to the start of the programme. While the value of this training could not be quantified, it enabled the creation of a national pool of skilled facilitators on which the SHAWN programme was able to draw in its target states. In addition, some SHAWN activities were managed by non-project UNICEF staff, of which the total contribution is estimated at estimated at about US\$ 2.4 million.

3.7 SHAWN's key results (2010-2013)

This section presents key results achieved by SHAWN between March 2010 and November 2013 in terms of outputs, assumed outcomes and sustained actual outcomes. All figures refer to the results achieved thanks to joint efforts of UNICEF as well as government counterparts, NGOs and the communities themselves.

¹⁰ Expected funds were calculated assuming that old LGAs had been set up 3 months after programme start, thus requiring 48 months of running costs. For new LGAs set up since the FLD plan, 12 months of running costs were needed.

¹¹ Data based on interviews done with 211 households as part of the Impact Evaluation

Water element

SHAWN almost reached its target of providing 2.3 million people with access to improved water sources, reaching 2.14 million people¹² in project LGAs by programme-end. While initial performance during 2010 and 2011 was lower – due to (i) delays in contracting contactors for the construction of water points, and (ii) delays in securing counterpart government funding for hardware – performance improved in 2012 and 2013 as water and sanitation activities were rolled out simultaneously to accelerate coverage¹³. The achievement rate of outputs improved from zero prior to January 2012, to 627 water points by September 2012 and 3,808 by December 2013. The number of people accessing improved water sources was estimated based on the total population of the community where the water point was constructed, resulting in a range of 47-779 people assumed to have access to each water point (HPBH and MBH). This definition was chosen in 2012¹⁴ on the basis that communities not only accessed water through SHAWN water points, but also through other pre-existing water points such as wells which were used for cleaning and other domestic uses.

The Impact Evaluation collected data on usage of water points in six Nigerian States including those covered by SHAWN. While it highlighted that significantly more households¹⁵ used improved water sources for drinking in the UNICEF areas¹⁶ (80%), compared to the counterfactual areas not covered by UNICEF (68%) (KIT 2014) – this data could not be used for cost-effectiveness analysis as SHAWN programme areas could not be isolated from the larger intervention area covered by the Impact evaluation. While significant improvements were also reported since baseline (48% increase from baseline in intervention areas, and a 32% increase from baseline in control areas); these increases were not based on a comparison with baseline data collected at programme-start, but are based on a theoretical baseline reconstructed from State-level WASH data from the 2008 Demographic Health Survey (DHS). DHS data collection took place 2 years before SHAWN commenced, and sampling in DHS is designed to be nationally representative not state representative. Therefore we did not consider these percentages robust enough to extrapolate the increase in number of beneficiaries using SHAWN facilities, and therefore not able to calculate cost-effectiveness indicators.

Sanitation element

SHAWN over-achieved on its sanitation target, of 2.3 million people living in ODF communities, by 165%. It reached 3.79 million people by programme-end. The number of people was based on the number of people living in self-declared ODF communities (verified by the LGA WASH Department but not (yet) by a third-party monitor), who are assumed to have access to a mix of unimproved and improved sanitation facilities. This assumption relating to latrine access is widely used in the WASH sector, but may overestimate the true rates of latrine use if dig and bury practices are commonplace.

The Impact Evaluation assessed the type of latrines they used, the frequency of such usage, and asked households to mention all of the occasions when is it important to wash one's hands (unprompted) (KIT 2014). The Impact Evaluation highlighted the following findings based on trends in six Nigerian States including those covered by SHAWN.:

¹² It was agreed with DFID that this target would include the number of people who gained access to improved water sources through SHAWN and through water points built and rehabilitated by other actors in SHAWN LGAs, as well as those people who already had access at baseline. Of the total water beneficiaries, 57% (1,272,759 people) were beneficiaries of the SHAWN programme having *gained* access through new or rehabilitated water points funded by the programme and by other actors.

¹³ Prior to January 2012, water provision was prioritised for communities that had already attained ODF, meaning that water activities took place after sanitation activities have been completed.

¹⁴ Prior to 2012 and at budgeting, UNICEF used the assumption of 250 people served per HPBH and 100 people served per MBH.

¹⁵ ($p=0.0001$).

¹⁶ These programme areas include both the six states covered by SHAWN and two states covered by an EU-funded WASH project.

- Open defecation was significantly lower amongst households in the intervention areas (13%) compared to counterfactual areas (21%) ($p=0.0001$).
- Significantly more households used pit latrines with covered slab and water seals in intervention areas, than in counterfactual areas. However, not all of these latrines were built as part of SHAWN. Since 2010, 93% of households in intervention areas had built their latrines as part of a demand-led community-wide programme such as SHAWN, whereas in counterfactual areas, only 74% of households built latrines as part of a demand-led community-wide programme (not implemented by UNICEF) with the remainder built by households themselves.

Hygiene element

SHAWN reached 54% of its intended hygiene beneficiaries (2.3 million people having knowledge of hand washing at critical times). The number of people “having knowledge” was estimated from the number of people reached with hygiene messages, reported on a monthly basis by the WASH unit.

