

Does Citizen Monitoring Save Public Money?

The case of monitoring infrastructure
projects in Northern Ghana

Annexes to Research Report, September 2023

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Annex 1: Original research Terms of Reference

“Does Citizen Monitoring Save Public Money in Northern Ghana?”

Introduction

Integrity Action and SEND Ghana are starting a new, two-year programme in March 2021 in which groups of citizens in Northern Ghana will be enabled to monitor the delivery of important infrastructure projects and essential services within their communities. As part of this programme, we wish to generate evidence on whether, and under what conditions, public money is saved through this citizen monitoring approach.

Integrity Action’s and SEND’s long experience of citizen monitoring approaches tells us that such approaches have the potential to improve services like education, health or infrastructure. We have seen teacher absenteeism improve, facilities upgraded, and stalled construction projects completed, to name a few. However, we lack evidence for what these improvements mean in financial terms. How much public money is saved when a particular service or project is improved through monitoring? By what kind of mechanisms or pathways might that money be saved? Under what conditions is the money saved greater than the money spent on monitoring? Evidence like this could help build a compelling argument for the value of these approaches, and the effects of the COVID-19 pandemic on government spending makes this kind of evidence particularly important.

This terms of reference sets out the full details of this work.

Background

Integrity Action was founded in 2003 and headquartered in London, Integrity Action is a non-profit organisation that helps citizens living in poverty to fix the essential services that are failing them – including schools, clean water and healthcare.

We do this by equipping citizens to “review” services where they live, report problems publicly, and work with those responsible to ensure the problems are fixed. Citizens across Africa, Asia, and the Middle East have now identified, and found solutions for, thousands of problems — from crumbling schools to dirty drinking water — and in so doing, have transformed hardships into real benefits for their communities.

We work with various partner organisations in places where the need for effective services and infrastructure is critical. Whether it is secondary school teaching in Afghanistan, water systems in DR Congo, or the reconstruction of homes after Nepal’s 2015 earthquake, essential services and projects impact every aspect of citizens’ lives.

Our approach involves three core components:

MONITORING: we enable citizens to become monitors of essential services and development projects. They learn how to access information such as infrastructure contracts, and then check that whatever was promised is being delivered.

TECHNOLOGY: citizens we work with often use a simple tablet or smartphone app to record their findings. This can lead to quicker reporting and resolution of feedback, as well as easy analysis of the data and publication of service performance.

SOLUTIONS: monitors don't just report problems; they are actively involved in finding solutions, by convening service providers, officials, community members and other stakeholders and sometimes turning to other strategies like advocacy or targeted media coverage.

SEND Ghana, an affiliate of SEND West Africa, was founded on August 4, 1998. The organisation has evolved into a reputable and credible national Non-Governmental Organisation with specialty in; policy research and advocacy focusing on pro-poor policy and development programme monitoring in Ghana and; service delivery through the promotion of livelihoods security. The main constituents of SEND Ghana include socially excluded and marginalised groups such as women, persons with disability, small holder farmers and in general poor people. SEND has developed an innovative framework as a tool for public policy advocacy, known as the Participatory Monitoring and Evaluation Framework. It has four key components including; policy education, participatory research, policy engagement and policy responsiveness phases.

The framework has been used to monitor a number of government pro poor programmes and policies. Key among them is the Ghana School Feeding Programme; the Capitation Grant; the National Health Insurance Scheme; agricultural and trade policies; maternal health promotion and the use of local government revenue and mineral royalties.

The successful application of the framework has led to the establishment of platforms for civil society–government engagement at the district, regional and national levels. At the national level, SEND Ghana has developed effective working relationships with various parliamentary select committees and key ministries with an objective of influencing government policies through citizens' feedback mechanisms. Besides that, SEND Ghana has strengthened the advocacy capacity of district civil society organisations and community-based organisations, especially women groups and people living with disability to champion the demand for alternative policies. As a result of these engagements SEND Ghana has successfully pushed for improvement in good governance practices by monitoring the implementation of pro poor government interventions.

The programme

Integrity Action and SEND Ghana are planning a two-year programme based in two districts across two regions in the northern belt of Ghana where poverty and inequality is high. These areas will include the West Gonja Municipal Assembly in the Savannah Region, and East Mamprusi Municipal in Northern East Region. The West Gonja and East Mamprusi Municipal are selected because they serve as regional capitals for the newly created Savannah and North East Regions, as a result of which many infrastructural projects are being undertaken and/or planned to be constructed. The choice of the Yendi municipal is informed by recent resolution of the long-standing chieftaincy disputes paving the way for new infrastructural projects to be initiated.

The programme will engage 40 citizens to act as monitors, across 10 specific communities (4 monitors per community). We intend for the participating monitors to guide us on what they wish to monitor – it is important that they monitor projects or services that are of importance to them. However, we

anticipate that there will be infrastructure projects incorporated, as well as some services such as health or education.

In addition to the monitoring activity itself, the programme will also feature:

- Collaborative problem solving, through meetings/dialogues at project/service level and district level
- Engaging with the media on monitoring findings at national and district level
- Publication of fact sheets, monitoring reports, feature articles etc.
- Two national level policy dialogues on monitoring and research findings

Integrity Action and SEND Ghana will develop a programme-specific theory of change in early 2021. For reference, Integrity Action's organisational theory of change is provided as a diagram with this ToR (appendix 3), and can be found on Integrity Action's website with an accompanying narrative here: <https://integrityaction.org/what-we-do/approach/theory-of-change>.

