Beyond building blocks?
Identifying and monitoring dynamic drivers of sector performance

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Summary

Effectively channelling investments towards water, sanitation and hygiene (WASH) sector improvements requires a clear view of the markers of progress. This report provides an assessment of different approaches to monitoring systems change, and their associated risks. It finds that building block frameworks have played, and continue to play, an important role; but to successfully monitor and incentivise system-wide change, elements of different approaches will need to be combined.

To further enhance current approaches and ensure they effectively capture the drivers of system performance in a dynamic, complex sector, a number of key recommendations are identified. These include:

- **WASH donors and implementing partners should continue to deploy building block frameworks, but with greater emphasis on using and improving them for the purposes of recurrent monitoring.**
- **Simultaneously, donors and implementing partners should work together to address the risks and misaligned incentives arising from monitoring systems with building blocks.**
- **Finally, donors and governments need to approach monitoring systems change as a political, not just technical, endeavour.**
There is growing recognition among development partners that a system-wide approach is essential to achieving universal access to water, sanitation and hygiene (WASH). But, despite increasing interest in strengthening sector performance through systems change, moving to a system-wide approach is both practically and politically challenging; nowhere more so than in how progress is measured.

Throughout the Millennium Development Goal (MDG) period, an emphasis on first-time access to improved water supply and sanitation facilities provided a simple measure of progress. Against this, donors and governments had a practical way to measure their contribution that was politically straightforward to communicate. However, the MDG WASH targets and indicators also created some harmful incentives, including biasing funding towards new infrastructure and the easiest people to reach. To tell whether a WASH sector is really going in the right direction – either as a way to steer investments, or to inform learning and adaptation – it is necessary to track changes in the service delivery system itself, not just the services it delivers.

To date, most efforts to understand strengths and weaknesses across an entire WASH sector system have taken ‘building blocks’ as their organising principle. A **building block is a recognisable (and widely recognised) sub-system within the larger WASH system, whose actors and factors work together to perform a key function.** However, dividing a complex system into constituent building blocks can overlook important aspects of its effective functioning as a system. And in turn, narrowly defined results can constrain the incentives for investment in long-term systems change.

This study explores the risks of using building block frameworks to assess and monitor WASH systems, and identifies approaches that can be used to enhance the way we monitor and incentivise system strengthening in a dynamic, complex sector. In doing so, it aims to support WASH sector stakeholders to maintain financial and political attention on the key drivers of sector performance needed to accelerate progress.

**A note on terminology**

Throughout this report, the term ‘**WASH system**’ is used to refer to the entire WASH sector, which is understood to involve multiple levels, stakeholders, relationships and interactions, both within the sector and in relation to the broader context. By ‘**monitoring WASH systems**’ we mean a deliberate, regular process in which defined aspects of the system are examined, enabling an assessment of change over time and/or comparison with other systems that might be monitored in a similar way.
Frameworks that break the WASH sector down into constituent building blocks, such as coordination, financing or planning, have evolved for over a decade. Multiple frameworks have been built around different – but overlapping – selections of blocks or sub-criteria, and their continued evolution reflects their appeal as tools to analyse sector systems.

However, practical applications of building block frameworks for ongoing, routine WASH monitoring have been limited. So far, they have more often been used to support one-off diagnostic or review exercises. In some cases, such as IRC’s framework or UNICEF’s WASH BAT tool, baselines have been established with the intention of conducting recurrent assessment.\(^1,2\) Other examples of using the same building block-type framework for recurrent monitoring are limited, but include GLAAS at the international level, and Water for People’s framework at the national and subnational levels (so far, the latter has been used in 2017 and 2018, in 26 districts across nine countries).\(^3\)

In health, the importance of a systems approach – and the use of building block approaches to assess and monitor system strengthening – is longer established. The most widely applied framework was proposed by WHO and its partners in 2010, and comprises six core building blocks and cross-cutting components such as leadership and governance. Each building block is accompanied by a set of core indicators and a monitoring methodology.