The Impact Evaluation found, based on trends in six Nigerian States including those covered by SHAWN, that – while households could name the critical times of hand washing¹⁷ -- counterfactual and intervention areas mentioned all critical hand washing moments with similar frequency (KIT 2014). In other words, no significant difference in hygiene knowledge was found – which suggest that knowledge related to hygiene was also present in counterfactual areas. In counterfactual areas, “triggering” had taken place as part of more general awareness raising (KIT 2014).

Health impacts

SHAWN aimed to reduce diarrhoea prevalence rate by 10% in all the participating LGAs (median reduction in diarrhoeal morbidity is expected in range 22% - 26%). The 2014 Impact Evaluation study collected programme-wide information on diarrhoea incidence and well as school attendance and female status in community activities as a result of WASHCOM membership (KIT 2014). It concluded the following:

- Though the incidence of diarrhoea in the households did not differ between intervention and counterfactual areas, it did for the most important target group for diarrhoeal interventions: under-five children. In intervention areas these children had two times less diarrhoea;
- Children in intervention areas attended school 1.7 times more than in counterfactual areas, as they had less time to spend on fetching water, and other household chores; and
- Qualitative analysis suggests that thanks to women participate actively in WASHCOMs, they have gained increased standing in the community.

¹⁷ The Knowledge, Attitude and Practice (KAP) study found that 72% of respondents reported washing their hands before meals – however this data was based on self-reported prevalence which is less reliable.

Table 4. SHAWN outputs and assumed outcomes

Water Point Construction					
	Indicators	Planned	Realised	% realisation	Comments
Output	Number of new water points constructed	No data	3,808	n.a.	Only constructed in communities that didn't have a water point (either functional or non-functional)
	Number of water points rehabilitated	600	601	100%	
	Number of LGA mechanics trained	24 (2 per LGA)	23	96%	The aim of these outputs was to reduce communities dependence on the government and NGOs in maintaining their water supplies. Mechanics training was given to existing local mechanics.
	Number of community pump caretakers trained	No data	290	n.a.	
	Number of operational retail outlets created	12 (1 per LGA)	13	117%	
Assumed outcomes	Population with access to improved water sources	2,300,000	2,139,626	93%	Assumes that the total population of the community has access to the water point, resulting in a range of 47-779 people assumed to have access to each water point (HPBH and MBH).
Sustained actual outcomes	Proportion of people using improved water sources	No data	No data	n.a.	No data was collected during the programme, but an impact evaluation compared usage of improved sources in 8 UNICEF States (80%) to non-UNICEF areas (68%)
Sanitation Promotion					
Output	Number of Communities triggered	No data	6,141	n.a.	
	Number of WASHCOMs set up	No data	5,292	n.a.	
	Number of WASHCOM members trained	No data	42,289	n.a.	
	Number of latrines built by communities	No data	214,003	n.a.	
Assumed outcomes	Population living in ODF-acclaimed and in ODF-certified communities	2,300,000	3,788,076	165%	Based on the number of people living in self-declared ODF communities; assumes a mix of improved and unimproved latrines.
Sustained actual outcomes	Proportion of the population practicing open defecation	No data	No data	n.a.	No data was collected during the programme, but an impact evaluation found 13% ODF in 8 UNICEF States compared to 21% in non-UNICEF areas.
Hygiene Component					
Output	Number of VHP trained in Hygiene awareness (HIF)	No data	9,355	n/a	
	Number of hand-washing facilities built* by community	No data	214,003	n/a	
Assumed outcomes	Number of people in ODF communities having knowledge of hand-washing at critical times** (verified through the KAP survey)	2,300,000	1,242,000	54%	
Sustained actual outcomes	Levels of hygiene knowledge in intervention communities.	No data	No data	n.a.	No data was collected during the programme, but an impact evaluation found no significant difference in hygiene knowledge between UNICEF's intervention areas and counterfactual communities.

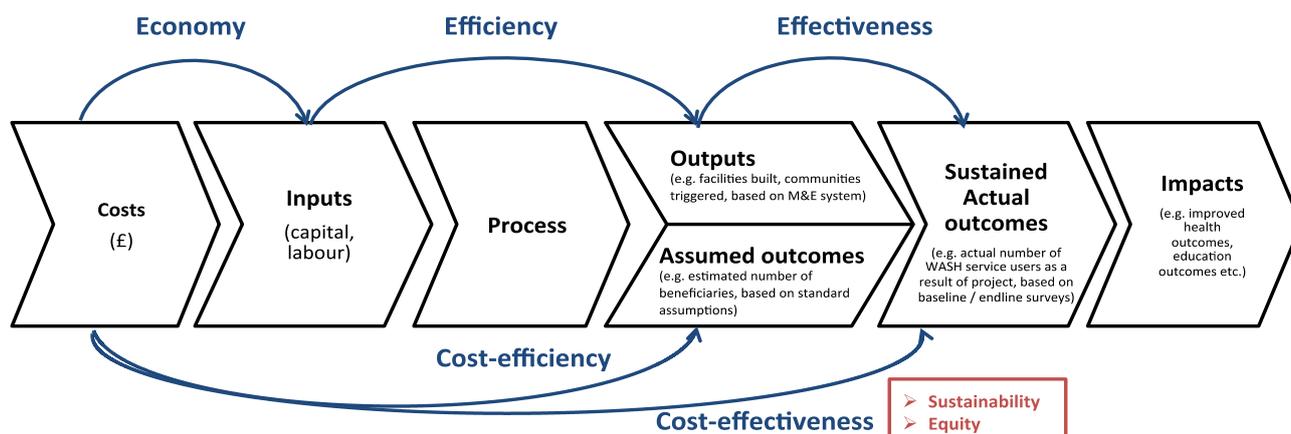
Source: UNICEF quarterly progress reports (up to Dec. 2013), LGA monitoring reports (up to July 2013), and Impact evaluation of all UNICEF WASH programmes in Nigeria (KIT 2014).