Research questions and purpose

The purpose of this research is to generate evidence on public money saved through the implementation of citizen monitoring, so that:

- Integrity Action and SEND Ghana can use this evidence to engage stakeholders such as government officials and service providers and secure buy-in for citizen monitoring;
- Integrity Action and SEND Ghana can promote the value of citizen monitoring approaches to donors, development actors and governments;
- Other organisations, donors and researchers can derive useful learning on how information on financial savings can be generated.

The draft research questions are as follows, though we expect these to be refined further with the research provider:

1. What are the different mechanisms or pathways by which monitoring of projects or services could save public money?
2. In the mechanisms or pathways identified in Q1, by what methodologies can the amount of public money saved be assessed?
3. During the project, what tangible improvements are observed to the monitored projects or services, and to which of these did the monitoring approach make an important contribution?
Note: the citizen monitoring methodology involves citizens collecting evidence on problems with projects/services and subsequent solutions. Therefore, this research question may involve verifying the information gathered, or building on this evidence.
4. How much public money was saved through the monitoring approach (in specific instances and across the whole project), how does this vary between different types of improvement, and how does this compare with the amount of money spent on implementing the monitoring approach?

It is important to note, that the collection of evidence on project/service performance is central to the citizen monitoring approach. In line with this, the research provider will have the opportunity to influence what information the citizen monitors collect, to facilitate answering the above questions.

While we see this as a piece of research, we recognise that it is significantly evaluative in nature, i.e. it involves generating evidence on positive outcomes brought about by the programme (Q3). We also recognise that this research is unlikely to give firm answers to these questions, particularly Q3 and 4. We expect the research provider to use multiple complementary methodologies to assess financial savings, in order to build a comprehensive picture, rather than arbitrarily choosing one figure. We also recognise the difficulty in assessing the counterfactual, i.e. what public money would have been spent if the citizen-led monitoring was not happening. At this stage we do not wish to run an RCT, partly due to budget constraints, and partly because we believe the research needs to focus on developing methodologies for assessing savings as well as implementing them. However, the research provider may wish to consider gathering evidence that can be used for comparison, such as public spending from previous years or from comparable districts.

The research will have an inception phase (see below for draft timeline). We would expect questions 1 and 2 to be addressed primarily within the inception period, in order to establish the methodologies that should be pursued during the remainder of the project (Q2). Integrity Action and SEND Ghana will be able to contribute to Q1 with pathways such as the prevention of cost overruns, prevention of poor construction that requires greater maintenance costs, and reduction in staff absenteeism (e.g. teachers, healthcare staff).

The evidence generated through this research will be published and shared openly, with potential target groups including:

- All communication of evidence will respect anonymity and confidentiality requirements of those participating in the research, as per our *responsible use* principles (see Appendix 2)
- Citizens and civil society groups (in Ghana and internationally)
- Government officials and service providers (in Ghana and internationally)
- Donors, researchers and the international development sector at large, particularly the field of social accountability.

Research approach and principles

We do not have a preferred methodology for this research, and so applicants are free to propose the most suitable approaches. Approaches must, however, consider Integrity Action's *PICTURE* principles on quality evidence, appropriate practice, and responsible use. These principles mean that we understand *quality evidence* as that which is:

1. **Precise.** Claims are not generalised, but are specific about their context and have findings disaggregated according to relevant social and demographic differences.
2. **Inclusive.** The perspectives of communities and other stakeholders are clearly represented in all evidence, with space given to divergent views.
3. **Credible.** The data and methodology accurately measures what it is intended to measure, with sample size and composition being in proportion to the conclusions sought.
4. **Triangulated.** Data is collected consistently from multiple sources, with tools to capture both quantitative and qualitative information.
5. **Useable.** Evidence is fit for purpose and responds to users' needs and timelines, with no data being collected unless there is a clear purpose or commitment to using it.

6. **Results-focused.** Evidence clearly demonstrates what (if any) changes have happened, and explores our contribution to these alongside the roles of other actors and factors.
7. **Ethically collected, analysed and used.** Quality evidence processes are ones that are *appropriate* and *responsible*, and that focus on improving the lives of participants.

As per the *E* of *PICTURE*, we view collection, analysis and use of quality evidence as an ethical issue, and the above principles set the framework for how we think about research ethics. ‘Appropriate’ and ‘responsible’ practices around evidence are further defined in Appendix 2 of this document.

In addition to the above principles, Integrity Action makes the ethical commitments also set out in Appendix 2, to which successful candidates would also be expected to commit. However, we understand that ethical practice can require more fluidity than just procedural compliance, and emergent issues are to be identified as they arise and will be managed by Integrity Action. Our policies on safeguarding and data protection are available and would be applied.

Should a proposed research approach require formal ethical approval from any third-party government or body, this will be the responsibility of the applicant to obtain.