However, since the development of the WHO framework, several challenges have been identified, paralleled by wider discussion of the risks of a building block approach. For example, it has been argued that building block approaches give insufficient attention to the properties of health systems as complex adaptive systems, made up of dynamically changing and interconnected elements, which may interact in different ways according to different contextual factors or historical moments.\(^4\)

Another criticism is that the building block approaches under-value important interrelationships between and within systems. By drawing a relatively narrow boundary around the health sector, they may miss interactions and linkages with other sectors (including WASH), with underlying social and economic determinants, or with cross-cutting issues such as leadership and governance.

Finally, the quality of services has emerged as an increasing concern, with a recent Lancet Commission proposing greater focus on the views of the people the system serves. This would require additional monitoring of user experience and user confidence in the system.\(^5\)
Lessons learned from existing and emerging approaches in the WASH and health sectors highlight the challenges of using building blocks to understand and monitor sector systems. In particular, four key risks can be identified:

**Risk 1.** Prescriptive building blocks, and indicators used to measure them, can encourage a focus on what a sector system should look like. But a focus on ‘form’ may not say much about, or incentivise, improved ‘function’ within the system: a model sanitation policy document may be published, but not implemented, or a regulatory agency for water supply may exist but be unable to enforce regulation.

**Risk 2.** A building block approach involves dividing up the WASH system into more manageable component blocks. This is pragmatic, but is intuitively at odds with the idea of complex systems being characterised by interconnected and interdependent elements and dimensions. We run the risk of overlooking the interactions between different sub-systems and across governance levels that are vital drivers of sector performance, such as learning, coordination and political commitment.

**Risk 3.** Change in complex systems is unpredictable, and action in one part of the system can have unexpected effects elsewhere. But pre-determined building blocks and rigidly fixed indicator sets can encourage a static view that does not adequately recognise, capture or measure ‘emergent’ changes, whereby ‘the behaviour of systems emerges – often unpredictably – from the interaction of the parts’.

**Risk 4.** Most building block frameworks aspire to be comprehensive, and struggle to keep the total number of indicators below 20 (with variants and additions often introduced in recognition of the essential differences between WASH subsectors). But this does not necessarily help tackle complex problems: a lack of focus on the binding constraints of system performance leads to undue attention on marginal issues and encourages over-complex responses – or can paralyse reform efforts altogether.

These risks are especially relevant given the increasing pressure both donors and governments face for robust results that can be easily counted, attributed and communicated (illustrated by a trend back towards projectized approaches). Without robust metrics for assessing the performance of WASH sector systems, there is a real risk that the investments in system improvements could be rolled back. Fortunately, several existing building block frameworks, as well as adapted or alternative approaches to monitoring systems change, are already starting to acknowledge these risks and point to possible responses. These are explored in the following pages.
**Risk 1: Form over function**

The first and simplest response to the risk of prioritising form over function is to take more care in how building block indicators are identified and interpreted, to ensure they place emphasis less on the presence and absence of the block and more on its functionality.

A second response would be to use complementary **incentive mechanisms** to ensure system monitoring is locally owned and grounded. A possible example is DGIS’s use of three complementary mechanisms to monitor and incentivise the sustainability of its WASH investments: the sustainability clause, check and compact. The sustainability check includes what is essentially a building block assessment, and like other such frameworks, there is little inherent to the design that prevents a focus on form over function. But by adding the clause and compact, DGIS appears to be incentivising a focus on the key drivers of system function, and encouraging implementers to engage with others involved in system strengthening. However, while the clause has some financial and legal ‘teeth’, there are no cases to date where a financial penalty has been exacted for failure to ensure sustainability, and the compact lacks such teeth altogether.

A third, more drastic, response is to overhaul not only how system monitoring is undertaken, but how interventions seeking to reform systems are approached altogether. **Problem-driven, iterative adaptation (PDIA)**, for example, calls for strategies ‘that begin with generating locally nominated and prioritised problems, and that work iteratively to identify customised ‘best fit’ responses’. Similar principles have been advocated under the banners of ‘adaptive development’ and ‘doing development differently’.

