



Value for Money (VFM) Analysis: Experience and Impact

SUMMARY

In 2018-2019, UNICEF HQ developed a value for money (VFM) Excel-based tool to report on the Accelerating Sanitation and Water for All (ASWA) programme in 17 countries. Other countries have also used the VFM tool in their WASH programmes for different purposes.

This learning note documents the use of VFM methodologies and tools in different UNICEF WASH Country programmes. It provides best practices, challenges and recommendations on the use of the VFM tool and other VFM metrics. The learning note is based on 23 interviews, including a sample of 13 country and regional offices. The major findings include the following.

- VFM analysis is mostly used for reporting and monitoring unit costs. In countries which are directly involved in the construction of WASH infrastructure, VFM is used for making programmatic decisions, such as on intervention locations, partners, service delivery approaches and contract modalities. These country offices use their own VFM methodologies.
- Cost per direct beneficiary is the most used VFM metric. Besides for reporting purposes, the cost per beneficiary is also used to substantiate more expensive investments, for instance, in climate resilient infrastructure or in ensuring those in remote areas also have access to services.
- UNICEF WASH programmes are increasingly providing systems strengthening support to governments in line with the new strategy. The WASH Bottleneck Analysis Tool (WASH-BAT), the sustainability checks and the UN-Water Global Analysis and Assessment of Sanitation and Drinking-Water (GLAAS) report are the most commonly used tools for monitoring systems strengthening.

Background

UNICEF New York leads two multi-country WASH grants funded by the bilateral aid agencies FCDO in the UK and DGIS in the Netherlands. The grants both fall under the Accelerating Sanitation and Water for All (ASWA) programme.

VFM metrics have been a mandatory component in the programme's annual reports. The VFM metrics were calculated using a tool that UNICEF developed in 2018-2019 which was structured around FCDO's original reporting requirements for the ASWA. Further, various country programmes which are not part of ASWA also use VFM metrics in their decision making, operations and monitoring.

Methodology

This learning note documents the use of VFM methodologies and metrics in different UNICEF WASH country programmes. The findings are largely based on: 23 interviews, including a sample of 13 country and regional offices¹; the analysis of the VFM indicator in UNICEF monitoring reports; the analysis of VFM in ASWA programmes; and, a brief literature review.

The UNICEF VFM tool

The UNICEF HQ team developed the VFM tool in 2018-2019 as part of the ASWA programme. The tool is Excel-based and has three main components.

- A quantitative VFM component with standard indicators that delivers a cost per beneficiary (this data was initially required by FCDO and is now required by DGIS).
- A VFM score card with detailed criteria to assess the enabling environment. This is quite similar to indicators used as a baseline in other tools intended to measure systems strengthening.
- A logical impact data framework which aims to track long term impact. Examples include the prevalence of diarrhoea and stunting in children in rural areas.

To fill in the tool, country officers need to extract the expenditure which is coded in the internal UNICEF system and manually input the financial and output level data in the Excel sheet which then automatically calculates the cost per beneficiary. This process takes a couple of hours.

How has the VFM tool been used by country offices?

The UNICEF VFM tool has mostly been used for reporting, monitoring and advocacy, using the unit cost per beneficiary.

¹ Bangladesh, Guinea, Iraq, Jordan, Mongolia, Mozambique, Myanmar, Nepal, Papua New Guinea, Syria, Tanzania, East

While countries report that a unit cost per beneficiary is useful, only one country stated that it would use the tool for reporting even if it was not mandatory. This is understandable given that country offices have to deliver as many as 20 donor specific reports a year.

BOX 1.

KEY DEFINITIONS

- **Value for money** refers to maximising the impact of each dollar spent to improve poor people's lives (DFID, 2011). It focuses on the optimal use of scarce resources to achieve an intended outcome. This means that the best option is not necessarily the cheapest.
- **Climate resilient WASH** means that WASH infrastructure and services are sustainable and resilient to climate related risks and that the sector works towards lowering greenhouse gases.
- **A WASH systems strengthening approach** is based on the understanding that reliable and sustainable WASH services must be delivered by strong and resilient systems, at both national and local levels.

The benefits of filling in the quantitative VFM component include that it:

- is easy for country programmes to communicate their unit costs to others;
- helps senior management discuss the sector by being clearer on results achieved and their costs; and,
- provides a benchmark to discuss and negotiate with different implementing partners. This was frequently mentioned in relation to budget decisions around humanitarian responses.

and Southern Africa Regional Office (ESARO) and Regional Office of South Asia (ROSA).