Available data

The research provider may wish to directly gather data on public spending and potential savings made. However, the programme itself will also collect some relevant data through the citizen monitoring approach. This may include:

- Contracts and specifications for public infrastructure projects
- Service standards for public services
- Budgets (of different types, e.g. budgets for a specific service facility, annual budget for a district’s infrastructure investments)
- Audit reports
- Details on types of problems identified through citizen monitoring, for how long these problems persist, and any solutions implemented

Integrity Action and SEND Ghana can also provide data and experiences from other programmes they are running, or have run, which involve a citizen monitoring approach. This may help with identifying the likely types of problem that might be identified with projects/services, and what the solutions might be.

Anticipated risks and challenges

The ongoing COVID-19 pandemic poses several challenges to this research, with risks including:

- Inability to travel, either internationally or nationally, or to meet stakeholders face-to-face
- Reduced capacity of monitors, programme stakeholders, and Integrity Action/SEND Ghana to engage (for example, due to illness or need to provide family care)


It is expected that candidates use their proposals to suggest ways of addressing the first of these risks; for example, through remote data collection or by leveraging existing networks of local data collectors.

The second risk will be managed by Integrity Action/SEND Ghana in conversation with the research provider. Further risks to be considered by candidates (in their proposals and beyond) are:

- Over-burdening programme participants or stakeholders by requiring their intensive involvement in research activities.
- Damaging our existing or future relationships with key stakeholders.

Annex 2: Literature Review

Grey Literature

No.	Reference citation	Web link	Benefits identified	Notes
1		Find it here	<p>The role of local actors, especially citizens, in the monitoring and review of development cooperation is therefore crucial to improve delivery and achieve effective development results, pg.1</p> <p>Citizens, whether as individuals or through their various organized fora in civil society, are often knowledge brokers at the point of delivery, providing critical information about the results of development delivery.....both inputs and results of development and impact on people’s lives, pg. 1</p> <p>The vehicle of citizen-based monitoring offers an opportunity for mutual learning sharing between governments, development cooperation partners and citizens; providing significant potential to promote efficiency and improve the results of development. Pg. 2</p> <p>Efforts to improve citizen participation in monitoring development cooperation have the positive benefit of increasing trust between governments and the citizenry, thus strengthening democratic governance. However, citizen participation in monitoring flourishes most in an environment where participation can be pursued, including in other stages of development operations, such as planning and implementation. Furthermore, only when citizens have the space to routinely monitor development delivery broadly can they effectively monitor development cooperation. Pg.2</p> <p>Figure 1: Popular mechanisms and tools for citizen-based monitoring</p>  <p>Diagram from pg. 3</p> <p>Demand driven monitoring mechanisms are initiated and driven by citizens through different forms of civil society structures that initiate a process of ‘demanding’ accountability. These mechanisms exist independently of and parallel to official monitoring processes, but they can add value by complementing and supplementing existing monitoring processes, thus leading to real change in policy and practice. Pg. 3</p> <p>When national governments are not open, these independent monitoring mechanisms play a critical role to advocate for greater accountability and transparency, thus promoting good governance.</p>	<p>Three areas where benefits might be seen – inputs and results of development, and impact on lives.</p> <p>Also – mutual learning and sharing, efficiency.</p> <p>CM builds trust and improves implementation</p> <p>Budget monitoring & tracking</p> <p>Citizen scorecards / service delivery scorecards</p> <p>Social audits</p>

Benefits of citizen-based monitoring:
 Citizen-based monitoring and engagement

- Promotes mutual learning and sharing based on citizen’s experiential knowledge
- Helps to refocus development cooperation on results of development
- Promotes efficiency and effectiveness in development delivery
- Complements other official data gathering efforts
- Strengthens accountability relationships between state and citizens and increases trust between state and citizens.