4 Key results of the VFM Analysis

In this section, we present the main results of the VFM analysis of SHAWN. We computed VFM indicators across the five dimensions of VFM, namely economy, efficiency and cost efficiency, effectiveness and cost effectiveness (see Figure 6). These indicators were estimated based on the expenditure and results data of SHAWN (presented in Section 3) and included “non-programmatic” costs by the government of Nigeria.

Table 5 summarises the key VFM indicators presented in this section. VFM analysis covers all activities from project inception to completion (2010-2013), as it was not possible to make yearly VFM comparisons.

Figure 6. DFID Results Chain



Source: Adapted by authors, based on DFID WASH Portfolio Review (2013)

Table 5. Summary table of key VFM indicators for SHAWN-I

Type of indicators	Unit	Average amount budgeted for	Average amount spent by programme end	Comments
Economy				
Total cost per new public water point*	USD	n/a	US\$ 7,989	Actual spending on hardware costs was not available, and was presumed to be the same as costs stated in the contract.
Hardware cost	USD	5,323	US\$ 5,264 (66%)	
Software cost	USD	n/a	US \$58 (1%)	
Indirect programme support	USD	USD	US\$ 2,667 (33%)	
Cost Efficiency (water)				
Total cost per person who gained access to a new public water point (Programme cost only)	USD	n/a	US\$31	Based on the CDS data
Hardware cost	USD	n/a	-	
Software cost	USD	n/a	US\$ 19 (62%)	
Indirect programme support	USD	n/a	US\$ 12 (38%)	
Cost Efficiency (sanitation)				
Cost per community triggered by CLTS	USD	n/a		Costs were estimated based on number of staff days involved in CLTS facilitation, and based on average staff salaries and DSA rates.
Hardware cost	USD	n/a		
Software cost	USD	n/a	US\$ 1,338	
Indirect programme support	USD	n/a		
Cost per community certified as ODF	USD	n/a	US\$ 5,668	Costs were estimated based on number of staff days involved in CLTS facilitation, and based on average staff salaries and DSA rates.
Hardware cost	USD	n/a	-	
Software cost	USD	n/a	US\$ 2,732 (48%)	
Indirect programme support	USD	n/a	US\$ 2,936 (52%)	The number of certified ODF communities appears to be under-estimated, which explains this high unit cost per output
Cost per person living in a certified ODF community (programme only)	USD	n/a	US\$ 17	Based on estimated number of beneficiaries (CDS data provided by UNICEF)
Hardware cost	USD	n/a	-	
Software cost	USD	n/a	US\$ 5.5 (32%)	
Indirect programme support	USD	n/a	US\$ 11.6 (68%)	
Cost Effectiveness				
No household survey data on outcomes was available				

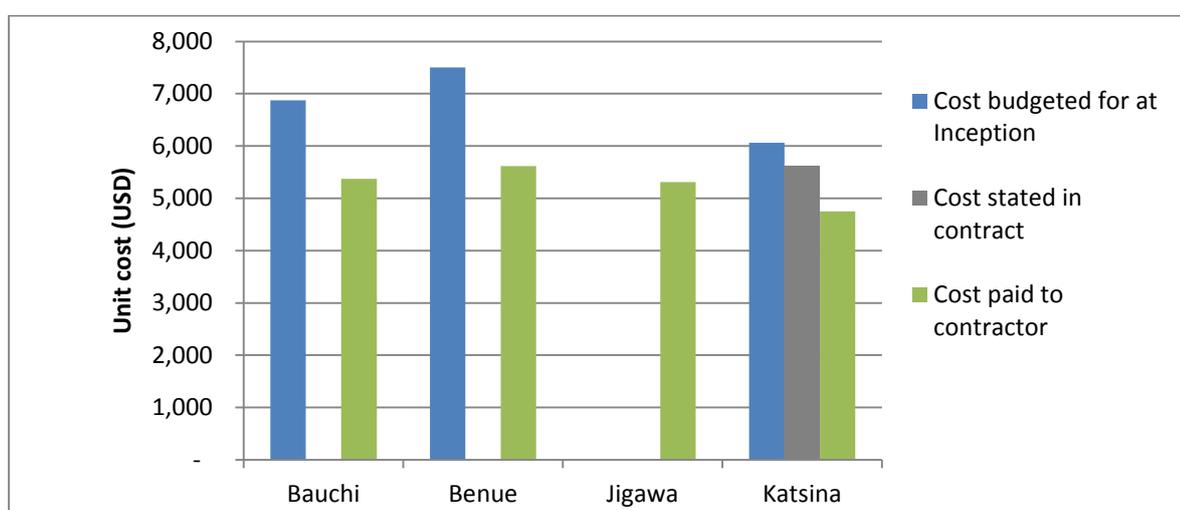
4.1 Construction and rehabilitation of water points

4.1.1 Economy

Economy evaluate whether inputs were bought at the appropriate quality and at the right price.

