GSDRC Applied Knowledge Services
Governance · Social Development · Humanitarian · Conflict

www.gsdrc.org
helpdesk@gsdrc.org

Helpdesk Research Report

Approaches to remote monitoring in fragile states

Roz Price

09.01.2018

Question

Provide an update to the 2013 GSDRC report 'Remote management of projects in fragile states', focusing on new remote monitoring approaches, tools and examples that are being used, specifically on third party monitoring approaches.

Contents

1. Overview

This report provides updated information to an earlier GSDRC report on 'Remote management of projects in fragile states'. This complementary paper looks specifically at approaches to remote monitoring[1], and includes consideration of two specific issues: use of ICT and big data enabled approaches, and management based approaches.

In complex environments, where the root causes of conflict are often entrenched and dynamic, ensuring that the right information from multiple sources is being collected remains a challenge (Corlazzoli, 2014: 11). There is a growing but limited body of literature on remote programming in fragile and conflict-affected states (FCAS), and more specifically remote monitoring, most of which has been produced over the last ten years (Rivas, 2015). The field of remote monitoring is still not yet well-developed or defined,

[1] The term remote programming (or remote management) refers to when development actors withdraw from insecure areas, but continue to implement projects in these areas through local staff or partner organisations (Herbert, 2013). Remote monitoring is a part of this broader definition.

hence, much of the literature focuses on outlining concepts and definitions. There is limited peer-reviewed literature on this topic, and grey-literature dominates but is still relatively restricted in its strength and breadth. A number of larger, more comprehensive literature reviews have been undertaken on remote programming by others and it is recommended that these are consulted for more in-depth information (see Chaudhri, Cordes and Miller, 2017; Corlazzoli, 2014; Dette, Steets and Sagmeister, 2016; Rivas, 2015; Sagmeister and Steets, 2016). The literature mainly focuses on International Organisation perspectives, with little information on the experiences of other actors. There is also limited discussion on ethical issues such as confidential beneficiary data management, appropriate engagement strategies in high-risk environments, and the dissemination of monitoring data (Chaudhri, Cordes and Miller, 2017: 52). The lack of rigorous operational research measuring robust outcomes limits the ability to draw strong conclusions on the effectiveness of different approaches. The literature considered in this review was largely gender-blind, although some gender issues are considered in relation to new technologies.

This GSDRC helpdesk report finds:

- While many organisations are participating in remote monitoring, few articulate their experiences in writing or guidelines to disseminate lessons learned directly to other organisations or stakeholders and guide future operations (Chaudhri, Cordes and Miller, 2017: 54).
- Remote programming is no longer seen as a last resort or temporary measure for many donors working in insecure contexts (Rivas, 2015).
- Information and Communication Technologies (ICTs) and big data have huge potential to support remote monitoring activities in FCAs, however, new technology must be approached as an enabler and not as the sole solution (Corlazzoli, 2014).
- ICTs and big data could contribute to rapid and near real-time monitoring, provide different types of data to assess programming, allow for more systematic tracking of indicators, offer cost savings, and provide opportunities to increase capacities and collaboration (Corlazzoli, 2014).
- Handheld devices for digital data collection, mobile phone-based feedback mechanisms, remote sensing with satellites or delivery tracking, and broadcasting with radios and other forms of media have been identified as key technological applications for remote monitoring (Dette and Steets, 2016).
- A number of challenges exist with the use of ICTs and big data in FCAs, including systematic bias, selection bias, privacy and security concerns, logistics. Although there are options for limiting some of these challenges (Dette and Steets, 2016).
- Third-party monitoring (TPM) remains a popular management approach for remote monitoring in FCAS, and its use is on the rise (Rivas, 2015). There remain a number of strengths and risks with this approach, and TPM best practice is far from fully established. It needs to be regularly reassessed, and options for internalising monitoring should be regularly re-evaluated. TPM should ideally complement rather than entirely substitute for monitoring conducted by an organisation's own staff (Sagmeister & Steets, 2016).
- USAID is exploring the use of complexity-aware monitoring to complement existing systems and performance monitoring in complex situations of high uncertainty and low agreement. They are focussing on five key approaches to complexity-aware monitoring: sentinel indicators; stakeholder feedback; process monitoring of impacts; most significant change; and outcome harvesting.
- The World Bank in Mali has successfully pioneered a light touch, low cost alternative monitoring system, Iterative Beneficiary Monitoring (IBM). There are plans to scale this up to other World Bank programmes, however, this is a recent mechanism and there is little further information (Taptue and Hoogeveen, 2017).