Such approaches have yet to be used extensively in WASH programmes. They would require much more nimble, diverse and long-term approaches to reform; deploying multiple, smaller value reform experiments, dropping the least promising examples, and scaling up the most. Related monitoring systems would need to be capable of rapid feedback and potentially monitoring multiple system strengthening efforts simultaneously. And there would need to be greater willingness on the part of donors to fund and measure over longer timescales.

A final response is to **invest in strengthening countries’ own monitoring and regulatory systems**, so that they themselves can identify and monitor metrics of system performance. Many donors have supported the development of country monitoring infrastructure and capacity, but examples of this leading to better systems monitoring, and of generating data that donors can themselves use to track and justify their investments, appear to be rarer. For example, whilst GIZ has supported national regulators or other agencies to carry out utility performance monitoring and oversight – and some of the data generated in this way can, in principle, be aggregated to provide proxy measures of system strength – GIZ reportedly still retains parallel monitoring frameworks as a tool for project managers to steer investments.
Risk 2: Silos, not systems

The simplest response to the risk of overlooking interactions, relationships and other system-level phenomena is to maintain a whole systems perspective, while using building blocks to simplify the system to a ‘practical level that can support action’.¹

Software could help this endeavour to some extent; for example UNICEF’s WASH BAT online tool allows the identified causes of a given bottleneck to be replicated and assigned to other bottlenecks too. One step further could be to assign specific building blocks to capture system level phenomena. IRC, for example, includes a building block on ‘learning and adaptation’ in its framework, which assesses processes such as joint sector reviews and interaction between stakeholders at different levels.¹

Currently, there are limited convincing examples that go beyond this. Proponents of complexity theory point to the importance of complex system characteristics that can only really be understood at the system level, such as interdependence, feedback loops, non-linear behaviour, self-organisation and co-evolution. Yet, the development community, not only in WASH, is still grappling with how to operationalise these concepts and find ways of measuring ‘systemic’ characteristics and behaviour over time. The most promising examples originate with USAID, which has been developing conceptual and operational tools for understanding and monitoring complex systems for some time. SPACES-MERL – a four-year strategic programme on analysing complexity and evaluating complex systems – identified 24 systems tools and approaches for monitoring, evaluation and learning, categorising these into visualisation methods, narrative-based approaches and indicator-based approaches.⁸

The 2016-21 USAID-funded Sustainable WASH Systems Learning Partnership (SWS) is the main example of the application of such tools in the WASH sector. SWS applies a range of approaches to monitor specific country activities, including organisational network analysis and factor mapping. So far, baseline analyses have been conducted in the project’s local areas and, in the case of network analysis, there is an intention to repeat analyses and measure change (although this itself opens up important questions about what key variables will be measured, and how changes, e.g. in ‘network strength’, will be assessed).

Together these innovative tools provide examples of supplementary approaches that could help sharpen the focus on system interactions and relationships. But as USAID notes, ‘Mapping techniques that capture systems change over time can be powerful tools when linked to adaptive project implementation modalities’.⁸ This requires simpler methodologies and easily intelligible summaries of what results mean. The SWS partners have reportedly worked to reduce the complexity of network analyses, which will be essential if they are to be useful for monitoring and evaluation in rapid cycles that can inform adaptive programming.
Risk 3: Overlooking emergence

A straightforward way to accommodate emergent changes is to allow frameworks to be modified to include new blocks or indicators. For example, WaterAid’s Sector Strengthening Programme Design Toolkit encourages collective identification of critical sector processes and functions before these are grouped under pre-defined building block headings. It also encourages discussion of ‘processes that don’t fall neatly under a building block’. But this flexibility presents tensions with the need for monitoring to use consistent metrics that enable analysis over time. It is also unlikely to allow comparison between national or subnational jurisdictions. In principle these tensions can be managed by maintaining a consistent core of indicators, while allowing the incorporation of new indicators to track emergent properties.