Inputs for water points construction (e.g. hardware, handpumps): actual input costs were consistently lower than budgeted input for two types of hardware (see Figure 7). This was due to competition between multiple qualified contractors at bidding stage bringing costs down¹⁸. Overall unit costs attained were comparable to other organisations active in the water sector. For example, contractors under SHAWN were paid 5,264 USD per HPBH¹⁹ on average, with WaterAid citing a cost of 5,690 USD for HPBH construction.

Figure 7. Comparison of actual and budgeted costs for HPBH construction



Source: UNICEF cost data. All costs are direct hardware costs and do not include software or indirect costs.

Staff inputs (e.g. works) were also kept low due to the following approaches reported by UNICEF²⁰:

- **Lower staff costs:** lower DSAs were negotiated for LGA and NGO staff members. Savings were also made by some planned UNICEF staff not being recruited when planned, such as the project manager position remaining vacant for 2 years. However, such costs savings may have affected the effectiveness of programme delivery.
- **Using local personnel,** for example using state CLTS trainers rather than external consultants, as originally planned, or using trainee artisans to contribute to borehole rehabilitation.
- **Reducing field visit costs by combining activities,** for example setting up WASHCOMs during triggering visits or combining training and monitoring activities. Where possible, local as opposed to national NGOs were used to reduce transport and DSA costs.
- **Ensuring that water points were built to a high quality, reducing the costs wasted on repairing or rebuilding them later.** This was assured by having WASHCOMs monitor the quality and quantity of hardware inputs during construction, by having the quality of hardware

¹⁸ The MTR, (drawing on earlier annual and quarterly UNICEF reports) reports that “the cost per latrine block (3 compartments) was brought down from \$5000 (Naira 785,000) to around \$4332 (Naira 680,000) in Bauchi and Jigawa; the cost per hand pump borehole was reduced to \$4460 (Naira 700,000) in Bauchi as against \$7000 (Naira 1,100,000)”.

¹⁹ In comparison, a MBH cost \$35,077.

²⁰ Source: UNICEF VFM template

at completion assessed at three levels (WASHCOMs, LGAs and state RWSSAs) and by only paying contractors if the water point was fully functional (this was set out in their contract).

- **Obtaining state government support** for vehicle running costs and transport of staff members.

UNICEF reports total savings amounting to 119,001,900 Naira (1.6% of the total budget). Of this total 40% arises from negotiated DSAs or rates, 40% from lowered costs of hardware or drilling (entirely in Katsina) and 12% unspecified. It was not possible to assess whether any loss in implementation quality resulted from these cost saving measures.

4.1.2 Efficiency and cost-efficiency

Efficiency

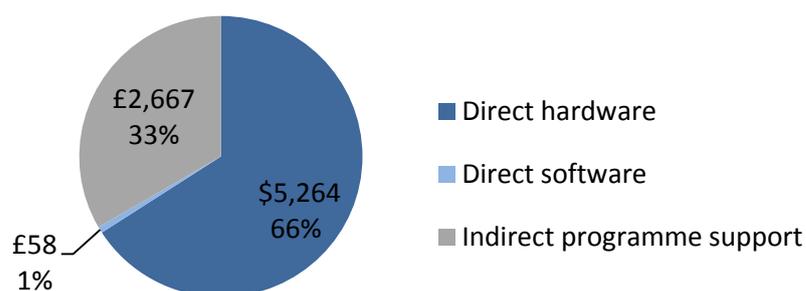
Due to quality-assurance of hardware at completion, contractors were only paid if the water point was fully functional, resulting in a highly-efficient translation of inputs into outputs. The achievement rate of outputs improved from zero prior to January 2012, to 627 water points by September 2012 and 3,808 by December 2013, as the conditions for water provision were amended (ODF achievement was no longer a pre-requisite). While fewer water points were constructed than planned, 93% of the intended beneficiaries were still reached, due to change in the number of beneficiaries assumed to have access. While initially an average service level of 250 people per HPBH and 1000 people per MBH was assumed, this definition was later changed to the total population of the community, as reported in UNICEF's CDS data. This resulted in a range of 47-779 people assumed to have access to each water point (HPBH and MBH). As a consequence of these changes, the programme now appears to be more on-track to achieve the planned targets than it previously was, despite an apparent reduction in service levels.

Cost-efficiency

The construction of a water point (including associated software and IPS) costed on average \$7,989²¹ over the lifetime of the programme. This represented a total cost of \$24 USD per person²² assumed to be served. Most of the expenditure for water provision was made up of hardware costs (construction and supervision of construction) (66%), 1% of software costs (training of local mechanics), and 33% of IPS. It is likely that the proportion of software was underestimated, while the proportion of IPS was overestimated due to the capacity-building costs of LGA staff.

²¹ This figure could only be calculated for HPBH construction, not MBR construction or HPBH rehabilitation, due to data availability, but ratios are expected to be similar for MBHs.

²² These costs include contributions funded by DFID/UNICEF and government counterparts, but does not include community contributions.

Figure 8. Cost per HPBH constructed

4.1.3 Effectiveness and cost-effectiveness

Monitoring data regularly collected by WASHCOMs and LGA staff suggest that water point functionality was high, with 95% of HPBH and 99% of MBH still functional when last checked by LGA staff (at the latest in July 2013). As water points were constructed at most 3 years ago, functionality was expected to still be high, though it was expected to deteriorate over time – in line with the slightly higher functionality rates found in new LGAs, where water points were constructed more recently. Average functionality appears to have improved thanks to SHAWN's rehabilitation efforts, with the baseline survey suggesting that functionality at baseline was 79% for HPBH, 69% of MBH and 53% for hand-dug wells.