actual
and

2		Find it here	A benefit is defined by the Cabinet Office as “the measurable improvement resulting from an outcome perceived as an advantage by one or more stakeholders, which contributes towards one or more organisational objectives”. Fundamentally this means that benefits: • should be measurable – if they cannot be measured they cannot be claimed as ‘realised’; • are the improvement resulting from the outcome (the end result) of the change, they are not the change itself; • are in the eye of the beholder – in other words different; stakeholders will value the same benefits differently. Additionally, in some cases, a benefit to one stakeholder may be a disbenefit (an outcome perceived as negative) to another; • create the link between tangible outputs and strategic goals, and; • ensure there is alignment of effort, resources and investment towards achieving organisational objectives. Pg. 12	
		Find it here	Looking at the role of citizen ‘evaluations’ for management of urban service provision. “The role of citizen evaluations.....in utilitarian terms, in which [it] provides responsible public officials with important cues about public perceptions of the performance of local agencies” pg. 1. <i>For agency, it should be possible to translate this to ‘contractor’.</i> The research paper identifies 3 implications for public administrators to consider, in relation to citizen evaluation: <ol style="list-style-type: none"> 1. Citizens want to be included in decision making/administration processes. Denying them a voice can increase their dissatisfaction with the bodies who are meant to represent them. It is also worth noting that when citizens gain access/voice, they can often use it to redress previous grievances that are not directly related to the issue at hand. 2. Attempts by administrators to address dissatisfaction often target the wrong socio-economic groups (the article is talking about compensation in reference to this point). Working more directly with citizens can ensure the right people are involved, and benefit. 3. It is also possible for local Government to be performing well, but citizens do not perceive this to be the case. Having good communication channels with communities can help administrators relay the facts and try to address negative perceptions. Citizen evaluation provides a channel for communication. 	
		Find it here	This is an account of the Cost Infrastructure Transparency Initiative (CoST) activities in Afghanistan, which is supported by Integrity Watch Afghanistan. The Community-Based Monitoring of the Infrastructure Sector (CBM-I) organisation visits project sites three times a week to meet with site engineers and monitor the construction progress, as well as checking the quality, and projected costs, of materials using bills of quantity. CoST has an approach to disclosure, accountability, multi-stakeholder working and social accountability , which might be a useful reference. The disclosure feature ensures information about the purpose, scope, cost and execution of infrastructure projects is open to the public. Online data portals play a key role in this, and there are various government portals which have been developed in Afghanistan based on the CoST Infrastructure Data Standard (CoST IDS) . This will probably be very similar to Integrity Action’s own methodology, but it is useful to have. CoST is seen as the vanguard for increasing transparency and reducing corruption (one of the areas which acts as a drain on project costs).	
		Find it here	According to the Open Contracting for Infrastructure Data Standards Toolkit (OC4IDS), trillions of dollars are spent every year on infrastructure and estimates suggest between 10 and 30% of infrastructure investment is lost through inefficiency, mismanagement and corruption. It promotes access to better and more joined up data in order to drive better quality, more affordable and more accessible infrastructure for government, citizens and business. The model combines project level data (from conception/initiation of the idea through to closure) with information specific to the procurement of contractors (often plural, particularly for larger or more complex infrastructure). So for example – developing a highway junction (the project) may require several contractors (a planner, a construction specialist and possibly even a supervisor). The project level data is called Level 1 (project) and Level 2 (a summary of the contracting process), and add a third level (contracting details):	



Project level data (Level 1) covers:

- **identification** - the decision to develop a project within the budget and programme of a project owner.
- **preparation** - the feasibility study, environmental and social impact assessment, general scoping of the project, establishing the packaging and procurement strategy, preliminary statutory requirements on environmental and land impacts, and the resulting budget authorization.
- **implementation** - covers the procurement and implementation of the planning, design and works according to the procurement strategy.
- **completion** - covers the handover of the assets and close-out activities with details of the final scope, cost, and delivery time.

			 <p>OC4IDS is structured in three parts:</p> <p>Project-Level Data</p> <p>This would help us identify what data we might have access to, and would be useful for calculating cost savings. It would be good to compare this with the data & monitoring process that the District Government are using (or are supposed to use, but may not be).</p>	
		<p>Find it here</p>	<p>“OECD and others estimate 10-30% of infrastructure investment is lost through mismanagement and corruption..... Besides increasing costs, corruption and mismanagement can also result in unsuitable, defective and dangerous infrastructure, and loss of life”.</p> <p>Benefit to Government of collective action and transparency – <i>“Governments realise greater efficiency of public spending, improved quality of public services, enhanced reputation and public confidence, improvement in public health and safety”.</i></p> <p><i>“And civil society benefits from greater voice and participation in critical project decisions, better value for money in terms of government expenditures, improved service delivery, and more effective checks and balances with respect to corruption in government.”</i></p> <p>Resulting in:</p> <ul style="list-style-type: none"> • cost savings through project redesign • reduction of time overruns • re-tendering of non-competitive procurement • cancellation of excessively expensive or inappropriately designed/low quality project proposals 	

			<ul style="list-style-type: none"> • last but not least, detection of issues of possible corruption <p>The bottom line is better value from infrastructure</p>	
		Find it here	<p>Short blog about CoST in Uganda: Reflecting on the perception of contractors to bribery and corruption - <i>“Business leaders used to see bribes as an opportunity to engage in tenders. They said things like “a bribe helps to get things done”. Yet at the same time, everyone was frustrated at being forced to bribe.....In other words, construction companies in Uganda increasingly see that business integrity is beneficial for all and can actually save them money.”</i></p> <p>The article identifies Ugandan policies on infrastructure development that are causing challenges for contractors (and which may be influencing how they respond to the tendering/delivery process.</p> <p>Observations about the benefits of data disclosure – <i>“These data disclosures are vital to the transparency of procurement projects. They include issues like variations in the price, duration and scope of the contract and the reasons for these.”</i></p> <p>And</p> <p><i>“The government benefits from better management of public infrastructure projects, including a much larger pool of bidders and more competitive prices.”</i></p> <p>And</p> <p><i>“Citizens benefit from better value for money, better quality infrastructure and greater trust in both government and the private sector.”</i></p>	
		Find it here	<p>Blog reflecting on the benefits of e-project monitoring of infrastructure. The key points that seem to be relevant to us are:</p> <ol style="list-style-type: none"> 1. <i>“One of the main impediments to successful project delivery is a lack of information around key issues”</i> – What information does the District Government ‘need’ in order to procure and monitor successful community infrastructure projects? And what information is actually being collected and shared? What are the gaps? Can CM help fill these gaps? 2. <i>“One of the barriers to completing projects within time and cost constraints were limitations in monitoring and supervision capacity. This lack of oversight can lead to financial mismanagement, health and safety failings and poor project outcomes. One of the key recommendations put forward by CoST Uganda’s assurance team was for monitoring capacity to be increased to counteract these inefficiencies....”</i>. How is District government supposed to monitor infrastructure projects, compared to their capacity and current practices? In what way (where) in this process might CM help support District Government to deliver more efficient and effective infrastructure projects? Would CM replace or augment District responsibilities (would need to be careful here, as shouldn’t be the former)? 3. <i>“A survey conducted by CoST Uganda in 2019 indicates a lack of public trust in government infrastructure projects: one of the reasons for this is that the public are often poorly informed about projects and are not offered opportunities to</i> 	