2. General lessons learned for remote monitoring

Rivas (2015) undertook a literature review on remote management for the UK Department for International Development (DFID)[2]. The review highlights a number of gaps and assumptions visible in the literature. In particular, she highlights that remote programming is no longer seen as a last resort or temporary measure for many donors working in insecure contexts, and it is the 'new normal' in FCAS where access is severely restricted.

Rivas (2015: 15) highlighted a number of general key lessons from the literature on remote monitoring and accountability:

- Develop on-the-ground networks to enable accountability. Accountability networks and relationships with stakeholders can be useful for monitoring and triangulation.
- Transparency to both donors and beneficiaries is crucial.
- Monitoring and evaluation (M&E) must be incorporated into the programme framework in the planning phase as it is much more difficult when it is an afterthought.
- A minimum standard of clear, simple, and pre-determined indicators and procedures is required for M&E. A monitoring system requires several layers of checks and filters for continuous verification.
- M&E must be relevant to the needs of the programme and used for learning and continuous improvement.
- Specific monitoring capacity is required that is separate from but works closely with the programme; this ensures consistent monitoring and mainstreams M&E procedures across the programme.
- Build partnerships for third-party monitoring and evaluation.
- Research and investment in data collection and analysis software and ICTs, with the aim of adopting and streamlining it across programmes, is required.
- Monitoring reports must be shared with partners to validate work and justify M&E activities.

3. ICT and big data enabled approaches

A key trend in remote monitoring approaches in FCAS since 2013 has been the increased potential of Information and Communication Technologies (ICTs) and big data to support programming. ICTs covers a diverse set of tools used to create, disseminate, and manage information (Corlazzoli, 2014). Corlazzoli (2014: 9) describes how the integration of ICTs can help overcome some of the structural challenges of remote M&E in FCAS, though cautions that technology must be approached as an enabler and not as the sole solution.

ICT's potential contributions include (Corlazzoli, 2014: 32):

- **Rapid and near real-time monitoring**: New technology can be used to collect, analyse, and publish information more rapidly than with traditional methods. Incorporating new technologies, such as

[2] Also refer to Chaudhri, Cordes and Miller (2017), who recently undertook a comprehensive literature review to identify approaches, lessons learned, and best practices in remote programming, with the aim of aiding the creation of formal evidence-based guidance.

mobile and internet networks and digitisation of the collection process, can reduce time-delays, inefficiencies, and improve data quality by reducing data entry and human errors.

- **Different types of data to assess programming**: New technologies provide the opportunity to collect a wide range of data points, including sounds, pictures, and videos. The different data points can help practitioners analyse the complexity of a conflict through different lenses and ultimately uncover new patterns of information.
- **A chance to track indicators more systematically**: Tracking culturally appropriate and context-specific indicators over time, systematically, may be done more effectively with new technologies. To be able to aggregate indicators, organisations and donors need to openly share data and standardise methodologies and indicators.
- **Cost savings**: New technologies are seen as cost saving M&E strategies, with the potential to decrease costs associated with transportation, printing, data entry and cleaning, coding, and staff hours. Some new technologies, such as the use of tablets and mobile phones, have an initial operational and infrastructure cost, but thereafter costs can be kept relatively stable.
- **Opportunity to increase capacities and collaboration**: New technologies are also enabling the increase in capacity of all staff related to M&E systems. The Internet has provided a platform to enable the easy sharing of a wide range of documents, interactive trainings, and manuals on M&E, and encourage discussions on key questions related to overcoming M&E challenges in FCAS.

Corlazzoli (2014: 18) defines 'big data' as referring to "the massive quantities of data that are now generated daily as part of the increasing computerisation of systems and records by governments and companies". She identifies three areas where it is thought that big data analysis could have an impact on M&E in FCAS: through early warning, real-time awareness of events and providing real-time feedback on a situation. For example, real-time awareness through social media content, photo, and mobile phone use, could provide continued snapshots of a community at different points in time, helpful for monitoring the impact during the progress of a project. However, the application of big data is under debate and Corlazzoli (2014: 18) concludes that more concrete examples are needed to truly analyse its utility for remote M&E.