While an Impact Evaluation of all UNICEF WASH programmes in Nigeria found a significantly more households using improved water points in UNICEF areas compared to the non-UNICEF areas (see Section 3.7), we could not estimate the effectiveness or cost-effectiveness of SHAWN's water interventions from this data – namely we could not isolate the population covered by SHAWN.

4.2 Sanitation and hygiene

4.2.1 Economy

The cost of CLTS triggering for SHAWN was US\$ 1,338 in Nigeria, a cost that included three months of follow-up activities after the triggering event. This cost was comparable to other organisations active in the water sector in Nigeria. WaterAid cited US\$ \$1,138 for the direct cost a triggering; a slightly lower figure as it did not include IPS costs. A national review of CLTS activities in 30 states cited a similar average figure of 1,400 US\$ for direct costs (DFID 2011).

4.2.2 Efficiency and cost-efficiency

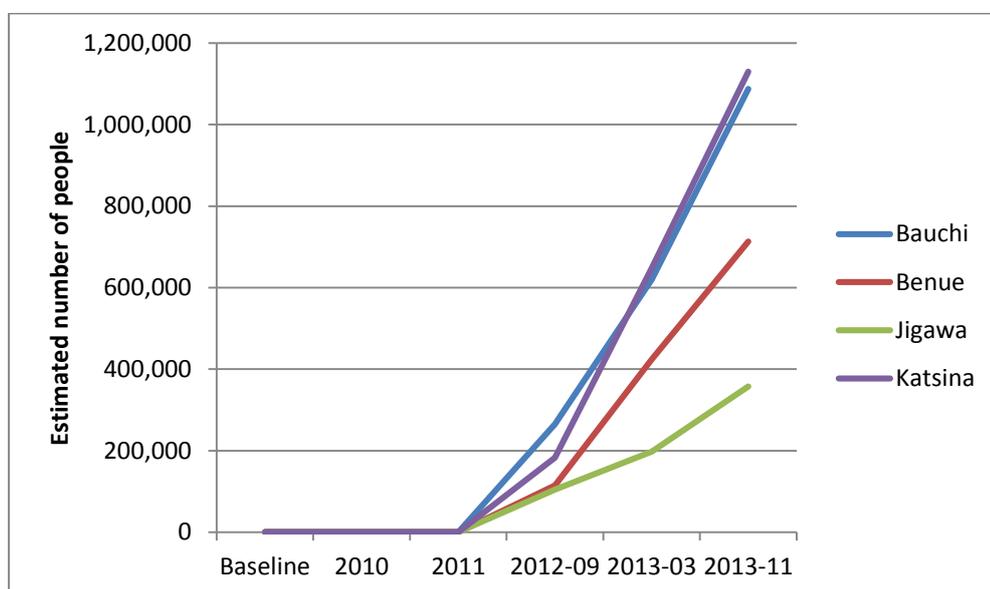
Efficiency

There were significantly more ODF communities achieved than planned (165% achieved) as the scope of SHAWN was increased from 12 to 20 LGAs in December 2011. The ODF conversion rate was high, with on average 39% of triggered communities reaching certified ODF status (slight variations between States). Efficiency losses were due to some falsely acclaimed ODF communities (55% of triggered communities claimed to be ODF, prior to certification) but also due to delays in completing the full ODF certification and third-party verification procedures. This means that ODF conversion rates were probably underestimated.

The efficiency of CLTS campaigns was measured based on the ODF conversion ratio, namely the proportion of triggered communities attaining ODF status. Overall, 67% of triggered communities reached self-acclaimed ODF status, though trends over time varied:

- The proportion of communities reaching self-acclaimed ODF status was lower in LGAs that has been triggered more recently — namely the eight new LGAs, which have been added since the FLD plan (41% of triggered communities reached self-acclaimed ODF status). In the original 12 LGAs, 62% of triggered communities reached self-acclaimed ODF status.
- The proportion of communities reaching self-acclaimed ODF status decreased over time, as communities continued to be triggered. There was a push to trigger more communities in the last nine months of the project through ‘ward-level triggering’²³ – however not all of these communities did not attain acclaimed ODF status by programme-end, reducing the overall proportion of ODF communities for Benue and Jigawa (see Figure 9)

Figure 9. Progress in the total estimated number of people in self-acclaimed ODF communities



Not all communities reaching self-acclaimed ODF status were certified as ODF. Only 39% of triggered communities were certified as ODF. Differences in the proportion of self-acclaimed and the proportion of certified communities (see Figure 10) were due to variety of factors:

- NEWSAN was brought in to certify ODF status for Benue, Bauchi and Jigawa. So far all communities in Benue and Bauchi were certified once, and Jigawa was certified twice²⁴. They have not yet certified communities in Katsina, which were certified by the State Sanitation Task Group. Most certification activities took place towards the end of the programme.
- NEWSAN reports show that in some communities claiming ODF status, there was evidence of faecal contamination and/or households reporting open defecation, allowing the conclusion by NEWSAN that they failed to reach ODF in the first place, which explains why the self-acclaimed ODF rates are higher than the certified ODF rates. In a number of communities there were