			<p><i>feedback on their implementation.”</i> Engaging citizen monitors in the process of infrastructure procurement and delivery has the double benefit of building a better relationship between Government and citizens, while also helping Government achieve better value for money.</p>	
		<p>Find it here</p>	<p>A very interesting blog article focusing on the role of District Government in the development and management to infrastructure in Wakiso District in Uganda. This was a rapidly urbanising area, in which the District Government had to play an increasing role in infrastructure development and management (due to decentralising policy agenda?). They took on these responsibilities but were struggling to carry out their role effectively. It focuses very much on the importance of the relationship between Government and the community, and of building trust/improving communication. Sharing information was central to achieving this (with the proviso that the information is available, or can be gathered).</p> <p><i>“Since following CoST principles, the relationship between the local community and Wakiso District Council has transformed. Barazas have given the residents the information they need to trust the council in the work that they’re doing, and in return they provide the engineers such as Samuel with information about the local area that they would otherwise not have known, but which is crucial to the infrastructure development taking place.”</i></p>	
		<p>Find it here</p>	<p>Links to the website of Open Contracting Partnership, who are driving/supporting a shift towards more transparent and effective public contracting through better collection of/use of data.</p> <p><i>“Think about what information you and other stakeholders need to know, survey what information exists and where, and then make a plan to collect and share the information you need to attain your goals. If the information doesn’t exist, you need to make a plan to improve the completeness, structure, quality and timeliness of information until it does help you measure the things that matter. But publishing data and information alone are not an end. Only by working in collaboration with other government stakeholders, companies and civil society, you will make sure the data is used and can lead to results.”</i></p> <p><i>“Consultation and monitoring are important opportunities for business and civil society to help shape better spending and foster innovation, particularly during the project planning and contract implementation stages.”</i></p>	
		<p>Find it here</p>	<p>Interesting article about data visualisation of public expenditure. More useful to us when we are planning to report on our research.</p>	
<p>Future Generation Computer Systems Volume 93, April 2019, Pages 651-672</p> <p>An overview of smartphone technology for citizen-centered, real-time and scalable civil infrastructure monitoring</p>	<p>Find the link here</p>	<p>Highlights</p> <ul style="list-style-type: none"> • A comprehensive literature review of smartphone-centric research for civil infrastructure monitoring. • Emphasis placed on sensing capabilities of smartphones and their crowdsourcing power. • A case study to prove smartphones as cost-effective tools for real-time data collection. • Discussing the limitations, challenges and future directions for widespread application of smartphone-driven monitoring systems. <p>This paper presents a comprehensive literature review of smartphone-centric research for the monitoring of civil infrastructure systems. The historical deployment of smartphones in major areas of civil engineering has been explored. An emphasis is placed on sensing capabilities of smartphones and their crowdsourcing power for monitoring several distinct civil infrastructure systems. Furthermore, a case study is presented to provide our most recent efforts in deployment of smartphones for evaluation of highway pavements and challenges ahead. Finally, limitations, challenges and future directions for widespread application of smartphone-driven monitoring systems are discussed. The survey implies that much research is still required to explore the power of crowdsourced smartphone-based measurements, and to branch out into new application domains.</p>		