Secure Access in Volatile Environments (SAVE) toolkit

While Corlazzoli (2014) outlines how ICT can support remote M&E generally, Dette et al. identify specific ICT tools that have been applied in the field. Dette and Steets (2016: 13; also Dette, Steets & Sagmeister, 2016) draw on the findings of a three-year research programme, Secure Access in Volatile Environments (SAVE), by Humanitarian Outcomes and the Global Public Policy Institute (GPPi), funded by DFID. This toolkit provides an overview of different technological options for M&E, summarising the lessons learned from various pilot projects in countries like Afghanistan, Somalia, South Sudan, and Syria. The research identified a number of criteria such as access restrictions, high costs, poor infrastructure, and high levels of uncertainty that require tools that can function without constant electricity supply, across large distances, and without advanced computing skills. The research further identified four technology applications that meet these criteria: handheld devices for digital data collection, mobile phone-based feedback mechanisms, remote sensing with satellites or delivery tracking, and broadcasting with radios and other forms of media (Dette and Steets, 2016: 14; see Table 1). Results are collected in this toolkit and provide information on how the different applications work, conditions and costs involved, benefits for M&E and limitations and challenges encountered (see Dette, Steets & Sagmeister, 2016 for more in-depth information and guidance).

Table 1: Benefits and challenges with main types of technology used for remote monitoring

Technology	Applications	Benefits	Challenges	Recommendations
Digital data entry and electronic databases	▪ Surveys and questionnaires ▪ Registration and distribution reporting ▪ GPS- and time-stamps in surveys	▪ Rapid transmission of data ▪ Reduced work steps (no data entry from paper forms) ▪ Surveys can be easily adjusted ▪ Easier detection of abuse in data collection ▪ Lower visibility for enumerators using small handheld devices ▪ Can prevent unauthorised views ▪ Enables the collection of multimedia data	▪ Requires physical access ▪ Can attract attention, risk theft and attack and can increase the risk of being expelled by armed groups ▪ Encourages closed-question formats ▪ Can lead to unequal access to results ▪ Technology can be viewed with suspicion by armed groups ▪ Requires capacity and skill ▪ Depends on connectivity and power	▪ Build acceptance and plan and budget for incremental rollout ▪ Select software that offers digital privacy features ▪ Coordinate with other aid organisations in the region to work with similar systems or standardise practices ▪ Do not work with digital data entry where the necessary devices, Internet or phone networks are banned, compromised or culturally inappropriate ▪ Make sure to understand the risks fully associated with digital data entry and compare with the risk for paper-based data collection
Mobile phone-based feedback mechanisms	▪ Complaints/ information hotlines ▪ Household surveys ▪ Verification calls ▪ Focal point reports	▪ Enables direct contact between aid providers and beneficiaries in areas without physical access ▪ Phone-based data are technically easy to process ▪ Devices and software are inexpensive	▪ Verification and follow-up are challenging ▪ Bias: not everyone has access to a phone ▪ Sensitive data shared via phone can be intercepted and cause risk ▪ Requires literacy	▪ Set up shared channels with other organisations to prevent fragmentation ▪ Plan and budget for long-term use ▪ Do not set up a phone line if capacity to respond to and handle feedback is limited ▪ Do not use phone-based systems to collect sensitive data that could put beneficiaries at risk

		▪ Aid organisations have increasing experience with these technologies		▪ Do not use phone-based systems for short-term projects or without continuity ▪ Do not create a new mechanism where other, similar mechanisms already exist or are planned ▪ Do not use phone-based systems to replace all other monitoring or feedback channels
Remote sensing with satellites or delivery tracking (unmanned aerial vehicles (UAVs))	▪ Observation and analysis with satellite ▪ UAV imagery for close-up analysis ▪ Radar and sensor data	▪ Requires no access ▪ Enables unique complementary data ▪ Visible impact can be compared over time/scale ▪ One image = many applications ▪ Industry interest in collaboration ▪ UAV and sensor costs	▪ Costs for satellite images can be prohibitive ▪ Host state, local communities and armed actors can object to their use ▪ Limited experience and evidence of use ▪ Information requires verification ▪ Lack of ethical guidance and standards ▪ Technical limitations (radius of operation)	▪ Use only when risks are understood and addressed ▪ Engage industry and other humanitarians in developing funding and sharing models ▪ Use crowdsourcing[3] or experts to assess data ▪ Do not use satellite or aerial imagery if clear guidelines on use and access of the information cannot be agreed and/or if the potential risk to local communities cannot be assessed and addressed ▪ Do not work with UAVs or other remote sensing technologies if local stakeholders object to their use ▪ Do not invest in technologies where weather or context conditions are