Strengths of the VFM tool

The quantitative VFM component of the tool gives the cost per beneficiary. It also makes it easy to use the aggregated financial data from UNICEF's internal financial reporting system to fill in the required information on direct beneficiaries.

The VFM tool has enabled country programmes to identify WASH unit costs that are too high or too low and to find the reason for this. There have always been valid reasons for the outliers such as when one country was reporting very low unit costs, significant co-funding was not being adequately reported.

The FCDO ASWA II programme involved third-party monitoring and countries were visited twice a year. The independent checks validated the quantitative analysis which demonstrates the robustness of the data entry process.

Weaknesses of the VFM tool

The VFM tool is currently a standalone tool used by some UNICEF WASH officers to meet a donor's requirement. The VFM tool indicators do not always match the country's Theory of Change or annual plans, nor does it report on these.

The tool is still very project-specific and is not in line with the new UNICEF Strategic Plan. This is because its focus is on the value for money of newly constructed infrastructure for beneficiaries, but it does not include the outcome of system strengthening activities.

The VFM score card on the enabling environment includes many of the building blocks that are required to track systems strengthening programmes, but there are other more appropriate tools for this purpose such as the WASH-BAT or midterm and end-term evaluations. More recently, the sustainability checks also provide useful information.

BOX 2.

COST-EFFECTIVENESS IS NOT ALWAYS THE MOST IMPORTANT OBJECTIVE

"We spent half a million dollars on water trucking. It made sense for us to drill our own borehole and not be dependent on water tankers. The main reason was not about saving money, the issue was ensuring water security.

The borehole gave us control over the water system and 120,000 people would not be without water if the water tankers suddenly went on strike demanding more money and leaving. In addition, we also had control over the water quality as we knew the water would be chlorinated and tested.

The next step was to move to solar energy because we were still vulnerable because of our dependence on fuel.

The VFM analysis of the cost per beneficiary of water trucking was lower than with the borehole, but reducing risks and increasing sustainability were more important objectives for us."

Interview April 2022

While VFM quantitative analysis is useful within a country programme analysis, when country data are aggregated, the focus on the cost per beneficiary can become detrimental (see Box 2). For instance, a country office might decide to prioritise working with more remote ethnic groups which would double the cost per beneficiary. Once the numbers are aggregated, this country office's unit costs will appear too high, when in fact UNICEF should be targeting those that have the lowest service levels.

VFM captures the cost per beneficiary but it excludes the co-funding and contributions from communities and other organisations. As UNICEF collaborates with other organisations and there is co-funding, it is important to capture the leveraged funds of each dollar invested.

Technical limitations of the current VFM tool

It is the quantitative component of the VFM tool that is mostly used. However, interviewees stated that as the VFM tool is skewed towards tracking short-term expenditure on capital expenditure, it does not capture the long-term operational costs of service delivery, thus limiting comparisons.

In addition, the tool requires a level of disaggregation that does not match UNICEF's existing tracking systems. For instance, it does not look at how many schools and health centres have WASH facilities. There is also a lot of cross-cutting expenditure that contributes to several outputs, so that allocating funding per output is both a challenge and based on assumptions.

In the least used components of the tool, it was mentioned that the score card on the enabling environment misses climate resilience and that the impact data from the logical framework is now filled in every year while many changes will only show results in two or three years.

Even the country offices that used the VFM tool from the start and are familiar with it report problems with the formulas and mention its lack of user friendliness.

These technical limitations and the fact that other UNICEF tools are used for tracking the enabling environment, mean that only the tool's quantitative analysis is used and is considered useful.

Useful examples of VFM analysis done by country programmes

There were many examples shared by the countries interviewed on the use of VFM for decision making, planning and advocacy. This section highlights some examples.

Most countries that use VFM are motivated by the **need to make programmatic decisions with the available funds**. The VFM analysis in all the examples starts with a detailed analysis of unit costs of infrastructure and management, and developments of bills of quantities that are updated with market analysis.

“We need to demonstrate not to the donors, but to ourselves, the most efficient ways to run our programmes.” Interview May 2022

In Nepal in 2019, VFM was used to select communities to reach 25,000 people with NPR 159.5 million (approx. USD 1.3 million). The UNICEF WASH team was aiming to use the resources available to achieve the best possible results taking into account factors such as unit costs, equity in the number of districts reached, and number of most vulnerable communities served. Seven options were analysed. Table 1 summarises the indicators used for the decision-making process and how the analysis was done.