A more challenging question is how to ‘spot’ emergent properties if they are not being measured in the first place. One response is to provide a clear structure and set of prompts for stakeholders to identify emergent properties, for example, through the use of outcome mapping to monitor systems change under the SWS project. A similar approach could be adopted by including more loosely defined indicators in project logframes and results frameworks. For example, the logframe for DFID’s 2016-20 Urban Sanitation Policy Programme includes the ‘number of significant policy changes catalysed as a result of this programme’ as an output indicator. In principle, this does allow outcomes that are not predicted at the start of a programme to be monitored, given some value, and therefore incentivised. But this may bring its own risks; for example, the lack of specificity could allow partners to push for inappropriate policy changes.

Going a step further are methodologies that work largely retrospectively. Usually, these seek to identify significant outcomes, trace back to establish a narrative for how the change occurred, and then identify the role of the intervention within that process. Most significant change (MSC), for example, is a methodology that moves away from the use of indicators altogether, focusing on identification of broad ‘domains of change’, and the collection and prioritisation of narrative stories. Outcome harvesting works on similar principles, though relevant outcomes can be identified as and when they emerge.

But a retrospective approach creates challenges for both recipients and donors; whilst the former may have less clarity on what will ultimately be harvested as an outcome, and therefore what actions should be prioritised, the latter may face challenges in justifying funding decisions if there are no predetermined outcomes or impacts. The techniques therefore seem likely to complement, rather than replace, conventional monitoring, which forecasts results, change pathways and indicators up front. Cumulatively, however, the techniques could encourage an ethos of experimentation, and help to build a collective, evidence-based understanding of how change has happened, and a programme’s contribution to it.
Beyond building blocks

**Risk 4: Misplaced effort**

Avoiding misplaced effort in monitoring unimportant issues and, more importantly, misdirecting reform effort on the basis of misplaced monitoring, requires an understanding of the most important metrics of system change. To date, most building block frameworks have addressed this by reducing building blocks and indicators to a focused list based on norms and consensus. Yet, the general lack of evidence about what institutional forms have supported what WASH outcomes, through what pathways, has made this difficult.

A first group of responses to improve the empirical basis for selecting indicators involve *ex-ante analysis*, through either quantitative or qualitative comparative analysis. In this vein, an independent assessment of various urban water sector reform processes recently commissioned by GIZ confirms the importance of general themes such as corporate governance for utilities, and enabling policy and regulatory frameworks (although it also notes that this does not equate to a blueprint of certain institutional models). Innovative research methods – such as ‘fuzzy-set qualitative comparative analysis’ – have also been applied to identify the combinations of causal conditions associated with successful long-term functioning of various rural water supply setups.10

However, efforts to identify the most important binding constraints across generic types of WASH systems must simultaneously leave space for stakeholders to tailor their monitoring to variations in local context; otherwise, addressing Risk 4 may exacerbate a focus on form over function (Risk 1). But whilst *problem-driven analysis* may help empower the selection of building blocks and metrics based on locally identified problems, many donors struggle to relinquish control over what will be prioritised and monitored.

A final school of thought is therefore for donors to specify one or more desired result, but to do so some way down the causal chain, leaving the recipient to work out how to get there. The incentive could be sharpened by attaching funding to the monitoring and achievement of those results: the principle behind many variants of *results-based funding*.

In WASH, there is mounting experience with result-based modalities that specify service outputs and outcomes as the basis for payment; for example, DFID’s WASH Results Programme. However, there is debate about whether results-based funding can incentivise system strengthening in practice, with much depending on what results are specified, who is responsible for achieving them, and whether they can be achieved more cheaply and effectively by bypassing systems than by strengthening them. Given these doubts, there is increasing interest in attaching financing to changes in the system, rather than outputs or outcomes (an idea which is explored further in the next section). Over time, the approach could accumulate useful datasets on which types of system strengthening intervention have been most effective, which could in turn provide a basis for focusing subsequent monitoring efforts, and corresponding activities.
While the innovations outlined above have predominantly originated from donors and international agencies, in practice, approaches to assess and monitor systems tend to co-evolve through collaboration and negotiation among the actors concerned, with national and subnational governments playing a crucial role. Case studies from Indonesia and Ethiopia provide valuable insights into the ways donor and government monitoring of sector systems evolves together, creating a complex web of incentives for both parties.