[3] Crowdsourcing in its broadest sense is the practice of harnessing collective action and capabilities to achieve a particular task.

				prohibitive, and projects and their effects cannot be seen from the sky
Broadcasting with radios and other forms of media	▪ Outreach, advocacy and engagement ▪ Publicising feedback channels ▪ Community radio to stream local voices	▪ Wide and reliable reach ▪ Local engagement, input and ownership ▪ Increases accountability with better information ▪ Effective for awareness-raising	▪ Increases visibility and can create security risks for aid programmes ▪ Difficult to target specific audiences and verify who has been reached ▪ Translation needs, especially for dialects ▪ Costs can accumulate	▪ Design radio shows with locals ▪ Include entertaining elements to make programmes engaging ▪ Target programming in volatile settings by playing pre-recorded shows in selected locations ▪ Do not broadcast information on radio when it reveals the location or other sensitive data about vulnerable populations ▪ Do not set up new radio programmes if long-term commitment to cater to the need of the listeners cannot be guaranteed ▪ Do not use radio to support monitoring efforts when it cannot be combined with other tools. ▪ For monitoring and accountability, it is critical to use radio as part of a larger system

Source: Adapted from Dette and Steets, 2016: 15-16; Dette, Steets & Sagmeister, 2016.

ICT challenges

Corlazzoli (2014: 9) highlights a number of inherent tensions and limitations that come with using new technologies in FCAS:

- **Systematic bias or errors:** New technologies may bring about systematic bias to the monitoring tool or evaluation process. More research will increase understanding of whether collecting data via tablets and mobile phones in isolated places alters the way in which individuals answer questions related to safety, security, or concepts related to good governance.
- **Selection bias:** While new technologies can lead to having more information more rapidly, there is a risk that only utilising ICT methods can make it more difficult to be inclusive of all stakeholder groups during data collection. Practitioners are encouraged to use a mixed-methods approach with a balanced data collection approach between qualitative and quantitative tools, and a sensible combination of traditional data collection tools and other technologies.
- **Safety and security:** Organisations must take steps to provide for the safety of the individual or community providing or collecting information, and be aware of additional precautions with new technologies.
- **Training:** Potential steep learning curves accompany learning, installing, and testing ICTs. Not all ICTs are available in local languages, making it more difficult for field-based staff to engage with the platforms and also seek assistance.
- **Logistics:** In order for ICTs to function they may need additional infrastructure and logistical support. Practitioners must plan accordingly (e.g. for charging times) and have a strategic plan in case mobile phones or tablets get stolen, lost, or have technological malfunctions.

Big data challenges

A number of challenges with using big data in FCAS have been highlighted by authors:

- **Privacy and security:** Big data can be collected from a variety of sources online, some of which are vulnerable to manipulation, security violations, and proprietary restrictions (Corlazzoli, 2014: 20). There are also issues around the myriad privacy risks that accompany the collection of sensitive or personally identifiable information about those living in or affected by conflict (Fast, 2017: 707).
- **Complexities of data and interoperability**[4]: Fast (2017: 724) describes how the plethora of data gathered during the 2014 Ebola outbreak in West Africa raises the issue of siloed data and interoperability. Interoperability constitutes both a technical issue related to the changes of combining data sets collected on paper with digital technologies and with different systems, and a standards issue, referring to the challenge of comparing across data sets collected using incompatible definitions and timeframes. The result is a plethora of incompatible definitions, indicators, and data sets, both within and between groups of actors in FCAS (Fast, 2017: 725).
- **Interpretation:** Drawing on her experiences of research in the eastern Democratic Republic of Congo, Perera (2017: 803) argues that while crowdsourcing may be a useful supplement to knowledge gained from sustained and embedded engagement in the field, it can never be a

[4] The ability of a (e.g. computer or software) system to work with or use the parts or equipment of another system.

substitute. An over-reliance on remotely gathered data can end up reinforcing simplistic or misleading understandings of the drivers of conflict, and promoting elite interests at the expense of the marginalised voices it claims to make visible.

- **Verification:** A common problem with remotely crowdsourced data is that it is difficult to verify if respondents are who they say they are, and where they say they are (Perera, 2017: 818).