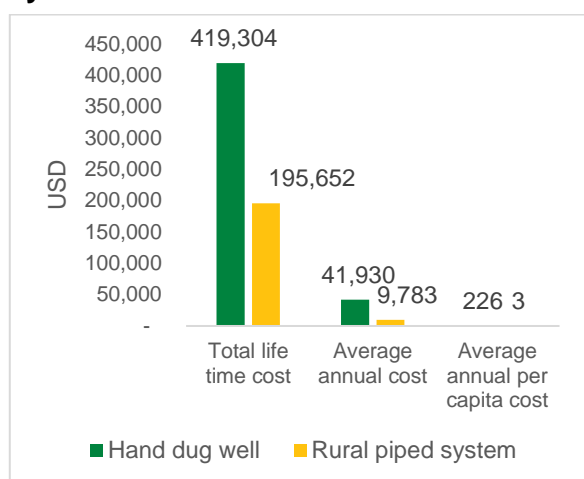
VFM has been very useful in **deciding which service delivery options consider life-cycle costs**. The outcomes are then used to negotiate with the national Government and other development partners.

In two districts of Amhara, Ethiopia, financial data was used to compare the costs over 10 years (2006-2016) of water supply points accompanied by emergency investments through water trucking and piped water supply systems.

The study concluded that on average, source water supply points accessing shallow groundwater were non-functional for an average of 60 months in a project period of 10 years. To supplement the water supply during the non-functional periods, emergency water trucking and treatment was provided over a 10 year period at a per capita cost of USD 2,257. In comparison, the per capita cost of piped water supplies was USD 65 for a project period of 20 years.

The study provided evidence that the cost of providing emergency water supply is very high, to the extent that, during the life cycle of a hand dug well, the total capital cost of the well and the cost of emergency response through the project period (life cycle) is almost double the cost of piped systems (see Figure 1). Properly designed and constructed rural piped schemes have a longer service period and provide the additional amenity of being a source of water for water trucking to emergency affected areas (Godfrey & Hailemichael, 2017).

Figure 1: Per capita costs and life cycle costs for hand dug well and rural piped system



Source: Godfrey & Hailemichael, 2017

In Jordan, a similar analysis led to the construction of water facilities in refugee camps instead of water trucking. This achieved much lower costs per beneficiary and per cubic metre of water supplied while delivering higher levels of service. Similar findings were demonstrated when comparing the cost of water trucking versus network rehabilitation in Aleppo and Al-Kesweh in Syria (Mason, 2021).

The analysis of unit costs and VFM of different interventions have also been used to develop evidence-based district WASH costed plans and **advocate for higher budget allocations** from the central government (example from Papua New Guinea in Box 3).

BOX 3.

VFM USED IN DISTRICT COSTED PLANS

In Papua New Guinea, UNICEF designed construction drawings and bills of quantities based on the market values of construction materials. This allowed it to estimate the indicative costs for new WASH services in schools and healthcare facilities as well as the cost of operation and maintenance (2020).

- ⇒ *The national average cost per student to build WASH facilities was calculated at K 525 (USD 150) (see Photo 1).*
- ⇒ *The average cost per student for operation and maintenance of WASH facilities were K 1 (USD 0.28) per year for elementary schools and K 2.3 (USD 0.66) for primary schools.*
- ⇒ *The national average for the cost of construction/rehabilitation of WASH services in healthcare facilities was calculated at approximately K 90,500 (USD 25,784).*

Given the diversity of costs across the islands, unit cost ranges were analysed for different districts, some of which were accessed either by helicopter or boat. These will be integrated in the future National School Infrastructure Policy and will allow the Government and partners to earmark budgets, and design plans and proposals. This will increase the level of transparency and accountability in allocating finances according to needs.

Source: Internal UNICEF document

Photo 1: Climate resilient school latrines in Papua New Guinea



Source: Nawaeb District, UNICEF NG/2020/Nirakar

Table 1. VFM indicators for selection of communities with limited budget and a target of 25,000 people (Nepal)