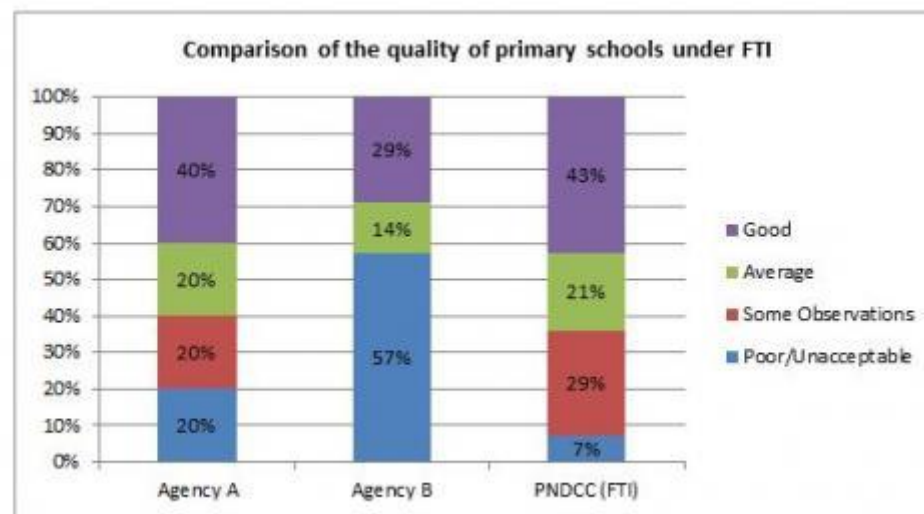
	Amir H.Alaviab, William G.Buttlera			
	Paper by the UK Institute of Civil Engineers - Reducing the gap between cost estimates and outturns for major infrastructure projects and programmes	Find it here	While this article focuses on large scale projects, it might be useful way of identifying areas where costs might be saved (from the perspective of District Gov) and that the CMs can focus on providing information. <i>“Scrutiny is too often focused on lowest capital cost whilst the whole life benefit of a project is often discarded. A sentiment which, perhaps surprisingly, is not shared by the British public. Indeed, YouGov polling conducted for ICE shows that only 3% of the public view a low overall cost of construction as the most important factor in determining the success of major infrastructure projects. Meanwhile 74% agree that politicians should talk more about the benefits, rather than the costs, of major infrastructure projects”</i>	
	Understanding and Monitoring the Cost-Determining Factors of Infrastructure Projects A User’s Guide - Europa	Find it here	May be out of date, and refers to larger scale projects, but might be useful An Approach to Cost Appraisal and Monitoring – from page 19 onwards. Diagram 4, pg. 20 – overview of key areas where cost overruns may occur within the project cycle. Examples of good and poor practice are given from pg. 22 onwards.	
	Benin Shows How Community-Managed Projects Can Build Infrastructure Faster and More Cost-Effectively	Find it here	An assumption behind CDD is that communities with local knowledge of resources and environment are better positioned to figure out the best way to build their own public infrastructure in their interest. Indeed, there is some evidence that community-built infrastructure can be cheaper when compared to infrastructure built by government or outside contractors (for example, Wong (2012) introduces several cases of “CDD’s cost effectiveness as compared to equivalent works built through other government service delivery mechanisms”). The recently completed National Community Driven Development Project (“PNDCC” in French) and the Fast Track Initiative (FTI) Education project in Benin present just this type of “natural experiment.” In these two projects, a large number of identical primary schools were built that had to meet the same government building standards – some built through management by communities and others by two large agencies hired directly by the government. This unique case permits a comparison at around the same time and under the same conditions. Lower unit costs: Under the FTI reviews, unit costs for construction implemented by two other agencies were 45 and 29 percent higher than those constructed through community management under PNDCC: 71,400 or 80,100 FCFA (140 or 158 USD)/m2 for other agencies, compared to 55,500 FCFA (109 USD)/m2 for PNDCC. The PNDCC technical audit also found similar results; as shown below, unit costs for classrooms constructed through two contract management agencies were between 30 and 60 percent higher than those built through the CDD approach in PNDCC. Similar levels of cost effectiveness were found in the provision of school furniture (desks and benches).	

Comparison of Unit Costs for School Construction/Furniture between PNDCC and the other approaches under the FTI (PNDCC = 100)

Type of Schools	FTI		
	PNDCC	Agency A	Agency B
3 classrooms	100	141	130
3 classrooms + office and storeroom	100	143	133
2 classrooms	100	160	146
2 classrooms + office and storeroom	100	150	140
Furniture - 3 classrooms	100	134	112
Furniture - 3 classrooms + office and storeroom	100	132	112
Furniture - 2 classrooms + office and storeroom	100	159	134

Source: calculated based on the PNDCC technical audit (2012) table in the project document.

Average or better quality: PNDCC construction quality was at least as good as the other two approaches, although there was room for improvement in all three programs.



			<p>Spillover effects to the local economy: PNDCC tended to work with smaller, locally based construction firms. Field observations noted that this reinforced local small businesses, who acquired more competency and experience. By initiating a large number of sub-projects at the local level, PNDCC created temporary employment and increased competitiveness in the construction and public works sector in these areas, thus had positive spillovers on the local economy.</p> <p>The Benin example strengthens the argument that community management can be a faster and more cost-effective way of delivering services to rural communities in need. Along with capacity building and implementation support, regular technical audits help ensure efficiency and technical quality.</p> <p>Finally, it also stimulates discussions around why external contractors tended to be slower and more expensive. Observed reasons for the differences include additional costs from "middle-men," contract overhead fees, and lack of direct incentives to work cheaply and quickly.</p>	
<p>OXFAM RESEARCH REPORTS JUNE 2013</p> <p>APPLYING COST BENEFIT ANALYSIS AT A COMMUNITY LEVEL</p> <p>A review of its use for community based climate and disaster risk management</p> <p>OENONE CHADBURN & CHRIS ANDERSON Tearfund and Oxfam GB</p> <p>COURTENAY CABOT VENTON & SARAH SELBY Freelance consultants</p>	<p>Find it here</p>	<p>This report reviews 23 studies that have applied cost benefit analysis (CBA) to assess community-based disaster risk reduction and climate change adaptation projects. The review shows that CBA at a community level is adding value to our understanding of the effectiveness of efforts to reduce climate and disaster risk – often with unexpected findings. This report identifies common methodological approaches and differences in the application of CBA and also highlights methodological limitations. Finally, after summarizing gaps in our understanding, the report concludes with key messages emerging from the study and outlines recommendations for addressing gaps and moving the agenda forward</p>	<p>Cost benefit analysis at the community level</p>	
<p>The impact on health inequalities of approaches to</p>		<p>Specifically Chapter 8 - Assessing the cost-effectiveness of community engagement</p>		