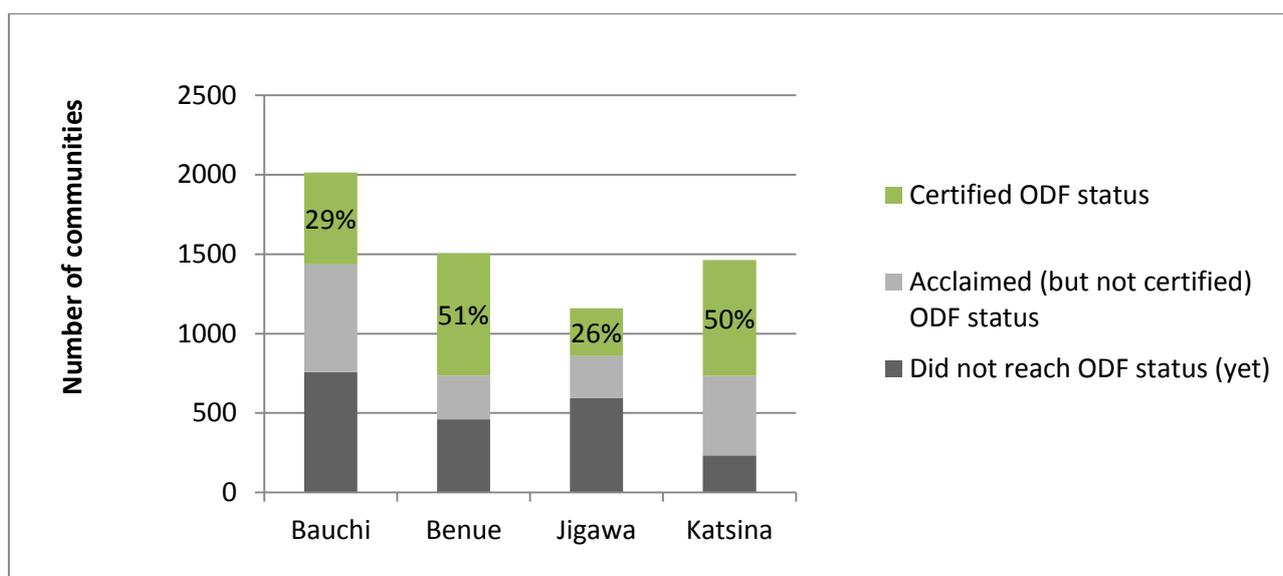
²³ These were ward-level sensitisation meetings with local leaders and authorities to ensure ward-level support and buy-in prior to the village-level triggering events. It was thought to be more efficient and effective to hold these meetings jointly for all relevant figures within a single ward in advance of the triggering events than to approach them on the day of village-level triggering.

²⁴ Jigawa LGAs were certified in 2012, with a second trip undertaken in 2013 (report still in being drafted). Benue and Bauchi were certified in 2013.

problems with collapsing pits or destruction of latrines during flooding. The NEWSAN report also noted some isolated examples of stage management²⁵ and fake latrines (with only a superstructure and no pit) in an effort to achieve certification²⁶. These concerns were the reason NEWSAN was brought in to check self-acclimated ODF status, and ensure that any ODF communities were properly certified.

- The NEWSAN reports noted that the quality of triggering varied between communities and that some communities had apparently constructed latrines to gain access to water supplies rather than as a result of the triggering process. Additionally it was noted that success was more likely in communities in which the WASHCOM was functional and that large community size appeared to be a barrier to success.

Figure 10. ODF conversion rate



Cost-efficiency

The cost-efficiency of sanitation provision was improved by a shift to ‘ward-level triggering’, where ward-level sensitisation meetings with local leaders ensured ward-level support and buy-in prior to the village-level triggering events. It was thought to be more efficient to hold these meetings jointly for all relevant figures within a single ward in advance of the triggering events than to approach them on the day of village-level triggering. Hardware costs were not included in this figure, as community contributions could not be monetised. Overall, direct costs (all software) made up 29% and indirect costs made up 71% of total costs, with the latter being overestimated high due to the capacity-building costs of LGA staff.

4.2.3 Effectiveness and cost-effectiveness

While an Impact Evaluation of all UNICEF WASH programmes in Nigeria found open defecation to be significantly lower amongst households in UNICEF areas (13%) compared to non-UNICEF areas (see Section 3.7), we could not extrapolate the effectiveness of water point access from this data – namely we could not isolate the population covered by SHAWN.

²⁵ Stage management refers to communities attempting to influence which households NEWSAN visited, and which not, presumably only showing them their ‘best’ households.

²⁶ Such ‘fake latrines’ were also reported in the MTR.

5 Summary findings and recommendations

This section presents summary findings of the VFM analysis and helps identify areas where the greatest potential gains could be achieved in terms of improving the VFM of a future extension of the SHAWN (SHAWN-II).