Indicator	Option 1	Option 2	Option 3 (recommended)	Option 4	Option 5	Option 6	Option 7
Description of options	All feasible with estimated costs less than ceiling	Most feasible + all budget	Most feasible + at least one from each of the 8 districts + all budget	Equal district level budget ceiling (<NPR 20 million)	High-cost schemes only with cost sharing mechanism (UNICEF 55%)	All smallest communities	All larger communities
Number of schemes	11	14	17	23	11	22	7
Total cost (NPR millions)	134.9	158.9	159.4	158.3	116.0	158.0	162.6
% of budget available	85%	99.6%	99.9%	99.3%	73%	99.2%	102%
Number of districts	3	4	8	8	6	7	4
Total population covered	24,340 (97%)	27,823 (25%)	24,696 (99%)	18,393 (74%)	13,508 (54%)	13,586 (54%)	21,460 (86%)
% of vulnerable population	26%	25%	23%	25%	22%	23%	12%
Performance to cost ratio*	1.14	1.11	0.99	0.75	0.74	0.54	0.84
Notes	Feasible. Covers maximum number of vulnerable populations. Does not consider equity (all districts).	Best value for money. Exceeds target population. Does not consider equity (all districts).	Best option. Considers all 8 districts.	Not feasible. Second lowest VFM	Not feasible. Unmanageable high risk. Only possible with upfront funds and even so not sure of timely commitments.	Lower value for money. Overhead also high given high number of communities (19).	Serve least proportion of vulnerable population. Easy to manage with only 7 schemes. Value for money low. Not equitable (only 4 districts)

*Performance ratio (actual/target) / Cost ratio (actual/estimated)

Beyond unit cost analysis, VFM has been used in Iraq to **develop performance benchmark ratios** for how UNICEF and implementing partners are implementing their programmes. Refer to the performance ratios in Figure 2.

VFM is also used in decision making on cost reduction and contract modalities

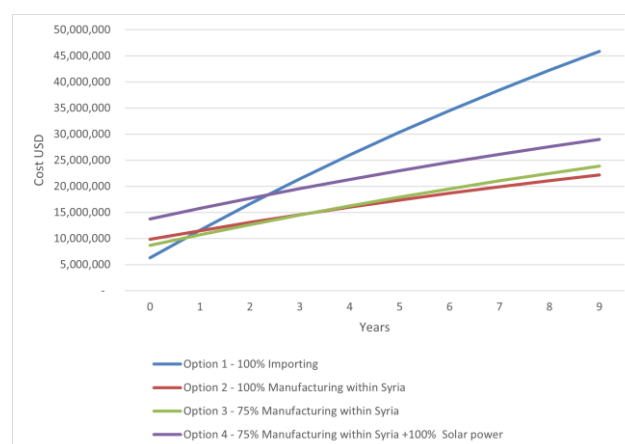
In Papua New Guinea, a decision was made to enter into a long-term agreement with a local company to produce standard hygiene kits (jerry can, soap, pads etc.) once it was found that it would be a third of the price than bringing kits from UNICEF Supply Division (Copenhagen).

In Syria, the budget for the support to the WASH sector is done using the official exchange rate which is 30% to 40% lower than the market exchange rate. The decision was thus taken to pay local contractors in USD through foreign bank accounts. Syrian companies enter into joint ventures with foreign companies which charge an overhead for the transactions. This is still more beneficial than arranging local contracts at local market exchange rates.

Also in Syria, UNICEF has been supporting water disinfection nationwide alongside ICRC. This involves importing and distributing more than 6,000 metric tons of sodium hypochlorite every

year at an annual price tag of over USD 2.5 million. Several options were analysed. Local production of disinfectants shows greater cost-efficiency than imports (Figure 3). Option 2, with 100% of disinfectants manufactured locally, is the most cost-effective option over 10 years while Option 3, with 75% of disinfectants manufactured locally and 25% imported, has the benefit of lower capital costs (Grieve, 2021).

Figure 3: Comparison of options for water disinfection products, cumulative costs (capital and operational maintenance)



Source: Grieve, 2021

Figure 2: VFM performance ratios in Iraq

<p>Implementing partner contribution to direct programme costs A: Sum IP contribution to direct programme costs: cash + supplies B: Sum IP + UNICEF contribution to direct programme costs: cash + supplies Percentage: A/B</p>
<p>UNICEF contribution to overhead costs C: Sum UNICEF programme management cost + UNICEF contribution to HQ support cost D: Sum UNICEF direct programme costs: cash + supplies Percentage: C/D</p>
<p>Overhead Ratio: Cost of Doing Business E: Sum IP + UNICEF programme management cost + UNICEF contribution to HQ support cost B: Sum of IP + UNICEF contribution to direct programme costs: cash + supplies Percentage: E/B</p>

Performance Benchmarks

Less Than 15%
15%-25%
Greater Than 25%
Greater Than 25%
15%-25%
Less than 15%
Greater Than 25%
15%-25%
Less than 15%

Source: UNICEF internal documents

VFM and systems strengthening

There is a dichotomy between the VFM quantitative metrics, which are calculated according to infrastructure projects with clear boundaries on geographic area and on the target beneficiaries, and the systems strengthening indicators which impact beneficiaries indirectly and where outcomes are more difficult to attribute to a specific intervention or donor funding given that systems strengthening involves many other agencies too.