Addressing the challenges

Dette and Steets (2016: 17) have identified a number of mitigations that can help to limit these challenges:

- **Take time to study the context before choosing tools:** Consulting with partners who already use the technology, and developing a thorough understanding of who influences and spreads information in the specific context, is critical for success.
- **Involve all users actively:** Work with users' representatives when inventing, designing, and testing tools. Focus groups/interviews and collaboration all help ensure that technologies are usable and appropriate, including handling, pricing, and language.
- **Establish informed consent practices:** Agree in advance on mechanisms and standards by which to explain the risks involved with handling survey responses or phone requests digitally.
- **Provide back-ups and alternatives:** Have analogue alternatives in place to turn to when the new tool does not work.
- **Use security-conscious, free and open source software:** Use tools that independent security experts can review.
- **Minimise and limit data:** Collect only on a 'need to know' basis and define access levels clearly.
- **Invest in building acceptance:** Plan training and meetings with local staff, authorities, and community members.
- **Pool funds and risk:** Collaborate with other aid actors in the area. Share the investment in tools and seek agreed mechanisms for sharing them and the data.
- **Apply humanitarian principles to technology:** Consider issues such as how to maintain independence when working with private sector companies. Are biases towards those willing and able to use phones conflicting with universality?

4. Management based approaches

Since 2013, a number of management based approaches to remote implementation and M&E have emerged and been further developed. These are discussed below.

Third-party monitoring (TPM)

Third-party monitoring (TPM) describes the practice of contracting third parties to collect and verify monitoring data (Sagmeister & Steets, 2016). A literature review carried out by Rivas for Integrity Research and Consultancy (2015: 2) as part of their cross-cutting evaluation of DFID's remote management approaches in Somalia and North-East Kenya, found that although use of TPM is on the rise, very little information exists on the different models or experiences with TPM.

The SAVE programme (see above) recently carried out research into TPM, based on interviews with commissioning agencies, TPM providers, and donors as well as a review of literature (see Sagmeister & Steets, 2016). This research found that the main strengths and risks of TPM were:

Strengths

- Provides independent 'eyes and ears' on the ground where own staff cannot go
- Allows the validation of monitoring data from implementing partners where confidence in partner reporting is lacking
- Can in some cases allow more cost-efficient field monitoring and thus more frequent missions
- Is most useful for verifying quantitative and physical outputs of aid projects

Risks

- Time and resources required to make TPM work are often underestimated by commissioning agencies
- Quality of reporting is frequently seen as sub-par by TPM users
- Reputational risks from field monitors' actions need to be mitigated
- There is significant risk transfer to field monitors, especially where TPM providers lack adequate security systems
- TPM can negatively affect context understanding and acceptance where aid agencies use it as a substitute for regular internal monitoring

Sagmeister & Steets (2016) concluded that by strengthening compliance in places where access is limited, TPM can meaningfully contribute to the broader M&E toolbox, with benefits for both donors and aid agencies. However, this should ideally complement rather than entirely substitute for monitoring conducted by an agency's own staff. Sagmeister & Steets (2016) further conclude that the practice of TPM is far from fully established, and it needs to be regularly reassessed, and options for internalising monitoring should be regularly re-evaluated. Sagmeister & Steets (2016) highlight key lessons for using TPM successfully:

- **Anticipate the need for time and resources to set up and maintain effective TPM systems.** Considerable investments need to be made in the selection, training and management of monitoring firms and individual monitors. In addition to the relationship between the third-party monitor and the commissioning agency, the relationship between the monitor and implementing partners requires continuous investments and trust building.
- **Keep expectations and plans modest.** The overestimation of actual access and capacity to collect required data has led to frustration in many cases. Therefore, it is important to anticipate changes in access early on and to develop simple frameworks for data collection.
- **Make sure the information collected can be used to inform decisions.** Commissioning agencies need to invest in internal systems for using collected data and feeding relevant information to those in charge of adapting and refining programme design.
- **Use technological devices to increase control over field monitoring.** Agencies relying on GPS to track teams in the field were satisfied with the degree of confidence they consequently felt in the data, particularly when it came to location- and time-stamped data.

- **Strengthen security protocols and duty of care.** A transfer of risks to monitors is a tolerated consequence of TPM arrangements. Nevertheless, there is considerable room for improvement in the application of duty of care by contracting agencies.
- **Coordinate use of TPM and exchange on emerging lessons.** With multiple actors commissioning TPM services, the need for coordination and joint approaches is growing. More information sharing between and amongst donor and aid agencies would help them to avoid choosing providers that have performed poorly in the past.
- **Regularly reassess TPM and its alternatives.** The practice of TPM needs to be regularly reassessed and options for internalising monitoring regularly re-evaluated. Primary reliance on TPM should be limited to exceptional situations. Aid agencies should develop consensus on when, where, how and why TPM should be used, and when and how the agency should eventually resume responsibility for monitoring.