**Indonesia**

Indonesia’s WASH sector features several important innovations relevant to system strengthening. In particular, Indonesia has comparatively rich experience with results-based funding, which has progressively acquired greater focus on systems-related elements. And while the main results-based funding innovations have come from donors, they have been enthusiastically adopted by the national government to encourage local governments to strengthen WASH systems.

A first example, from urban water supply, is the *hibah* scheme, an output-based aid modality, first piloted in 2010 with support from the Australian Government, and more recently mainstreamed by the Government of Indonesia. The original objective was systems-oriented – to shift the incentives for local governments to invest in their water utilities – and a recent evaluation found that the *hibah* has succeeded in encouraging local government to allocate its own budgets to WASH and may have had other incidental system strengthening effects. However, the scheme operates by reimbursing district governments an agreed amount for verified water supply connections; in other words, the scheme monitors system outputs, rather than system strength (reflecting a wider prioritisation of access within Indonesia’s WASH monitoring). In some cases this focus has led to unintended consequences and even declining service outcomes, as poorer performing utilities expanded connections without first enhancing bulk water supply.

Recognising the need to look beyond service outputs towards a more system-oriented approach to monitoring, Indonesia’s new National Urban Water Supply Project uses payment indicators that are restricted to two measures of operational performance that can be assessed straightforwardly and quantitatively: reduction in non-revenue water; and improvement in energy efficiency. To avoid unintended consequences, these metrics are to be cross-checked against service quality and number of connections.

Going one step further, there are plans for the second generation of the *hibah*
scheme to supplement such operational performance payment indicators with ones that look more directly at aspects of system strength. These include existence and frequency of reviews by utility oversight boards, and evidence of a water utility business plan being approved by the head of local government – as well as financial indicators, such as operating ratio and billing efficiency.\textsuperscript{12}

A similar evolution in thinking can be seen in Indonesia’s urban sanitation sector, where improvements in district sanitation governance are tracked to determine eligibility for financing from central government. One example of such ‘readiness criteria’ is the presence of a city sanitation strategy, and to some extent this has been successful – after a decade of promotion, more than 450 districts now have a strategy and implementation plan.\textsuperscript{13} However, there are persistent challenges with the quality and implementation of the strategies, especially in the absence of strong political commitment and clear legal status for the strategies themselves. This implies that the risks of prioritising form over function (Risk 1), and overlooking key system-level issues (Risk 2), remain.

In response, the World Bank and UNICEF are working on an assessment model for tracking local government readiness for urban sanitation investment, with building blocks related to enabling, developing and sustaining services. The model’s framework includes 18 indicators, ranging from the type of institution managing domestic wastewater, to the ratio of tariff to operating cost, and indicator assessment criteria are closely tailored to Indonesia’s existing institutional context, to minimise the risk of focusing on externally prescribed forms, rather than functions. However, the framework has not yet been operationalised as a basis for targeting and accelerating investments.

Indonesia’s experience thus provides useful insights into the challenges of finding robust indicators that satisfy both as a financial tool (as a trigger for payment) and as a governance tool (as an incentive for system strengthening). It remains to be seen whether the above approaches can counteract the prevailing emphasis on infrastructure development.

**Ethiopia**

Ethiopia is often cited as a key example of system strengthening in the WASH sector, but progress has so far been achieved and sustained without any robust routine monitoring of system strength. Instead, the effort to date has been shaped predominantly by politically valuable ‘results’, such as announcing the achievement of the MDG target on water supply in 2015, which have given confidence that the sector is moving in the right direction. The key question is whether that effort could be more effective, with better and more regular data on the strength of the system to deliver ongoing services.