VFM tools and methodologies are useful to compare interventions within one geographic area with clear boundaries on the beneficiaries or expected outputs. They are not appropriate to use to analyse or compare interventions on complex systems in which many stakeholders influence different 'building blocks' of the enabling environment.

Even if the indirect beneficiaries are identified, a cost per indirect beneficiary of investment in a system strengthening approach will be meaningless since it can't be compared to any other value or intervention.

The impact of systems strengthening is best measured through other tools such as: score cards for the building blocks, sustainability checks, evaluations, and data from national surveys and from global monitoring instruments such as WHO/UNICEF Joint Monitoring Programme and UN-Water GLAAS.

An appropriate financial quantitative indicator to measure the success of systems strengthening activities could be the annual growth of national and local WASH sector expenditure (from all sources). This can be tracked using the WASH TrackFin methodology which is also reported by UN-Water GLAAS.

VFM and climate resilience

With climate resilience increasingly becoming a requirement in UNICEF WASH programming globally, it is important to explore the value for money element more closely and determine appropriate unit costs and how to better describe the additional value of climate resilient services.

The criteria used by UNICEF to define a climate resilient WASH service is shown in Box 3. It is currently unclear if the interpretations and resulting metrics are comparable between country programmes.

BOX 3.

CRITERIA TO DEFINE A CLIMATE RESILIENT WATER SERVICE

- *Risk analysis, which also assesses preventive measures, is used to identify potential impacts of extreme weather events (e.g. elevated infrastructures in flood-prone areas, additional storage capacity, climate resilient-water safety plans).*
- *Water sources are reliable at all times, both during the year (i.e. during dry season) and during extreme weather events (i.e. during droughts/floods).*
- *Management/service delivery models are sufficiently robust to cope with crises and ensure the longer-term sustainability of the infrastructure.*
- *The impact of the system in terms of greenhouse gas emissions and, when feasible, the use of renewable energy sources such as solar to mitigate these are considered. The use of diesel-powered generators is accepted if used as a back-up or in circumstances where alternatives are not feasible.*

Source: Internal UNICEF document

It is also possible to tag financial expenditure as being climate associated in the UNICEF financial system. For instance, if a country office has an output, then any activities per sub-sector can be tagged individually. Climate related spending can then be easily extracted from the financial reporting system.

The VFM tool has a question about how many people are being reached with climate resilient WASH services.

It is estimated that climate resilient WASH is more expensive to deliver. In Bangladesh, climate resilient capital expenditure in infrastructure is at least 50% more expensive. In Nepal, the unit costs of raised toilets to cope with yearly floods are 40% to 50% more expensive. In Ethiopia, unit costs to cope with climate risks and where private sector presence is low led to higher capital expenditure of 50% to 80%.

However, the costs of emergency services due to climate events are even higher. Another aspect that is relevant for VFM is thus the long-term cost savings of investing in climate resilient infrastructure. VFM of climate resilient WASH provides a compelling case to donors.

“Ultimately, we are saying to the UNICEF Board: we are reaching fewer children with this strategic plan with the same funding because the costs are much higher. But there is more equity and more sustainability.” Interview May 2022

For some UNICEF country programmes, climate resilient WASH is still embryonic. The first step is to do a climate risk assessment for children which allows for a better understanding of the impact of climate on the sector and how the UNICEF WASH programmes can start investing more in adaptation.

When is VFM useful for WASH country programmes?

Overall, VFM is useful when country programmes compare like with like: when there are standard designs and when the operational and management costs are known. For instance, within a particular area or for the type of climate resilient designs that bring the most value for money.

VFM is therefore useful to demonstrate the number of people that can be reached through different approaches in one area and to provide the evidence needed to negotiate internally and with donors.

“Value for money can improve efficiencies and ensure UNICEF activities stick to the core business. But ultimately we need to ask what is the value of doing the value for money analysis, and how can it help us achieve the goals of the new business plan.”
Interview April 2022

In highly uncertain environments, VFM analysis is useful to compare the life cycle costs of different approaches and inform strategic decisions.