<p>community engagement in the New Deal for Communities regeneration initiative: a mixed-methods evaluation <i>Public Health Research, No. 3.12</i> Jennie Popay, Margaret Whitehead, Roy Carr-Hill, Chris Dibben, Paul Dixon, Emma Halliday, James Nazroo, Edwina Peart, Sue Povall, Mai Stafford, Jill Turner, and Pierre Walthery.</p>	<p>We explored two ways of assessing the cost of CE. First, we analysed the expenditure data relevant to CE collected through the 'official' NDC accounting system. Second, we examined documents and interviewed people to assess the extent of contributions of volunteers during the period of the NDC programme. The first approach to assessing the costs of CE, reported in <i>Analyses of the Hanlon System K expenditure data</i>, is based only on money transactions – the expenditure data entered into the accounting system. The second approach takes an 'economic' perspective, attempting to take into account all of the resources involved in what is meant to be, at least partly, a community-driven process. More specifically, the economic approach involves trying to find monetary value equivalents for the in-kind resources committed to CE in NDC areas, for which no charge (or a highly subsidised charge) has been made, and find ways of accounting for the value of voluntary labour time input. The latter raises the issue of the opportunity cost concept used by economists. These issues are dealt with in <i>Costing in-kind and volunteer time inputs</i>.</p>	
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Academic Literature

	Paper Title	Source	Purpose/Findings	Method
1	Contractor monitoring and performance of road infrastructure projects in Uganda: A management model	Byaruhanga and Basheka (2017)	Contract monitoring has a positive effect on performance	Measurement of performance: Cost, *Quality, *Time
2	The cost monitoring of construction projects through earned value analysis. <i>Journal of Construction Engineering and Project Management</i> , 2(4), pp.42-45.	Waris, M., Khamidi, M.F. and Idrus, A., 2012. The cost monitoring of construction projects through earned value analysis. <i>Journal of Construction Engineering and Project Management</i> , 2(4), pp.42-45.	discusses the applications of Earned Value Analysis (EVA) for cost monitoring of construction projects in Malaysia.	Case study Earned Value Analysis: Cost and schedule $CV = EV - AC$ $CPI = EV/AC$ $EACc = BAC/CPI$

				ETC = (BAC – EV)/CPI
3	Application of earned value in the Korean construction industry	Kwon, O.C., Kim, S.C., Paek, J.H. and Eom, S.J., 2008. Application of earned value in the Korean construction industry. <i>Journal of Asian Architecture and Building Engineering</i> , 7(1), pp.69-76.	This paper seeks to integrate cost as related to bill of quantity and schedule in a manner that is suitable for application in Korea. An example application of the proposed EV model to two actual separate projects is provided.	Earned Value Analysis
4	The S-Curve as a Tool for Planning and Controlling of Constructio	Konior, J. and Szóstak, M., 2020. The S-Curve as a Tool for Planning and Controlling of Construction Process—Case Study. <i>Applied Sciences</i> , 10(6), p.2071.	The purpose of this paper is to analyze the course of an sample construction project comparing the planned costs of the scheduled works with the actual costs of the performed works, as well as identifying the reasons leading to the failure to meet the planned deadlines and budget of the project implementation.	
5	Applicability of earned value management as a performance measurement tool for sri lankan construction industry	Hettipathirana, H.D.A.P. and Karunasena, G., 2014, June. Applicability of earned value management as a performance measurement tool for sri lankan construction industry. In <i>The 3rd World Construction Symposium</i> (p. 63).		Earned Value Analysis
6	Effectiveness of monitoring systems for controlling project cost in the construction industry.	Ansah, S.K. and Bamfo-Agyei, E., 2012. Effectiveness of monitoring systems for controlling project cost in the construction industry. In <i>International Conference on Engineering, Project, and Production Management (EPPM)</i> , Date: September (pp. 10-11).	It was noted that the commonly used systems for monitoring and controlling project cost are: cost-value reconciliation, detailed spread sheet model and Earned value analysis system (EVAS). It was also indicated that the effectiveness of the monitoring systems in showing deviations of project performance varies considerably from one system to another. Some systems are more effective in indicating the need for control action than others. It was identified that EVAS gives more details indication of the overall project performance than the other systems. Although, EVAS been effective system, it usage in the Ghanaian construction industry is limited. L	
7	Assessment of cost control systems: a case study of Thai construction organizations	Charoenngam, C. and Sriprasert, E., 2001. Assessment of cost control systems: a case study of Thai construction organizations. <i>Engineering, Construction and Architectural Management</i> .		