Case study: Somalia and North-East Kenya

In Somalia, the humanitarian aid presence has contracted for many years; currently the majority of international organisations are based in Nairobi and/or Mogadishu, and run their programmes remotely through partner organisations (Sagmeister and Steets, 2016: 11). From June to September 2014, a joint evaluation team from Integrity Research & Consultancy and Axiom conducted an independent process evaluation of the remote programme management practices adopted by DFID and its implementing partners (IPs) in Kenya and Somalia (Rivas, Guillemois, Rzeszut and Lineker, 2015: vi). DFID utilises TPM in Somalia, using four different companies to conduct TPM for programmes in the Governance and Peacebuilding, Health, Wealth, and Humanitarian pillars (Rivas et al, 2015: vi).

The evaluation found that some IPs saw TPM as potentially contributing to donor micro-management, whereas, others were hesitant to embrace TPM constructively due to fears that its results could result in their funding being cut. Some saw TPM as increased donor control and raised concerns over a lack of clarity on fundamental parameters such as the purpose of these tools, and the way the data/information would be shared and used (Rivas et al, 2015: vii).

Further to the above evaluation, a project completion review was completed for the DFID Somalia Monitoring Programme (SMP) 2012 to 2016 (DFID, 2016). The SMP was designed to provide better monitoring, evaluation and evidence for DFID-Somalia funded programmes in order to improve effectiveness, and was delivered through a number of IPs (e.g. United Nations Development Programme (UNDP) through Observatory of Conflict and Violence Prevention (OCVP)). The programme was able to execute independent and credible monitoring of all projects in DFID's governance, economic development and health pillars, and achieved its intended outcome. The lessons learnt during the implementation of this programme have been applied to the design of the next phase of the SMP (DFID, 2016: 11). These include:

- **Programme Delivery:** A movement towards more results-focused contracts should be pursued in a manner that reinforces IPs' willingness to experiment with flexible approaches, and incentivises them to exceed agreed desired results.
- **Verifications:** A monitoring project (like the SMP) can provide far greater insight into the quality of programme delivery than the standard approach of field visits. This is due to (a) both the quantity and quality of information collected; (b) the quality assurance process undertaken before the final report is produced; and (c) the increasing analytical power of a growing set of synthesised qualitative data that allows identification of systematic factors affecting programme performance.

- **The institutional objective(s) and scope of TPM should be clearly articulated**: The SMP model initially focused at micro, project level but evolved overtime to accommodate broader needs of the portfolio. This model worked well for DFID-Somalia and IPs.
- **A strategic approach to planning verifications is highly beneficial**: A clear strategy should be developed from the start that considers the pros and cons of verifying the entire portfolio, bearing in mind that for monitors to provide high quality verifications they need to understand the programmes, which will take time and therefore adds to the cost. The strategy should build in flexibility to respond to evolving priorities and risks.
- **Clear protocols:** The verifications component of the programme would be more efficient if clear protocols were put in place which outlined the purpose, required engagement of different stakeholders and processes involved in the TPM.
- **Capacity Building of DFID-Somalia and IPs on M&E**: An earlier strategic (and less demand-led) approach to providing technical support on M&E may have been more beneficial. This would have identified from DFID's perspective the priority implementing partners and their M&E issues that needed to be addressed, as well as collective approaches to addressing them.

Complexity-aware monitoring

Typical performance monitoring, based on indicator measurement of results, fails to capture three major areas:

- Outcomes outside those desired by the project planners
- Alternative causes of outcomes
- Feedback loops and non-linear pathways of contribution

In the dynamic and complex environments of FCAs, new monitoring approaches are needed that adapt and encompass these three blind spots (Britt and Pomerantz, 2014). Complexity-aware monitoring overcomes performance monitoring's three blind spots to inform decisions in situations of high uncertainty and low agreement (Britt, 2016: 5; Britt and Pomerantz, 2014). In a discussion note on complexity-aware monitoring prepared for USAID by Britt (2016), it is highlighted that complexity-aware monitoring is appropriate for aspects of projects where cause and effect relationships are poorly understood, it is intended to support adaptive management rather than supply reports on results. Hence, projects that deliver services, or roll out, replicate, or scale up tried and true programming strategies are not generally a good match for these monitoring approaches. Complexity-aware monitoring helps to understand the relevant interrelationships in a situation, engage with multiple perspectives, and reflect on boundary judgements. Monitoring matches the pace of change rather than pre-determined reporting schedules. Complexity-aware monitoring is intended to complement existing systems, not a replacement (Britt, 2016: 1).