From a global perspective, the relevant metrics within VFM are the costs per beneficiary, mostly for budgeting projections. However, given the different implementation contexts, comparisons of costs per beneficiary within and across countries need to be accompanied by a narrative.

When is VFM not useful for WASH country programmes?

As mentioned above, one of the most important additions that needs to be made to the VFM metrics is to calculate the cost per beneficiary when there are many others contributing financially to the activities.

Another area where VFM metrics is not useful is in country programmes which are piloting innovations. For instance, one country was working on using satellite images to identify deeper, more resilient, aquifers. In the procurement process, only one or two companies were able to bid – and the VFM was lower than using existing hydrological data. VFM of non-standard approaches might not yield relevant metrics in the short term.

Conclusions

VFM metrics are appreciated in the sense that it forces country WASH teams to conduct life cycle unit cost analyses and that the information is useful for simplified communication and critical for advocacy and fundraising.

However, when WASH teams need to deliver up to 20 reports a year to different donors, having a mandatory VFM tool only makes sense when the metrics are helpful.

“VFM analysis is best seen as an approach that should be adapted to different contexts depending on the levels of data availability and types of decisions that need to be taken. It is not a one-size-fits-all tool. VFM can be better understood as a general approach which can provide various insights.” Interview May 2022

Different decision-making around budget allocations, and different time frames and contexts require different levels of VFM analysis, as shown in the examples in this learning note.

Several conclusions can be drawn from the review of VFM use in UNICEF WASH country programmes. These include the following.

The VFM HQ tool is mostly used for reporting in ASWA programmes. In countries which are directly involved in the construction of WASH infrastructure, VFM is used for making programmatic decisions on budget allocations.

These countries use their own VFM methodologies.

Cost per direct beneficiary is the most used VFM analyses metric. Besides for reporting purposes, the cost per direct beneficiary is also used to substantiate more expensive interventions such as climate resilient infrastructure or ensuring those in remote areas also have access to services.

The most useful component of the VFM tool developed by UNICEF HQ is the quantitative component. The other components (score card and impact sheet) are not considered useful since UNICEF has more comprehensive system strengthening tools.

All countries are increasingly providing systems strengthening support to governments. According to the interviews, the WASH-BAT, the sustainability checks, and the UN-Water GLAAS report are the best tools to monitor systems strengthening. These tools involve governments throughout the process and provide a good joint vision on how to move forward and the bottlenecks that need to be addressed.

Recommendations moving forward

The recommendations from the country offices specifically for the development and rollout of the VFM tool include:

- sharing examples of how other countries are using VFM in their programmatic decision making and advocacy (this learning note is a first step in that direction);
- simplifying the Excel-based VFM tool by focusing only on the quantitative component and adding a guidance manual that can also be easily used by/with local partners;
- providing guidance on how to include life-cycle costs and climate resilience in VFM analysis;

- at the request of the interviewees that have been using the VFM tool, arranging a short webinar on the quantitative component of the tool since the initial training took place in 2019 and the staff using it might have different interpretations;

“If we need a global tool, let’s keep it as simple as possible, it has to be useful for us, for our programme.” Interview April 2022

- adding a component on the leverage funding from other sources, including communities and beneficiaries, to the cost per beneficiary;
- obtaining a greater understanding on the part of UNICEF country offices on VFM areas such as city-wide sanitation approaches, tariffs, the rate of investment and returns of the whole sanitation chain, comparing value for money with subsidy approaches, and working with NGOs and municipalities; and,
- further implementing the WASH-BAT that incorporates climate resilience and obtaining greater clarity on climate resilient unit costs and benefits derived from it across different types of organisations.

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About the Series

UNICEF's water, sanitation and hygiene (WASH) country teams work inclusively with governments, civil society partners and donors, to improve WASH services for children and adolescents, and the families and caregivers who support them. UNICEF works in over 100 countries worldwide to improve water and sanitation services, as well as basic hygiene practices. This publication is part of the UNICEF WASH Learning Series, designed to contribute to knowledge of good practice across UNICEF's WASH programming. In this series:

Discussion Papers explore the significance of new and emerging topics with limited evidence or understanding, and the options for action and further exploration.

Fact Sheets summarize the most important knowledge on a topic in few pages in the form of graphics, tables and bullet points, serving as a briefing for staff on a topical issue.

Field Notes share innovations in UNICEF's WASH programming, detailing its experiences implementing these innovations in the field.

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