Table 6 below summarises the findings of the VFM analysis by component and by type of indicators and lists the main VFM drivers that could have impacted these VFM indicators. The last column presents the team's assessment to identify priority areas where programme managers need to invest additional efforts in order to generate VFM gains. This would require changes in the way the programmes are implemented and conducting VFM analysis on a routine basis in order to track the impact of those changes. Symbol-coding has been defined as follows:

- **Three stars:** a high-priority area for programme managers, where additional focus on measuring and improving VFM could yield substantial gains;
- **Two stars:** a high-priority area for programme managers, or where VFM improvements would only have a marginal impact on the overall programme, including because programme managers have limited influence over VFM drivers,
- **One star:** a low-priority area where VFM is already satisfactory compared to other components and programmes and no immediate changes are needed.

Table 6. Summary findings on VFM indicators and potential VFM drivers

VFM indicators	Key findings from the VFM analysis	Potential VFM drivers	Priority area for PM?	Recommendations for PM to improve VFM
Water point construction and rehabilitation				
Economy	<ul style="list-style-type: none"> Drilling costs were comparable to those indicated by other WASH actors in Nigeria 	<ul style="list-style-type: none"> Cost of drilling depends on location, hydrological conditions, technology choices, and structure of drilling contracts. 	★	As water point construction represents 19% of the programme direct costs, seek to improve procurement so as to generate savings
Efficiency	<ul style="list-style-type: none"> Slightly less water points constructed than planned (93% achieved) The efficiency of water outputs was very high, with 100% of water points being functional at construction. 	<ul style="list-style-type: none"> Slightly less water points constructed due to changes in programme approach (changed # beneficiaries reached by each water point) 	★	Maintain QA during construction process
Cost Efficiency	<ul style="list-style-type: none"> The cost efficiency of water provision was \$24 per person, of which approximately 19% were indirect costs. 	<ul style="list-style-type: none"> Cost per beneficiary depends on the number of user per water point (SHAWN changed # beneficiaries reached by each water point) and the location. Improvement in cost-efficiency could be due changed assumptions on the numbers of beneficiaries reached 	★	Continue support to strengthen at state and LGA level ability to monitor activities and beneficiary numbers
Effectiveness	<ul style="list-style-type: none"> Functionality data suggests that 95-99% of water points were still functional at programme end. UNICEF has put in place a VLOM system designed to ensure functionality of water points. The M&E system of UNICEF was not able to provide data on outcomes, but the external Impact Evaluation showed that use of improved water points increased significantly. 		★★	Roll out & continue mobile-based monitoring of water point functionality Continue support to strengthen VLOM
Cost-Effectiveness	<ul style="list-style-type: none"> No data 	<ul style="list-style-type: none"> Cost-effectiveness is likely to be significantly affected by the numbers of beneficiaries actually using water points 		
Community-led sanitation & hygiene intervention				
Economy	<ul style="list-style-type: none"> CLTS triggering costs were comparable to those indicated by other WASH actors in Nigeria 	<ul style="list-style-type: none"> Cost of CLTS triggering depends on 	★	As water point construction represents 19% of the programme direct costs, seek to improve procurement so as to generate savings

VFM indicators	Key findings from the VFM analysis	Potential VFM drivers	Priority area for PM?	Recommendations for PM to improve VFM
Efficiency	<ul style="list-style-type: none"> Significantly more ODF communities achieved than planned (165% achieved) 67% of triggered communities reached self-acclaimed ODF status (medium efficiency). 	<ul style="list-style-type: none"> More ODF communities achieved due to changes in programme approach (ward-level triggering) 	★ ★	Collect data to better understand which factors drive the efficiency of triggering process, specifically reviewing the effect of ward-level triggering
Cost Efficiency	<ul style="list-style-type: none"> The cost efficiency of sanitation provision was \$3-11 per person assumed to be living in ODF-acclaimed and ODF-certified communities, respectively. For both, approximately 50% were indirect costs. 	<ul style="list-style-type: none"> Costs are kept low as communities contribute significantly in terms of materials and labour Cost per beneficiary depends on the number of beneficiaries in an ODF community and on rates of ODF slippage. Reports from the independent verifier raising some concerns on the quality of CLTS campaigns 	★ ★ ★	<p>Continue support to strengthen at state and LGA level ability to monitor ODF status and beneficiary numbers</p> <p>Engage in follow-up activities to reduce ODF slippage</p>
Effectiveness	<ul style="list-style-type: none"> The M&E system of UNICEF was not able to provide data on outcomes, but the external Impact Evaluation showed that use of sanitation facilities increased significantly. There was no statistically significant change in hygiene knowledge. 	<ul style="list-style-type: none"> Reports from the independent verifier raising some concerns on the quality of CLTS campaigns which may affect sustained behaviour change (latrine usage) 	★ ★	Engage in follow-up activities to encourage sustained usage of ODF slippage
Cost-Effectiveness	<ul style="list-style-type: none"> No data 	<ul style="list-style-type: none"> Cost- effectiveness is likely to be significantly affected by the communities sustaining their ODF status 	★ ★	

Key:	 High priority	 Medium priority	 Low priority
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5.1 Key challenges in conducting the analysis

The following key challenges have been encountered and have constrained our ability to apply the methodology as initially envisaged:

- **There were some data gaps which constrained VFM analysis.** Data on inputs were available for hardware but had to be estimated for software. Data on outputs and assumed outcomes were relatively easily available from UNICEF's monitoring database. Data on sustained actual outcomes could only be obtained from the end-of-programme Knowledge, Attitude and Practice (KAP) surveys – which did not cover a representative sample thus constraining generalisations to the whole programme -- and from the Impact Evaluation – which did not allow isolation of SHAWN communities. As a result, cost-effectiveness could not be calculated. Impact data on health was collected by the Impact Evaluation, but with the same caveats as above.
- **Data on expenditure was only reported in categories of type of expenditure** (on capital goods, services, salaries etc.). It was only possible to allocate the data to activities by making assumptions on what type of inputs was actually included in each category.