USAID approaches to complexity-aware monitoring

USAID are focussing on five key approaches to complexity-aware monitoring (Britt and Pomerantz, 2014)[5], however, there is limited information on application of complexity-aware monitoring in the field.

[5] See Britt (2016) for a more detailed account and information on these five approaches to complexity-aware monitoring

1. **Sentinel indicators**. Alert you to changes in the mutually influencing interrelationships between a project and its context. The identification of sentinel indicators begins with constructing a holistic picture of the project and the system that includes results, as well as other causal factors and pathways. Several methods can be used to select or place sentinel indicators at critical points in a system map. The placement should be reviewed regularly and can be expected to change as the programme evolves.
2. **Stakeholder feedback**. Uncover the diverse perspectives of partners, beneficiaries or those excluded from a project through a variety of methods (citizen report cards, a survey, or a public opinion poll). Challenges related to stakeholder feedback include: sampling errors; cost; logistically or technically difficult to achieve; misrepresentation or misreporting of measurements.
3. **Process monitoring of impacts**. Monitor the processes that are key to the success of the project as well as the context's influence on those processes.
4. **Most significant change**. Capture a broad range of results and make diverse perspectives about those outcomes explicit.
5. **Outcome harvesting**. Gather evidence on a broad range of results, then work backwards to determine if and how the project contributed.

Iterative Beneficiary Monitoring (IBM)

The World Bank has recently successfully pioneered a feedback mechanism, Iterative Beneficiary Monitoring (IBM), in Mali to inform on what is not working during project implementation phase. There are plans to scale this up to other World Bank projects (Taptue and Hoogeveen, 2017). IBM is a recent development and there is little official World Bank documentation on this publically available.

Recent security concerns in Mali have rendered field supervision of projects in many locations impossible. The World Bank in Mali developed IBM as an alternative monitoring system to costly TPM. On a regular basis, this mechanism identifies and quantifies biases and shortcomings that would put at risk the achievement of project objectives (Taptue and Hoogeveen, 2017). Those misrepresentations are brought to the attention of project leaders and project managers who use them to improve the project management. The main advantage and innovation of the IBM system is its relatively simple, low cost, rapid and iterative (with high frequency) feedback loop that collects information directly from beneficiaries and produces brief reports on challenges that can be addressed by the project team (Taptue and Hoogeveen, 2017). It repeats data collection regularly, creating a positive and self-reinforcing cycles of improvement. Given that little information is collected on small samples, analysis is rapid and inexpensive. It is a mechanism that helps improve project results gradually and quickly without need of lengthy and expensive evaluations. Data can be collected using face-to-face interviews, but where feasible, mobile phone interviews are used as they are less expensive and avoid travel to insecure places. The programme has also relied on enumerators from beneficiary communities who, once trained and equipped with tablets, report back regularly. In Mali, school feeding, fertiliser subsidies, and free medical care have all been monitored, and the results used to inform and improve operations. In all instances, the cost of data collection was less than US$5,000 and the associated staff time just a couple of weeks (Taptue and Hoogeveen, 2017).

5. References

Britt, H. (2016). 'Complexity-aware monitoring'. Discussion Note, Monitoring and Evaluation Series, Program Cycle Guidance. Washington, DC: USAID, June. https://usaidlearninglab.org/library/complexity-aware-monitoring-discussion-note-brief

Britt, H., & Pomerantz, J. (2014, December 31). When Performance Monitoring Stops Performing. Blog post. USAID Learning Lab. https://usaidlearninglab.org/lab-notes/when-performance-monitoring-stops-performing

Chaudhri, S., Cordes, K., & Miller, N. (2017). *Humanitarian Programming and Monitoring in Inacessible Conflict Settings: A Literature Review*. Health Cluster. World Health Organisation. https://www.researchgate.net/profile/Nathan_Miller5/publication/316693277_Humanitarian_programming_and_monitoring_in_inaccessible_conflict_settings_A_literature_review/links/590ceccfaca2722d185c150b/Humanitarian-programming-and-monitoring-in-inaccessible-conflict-settings-A-literature-review.pdf