8	Effect of Monitoring Techniques on Project Performance of Kenyan State Corporations.	Wanjala, M.Y., Iravo, M.A., Odhiambo, R. and Shalle, N.I., 2017. Effect of Monitoring Techniques on Project Performance of Kenyan State Corporations. <i>European Scientific Journal, ESJ</i> , 13, p.19.	Monitoring techniques have a positive and significant influence on the project performance of Kenya State corporations. Forecasting of project activities, project mapping, participatory approach were key monitoring techniques used by the State corporations to attain their project objectives and goals.	
9	<i>Monitoring public investment: The impact of MapaRegalías in Colombia</i>	Lauletta, M., Rossi, M.A., Cruz Vieyra, J. and Arisi, D., 2019. <i>Monitoring public investment: The impact of MapaRegalías in Colombia</i> (No. IDB-WP-1059). IDB Working Paper Series.	This paper contributes to the literature by studying the impact of a large-scale program that has released information on the origin and subsequent use of billions of dollars on more than 10,000 public investment projects. In particular, the MapaRegalías platform in Colombia is studied to capture the impact of reducing the cost of monitoring public investment projects on efficiency in the execution of these projects. The study finds that the release of MapaRegalías was associated with an overall increase in efficiency, as measured by the time it takes to complete or finalize a public investment project.	Regression model to estimate the effect of the intervention
10	Power to the people: evidence from a randomized field experiment on community-based monitoring in Uganda.	Björkman, M. and Svensson, J., 2009. Power to the people: evidence from a randomized field experiment on community-based monitoring in Uganda. <i>The Quarterly Journal of Economics</i> , 124(2), pp.735-769.	A year after the intervention, treatment communities are more involved in monitoring the provider, and the health workers appear to exert higher effort to serve the community. We document large increases in utilization and improved health outcomes—reduced child mortality and increased child weight—that compare favorably to some of the more successful community-based intervention trials reported in the medical literature.	Randomised control trial
11	Monitoring corruption: evidence from a field experiment in Indonesia.	Olken, B.A., 2007. Monitoring corruption: evidence from a field experiment in Indonesia. <i>Journal of political Economy</i> , 115(2), pp.200-249.	I find that increasing government audits from 4 percent of projects to 100 percent reduced missing expenditures, as measured by discrepancies between official project costs and an independent engineers' estimate of costs, by eight percentage points. By contrast, increasing grassroots participation in monitoring had little average impact, reducing missing expenditures only in situations with limited free-rider problems and limited elite capture. Overall, the results suggest that traditional topdown monitoring can play an important role in reducing corruption, even in a highly corrupt environment.	Randomised control trial

12	Bottom-up accountability and public service provision: Evidence from a field experiment in Brazil.	Freire, D., Galdino, M. and Mignozzetti, U., 2020. Bottom-up accountability and public service provision: Evidence from a field experiment in Brazil. <i>Research & Politics</i> , 7(2), p.2053168020914444.	<p>We study the effect of a mobile phone application that allows citizens to monitor school construction projects in Brazilian municipalities.</p> <p>Our results show that the app has a null impact on school construction indicators. Additionally, we find that politicians are unresponsive to individual requests. The results question the impact of bottom-up monitoring on public service performance and suggest that interventions targeted at other groups, or focused on different issues, may produce better policy outcomes</p>	
13	Controlling Corruption.	Klitgaard, R. 1988. Controlling Corruption. Berkeley, CA: University of California Press.	citizen monitoring or accountability can be a powerful force to detect and help deter corrupt activities	
14	Guardians of accountability: A field experiment on corruption and inefficiency in local public works.	Lagunes, P. 2017. Guardians of Accountability: A Field Experiment on Corruption & Inefficiency in Local Public Works. Working Paper C-89335-PER-1. London, United Kingdom: International Growth Centre.	Results show that when information on public works is made public and combined with tools such as randomized audits, there may be a reduction in project cost overruns of up to 50 percent.	A field experiment
15	Getting the most from public investment.	Baum, A., Mogue, T. and Verdier, G., 2020. Getting the most from public investment. <i>Well Spent-How Strong Infrastructure Governance Can End Waste in Public Investment</i> .	<p>finds that more than one-third of resources are lost in the process of managing public investment.</p> <p>Inefficiencies in public investment spending are therefore substantial. This is a nonnegligible source of wasted resources when needs are high and fiscal space is limited.</p> <p>Better infrastructure governance would raise the efficiency of public investment spending and improve infrastructure outcomes.</p>	Efficiency gap measurements

Annex 3: Photographs of project sites

Photos 1&2: Construction of 6-unit classroom block at Yag-yili L/A primary school; and Construction of 6-seater toilet block at Yag-yili L/A primary school



Photo 3: Construction of 6-unit classroom block at Nuri-Imaam primary school



Photo 4: 3-unit classroom and 1-unit office block at Sugashie



Photo 5: Renovation of 3-unit classroom block at Mempeasem



Photos 6-8: Rehabilitation of 3no. staff quarters at Savelugu





Photo 9: Construction of 6-unit classroom block at Tootenyili



Photo 10: Renovation of a 3unit classroom block at Gbambaya



Photo 11: Construction of 6-unit classroom block at Tolon



Photo 12: Construction of 10-unit market stalls at Nyankpala



Photo 13: Construction of fence wall, Tiling and furnishing of Wari-Yapala CHPS Compound



Photo 14: Construction and furnishing of 1No. 3-unit classroom block at Zohe



Photo 15: Construction of 1 No. 3 unit classroom block at Nabori



Photo 16: Construction of vocational school at Damongo



Photo 17: Construction and furnishing of 1No. 6-Unit JHS Girls Model with Ancillary Facilities at Nanton



Photo 18: Construction of 1No. CHPS compound at Kanshegu



Photo 19: Construction of CHPS compound and 1No. semidetached staff bungalow at Gumo



Photo 20: Construction of CHPS compound and 1No. semidetached staff bungalow