This is not to say system related issues have not been considered. An established cycle of sector reviews tied to the One WASH National Programme (OWNP) do consider institutional elements; however, the focus of these changes over time (potentially making them well suited to identifying emergent issues, but making it harder to track the same issues over the long term), and there is often a lack of follow-up.
Most Key Performance Indicators (KPIs) for the OWNPs are for service outcomes and impacts. Consideration of systems-related elements is minimal, and the relevant data has been difficult to obtain. While there are plans to introduce more indicators of this kind for Phase 2 of the OWNPs (see box), there is uncertainty around how these will be monitored and used. Furthermore, the emphasis on counting certain institutional forms or processes once again leaves a residual risk of isomorphic mimicry (Risk 1), and the large number of indicators (more than 70) may lead to a loss of focus (Risk 4).

Ethiopia’s experience of monitoring its health system shows several parallels with the WASH sector. Monitoring of system strength is again done more through successive and evolving five-year plans, with well-established joint-sector review and reporting processes, than through routine monitoring of systems. And progress at the macro-level in terms of health outcomes – notably under-five mortality and maternal mortality – has again helped reinforce donor confidence. However, there are some differences. The well-established cycle of annual performance review reports, meetings, and joint missions provide an update not only on trends in service delivery, but also in system strengthening. And of the indicators in the current Health Sector Transformation Plan (HSTP), just over a third of the 176 specified are related to health system performance.

Interestingly, some do attempt to measure function rather than simply ‘form’, and to capture system-wide aspects such as governance and learning. For example, HSTP KPIs include, ‘Proportion of synthesised evidence-based information utilised for decision making’. And – as seen in Indonesia – some are prescriptive but use locally relevant standards and criteria, increasing the likelihood that the desired form is appropriate for the local context. For example, ‘Number of healthcare facilities meeting healthcare facility standards’.

In this way, both Ethiopia’s WASH and health sectors provide examples of emerging indicators aimed at monitoring system strength, but also highlight the possibility for system strengthening efforts to be sustained in the absence of robust routine monitoring of system performance.

Examples of KPIs from Ethiopia’s OWNP Phase 2 Program Document

Enabling environment and good governance:
- Number and % of WASH committees with legal status.
- Number and % of quarterly WASH review meetings held by level.

Efficient use of resources:
- % reduction in per capita investment costs in town, cities and rural areas.
- Number and type of pilot/demonstration activities scaled up.

Strengthened capacity of WASH sector actors for achieving and sustaining results:
- % of post-construction support units established and functioning.
- Number and % of water quality laboratories supported and operational.
Beyond building blocks

Recommendations

To ensure more effective identification and monitoring of the dynamic drivers of sector performance, donors and implementing partners must work together to:

- Continue to use building block frameworks, but with greater emphasis on using and improving them for recurrent monitoring of sector performance.
- Carry out research to build understanding of the core building blocks that capture, at a high level, the key ingredients or binding constraints for performance of a given type of WASH sector or subsector system.
- **Empower local stakeholders** to define detailed indicators for monitoring progress in each of these core building blocks, as well as additional, locally-specific blocks.
- **Fund small-scale reform experiments**, to iteratively sharpen the focus on what should be prioritised for reform and further monitoring.
- Select indicators to **track how institutions function**, rather than just what they look like – ranging from quantitative proxies for performance to measures of user satisfaction.
- Further develop, test and simplify methods to **capture and track system-level dynamics and interactions**, for example, approaches that map and measure the strength of networks between actors or relationships between issues.
- Leave space to **capture unpredicted, emergent issues** within results frameworks, balanced with ground rules to define what counts as significant.
- **Promote recurrent reviews** of each system monitoring framework, to ensure they are kept as relevant as possible to the system in question.
- **Employ greater political awareness and agility**, to look beyond narrow definitions of results, and tell human-centred stories about how stronger WASH systems make a real difference to people’s lives.

Bibliography

2. UNICEF (2018). Water, sanitation and hygiene bottleneck analysis tool (WASH BAT) user guide

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