5.2 Recommendations to improve VFM analysis

In this section we formulate specific recommendation on how to enable SHAWN programme managers to conduct better monitoring and evaluation of the programme going forward, which would include more detailed VFM analysis to help with formulating programme management decisions. This will require strengthening the programme management tools, in order to collect the right type of data, store it and analyse it in way that produces meaningful and useful results for programme managers.

SHAWN already uses a VFM template where cost savings are regularly recorded, allowing the 'economy' element of VFM to be tracked. However, additional tools are suggested below to capture efficiency and effectiveness in future programmes such as under SHAWN-II, allowing programme managers to track programme performance on an ongoing basis.

Indicators to better capture Economy and Efficiency (inputs)

For SHAWN2, state all unit cost assumptions during budgeting. Additional clarity could have been provided on how the SHAWN budget was calculated. For internal as well as external purposes, it is easier to make all assumptions and unit costs clear, for example regarding the numbers of people per assumed to be reached per hand pump. Clearly explaining the definitions and assumptions of budget lines²⁷ would make it easier to attribute these to outputs and outcomes in a VFM analysis.

Indicators to better capture Economy and Efficiency (outputs)

Consistent monitoring of outputs. Currently the quarterly reports submitted to DFID are based on community data sheets collated at LGA level. Some inconsistencies were found due to minor mistakes in excel sheet formulae. Having all monitoring data within the same monitoring format would minimise data contradictions and make it easier for UNICEF to monitor progress.

²⁷ Some definitions and assumptions were stated in other documents, but could have been repeated in the budget document.

Test assumptions of the number of people gaining access to specific outputs

- In order to evaluate the level of service achieved by water activities, household-level data on water point use needs to be collected. UNICEF has partly addressed this by exploring water usage in a qualitative manner through the KAP studies at project end. If budget is available, we would recommend planning for a household sample survey which captures the number of people using water points at different levels of service, at end of SHAWN-II.
- In order to evaluate the level of service achieved by sanitation activities, household-level data on latrine use needs to be collected. As CLTS is based on a demand-led process, it is particularly important to collect data to verify how many households are actually using latrines, at what level of service these are being used (improved or unimproved infrastructure, and with how many people the latrines are shared) and how consistently they are being used.
- Evaluating the uptake of hygiene activities can be challenging. Quarterly spot checks are currently done in ODF communities to assess the extent to which hand-washing facilities and latrines are maintained. The findings of these spot checks could be entered into a centralised monitoring database so that UNICEF would be able to use this data as an indication of the likelihood of hand-washing with soap after latrine use.
- **Continued mobile monitoring of water point functionality.** Regular systematic post-implementation monitoring of water point functionality is needed to assess the sustainability of outputs. Under SHAWN-I, functionality of both constructed and rehabilitated water points was monitored by the WASHCOM, and a real-time SMS-reporting facility was piloted in one State. We are not aware if UNICEF has continued to monitoring the functionality of SHAWN-I water points after programme-end. However, UNICEF plans to scale up this real-time SMS-reporting facility under SHAWN-II, which will provide very useful data on functionality over time, including data on service interruptions in the dry season.

Indicators to better capture effectiveness and sustainability

Several suggestions for indicators which could be monitored to better capture effectiveness and sustainability are made below. The majority of these could be collected by the LGA in one visit (for example every quarter), which would make monitoring less burdensome.

The following indicators can be used to assess whether water services continue to be accessed and used by beneficiaries:

- Number of people using each improved water point (currently only no household survey data is available on this)
- Percentage of people using an improved water point
- Distance and time taken to travel to the water source, in order to capture accessibility and service levels. Such data could be disaggregated by socio-economics groups to verify whether vulnerable groups have lower service levels

The following indicators can be used to assess whether sanitation services continue to be accessible and used by beneficiaries:

- Percentage of people using an improved sanitation facility
- Monitoring of the percentage of ODF-certified communities that remain ODF after one year would be needed to verify that sanitation facilities continue to be used by beneficiaries. Such

monitoring could be done by Newsan, for example. If there is evidence of slippage, steps need to be taken by the LGA to rekindle community interest in an ODF community, for example by holding additional sensitisation sessions.

- To ensure the sustainable use of sanitation facilities in the future, monitoring data would need to be collected to check whether latrines are replaced once full and if basic (unimproved) latrines are upgraded. The latter would also give an indication of movement up the sanitation ladder.

Improve naming of financial reporting categories and require them to be connected to specific outputs. Currently, UNICEF reports expenditures along eight reporting categories, which are different from the ten reporting categories in the SHAWN budget. In order to allow the comparison between budgeted-for and actual spending, these reporting categories would need to be harmonised. In addition, in order to allow an analysis of the efficiency and effectiveness of specific outputs and outcomes, reporting categories would need to be attributed to specific outputs and activities. If all reporting categories were attributed to specific outputs, as far as possible, it would greatly facilitate VFM analysis by UNICEF in the future, and enable the improvement of programme effectiveness.

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