Corlazzoli, V. (2014). *ICTs for Monitoring and Evaluation of Peacebuilding Programmes*. DFID: Department for International Development. https://www.sfcg.org/wp-content/uploads/2014/05/CCVRI-SSP-_ICT-and-ME-_Final.pdf

Department for International Development (DFID) (2016) *Somalia Monitoring Programme (SMP)*, Project completion review 202984, Department for International Development. https://devtracker.dfid.gov.uk/projects/GB-1-202984/documents

Dette, R., Steets, J. & Sagmeister, E. (2016) *Technologies for Monitoring in Insecure Environments*. Secure Access in Volatile Environments (SAVE) Toolkit. Global Public Policy Institute. http://www.gppi.net/fileadmin/user_upload/media/pub/2016/SAVE__2016__Toolkit_on_Technologies_for_Monitoring_in_Insecure_Environments.pdf

Dette, R. & Steets, J. (2016). 'Innovating for access: the role of technology in monitoring aid in highly insecure environments'. In Fenton, W., Scriven, K., and Foley, M., [Ed.s], 'Humanitarian innovation', *Humanitarian Exchange*, 66, 13-17. https://odihpn.org/wp-content/uploads/2016/04/HE-66-Web-Final.pdf

Fast, L. (2017). 'Diverging Data: Exploring the Epistemologies of Data Collection and Use among Those Working on and in Conflict', *International Peacekeeping*, 24:5, 706-732, DOI: 10.1080/13533312.2017.1383562. https://doi.org/10.1080/13533312.2017.1383562

Herbert, S. (2013). *Remote management of projects in fragile states* (GSDRC Helpdesk Research Report 908) Birmingham, UK: GSDRC, University of Birmingham. https://assets.publishing.service.gov.uk/media/57a089ffed915d3cfd00052a/hdq908.pdf

Perera, S. (2017) 'To Boldly Know: Knowledge, Peacekeeping and Remote Data Gathering in Conflict-Affected States', *International Peacekeeping*, 24:5, 803-822, DOI: 10.1080/13533312.2017.1383566. https://doi.org/10.1080/13533312.2017.1383566

Rivas, A. (2015) *No Longer a Last Resort: A Review of the Remote Programming Landscape*, Working Paper, DFID: Department for International Development, London: Integrity Research and Consultancy.

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/405265/review-remote-prog-landscaping.pdf

Rivas, A., Guillemois, D., Rzeszut, K., and Lineker, B. (2015). *Cross Cutting Evaluation of DFID's Approach to Remote Management in Somalia and North-East Kenya*, Evaluation Report, DFID: Department for International Development, London: Integrity Research and Consultancy. https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/494862/Evaluation-Cross-Cutting-DFID_s-App-Remote-Man-Somalia-North-East-Kenya-Jan2015.pdf

Sagmeister, E. & Steets, J. with Derzsi-Horváth, A., & Hennion, C. (2016) *The use of third-party monitoring in insecure contexts: Lessons from Afghanistan, Somalia and Syria*. Resource Paper from the Secure Access in Volatile Environments (SAVE) research programme. http://www.gppi.net/fileadmin/user_upload/media/pub/2016/SAVE__2016__The_use_of_third-party_monitoring_in_insecure_contexts.pdf

Taptue, A.M. & Hoogeveen, J. (2017, November 2). Project monitoring in fragile places does not have to be expensive. World Bank blog post. http://blogs.worldbank.org/nasikiliza/project-monitoring-in-fragile-places-does-not-have-to-be-expensive

Expert contributors

Guy Sharrock, Catholic Relief Services
Stephen Hellen, Catholic Relief Services

Suggested citation

Price, R. (2017). *Approaches to remote monitoring in fragile states* (GSDRC Helpdesk Research Report 1420). Birmingham, UK: GSDRC, University of Birmingham.

About this report

This report is based on five days of desk-based research. It was prepared for the Australian Government, The views expressed in this report are those of the author, and do not necessarily reflect the opinions of GSDRC, its partner agencies or the Australian Government.

The GSDRC Research Helpdesk provides rapid syntheses of key literature and of expert thinking in response to specific questions on governance, social development, humanitarian and conflict issues. Its concise reports draw on a selection of the best recent literature available and on input from international experts. Each GSDRC Helpdesk Research Report is peer-reviewed by a member of the GSDRC team. Search over 400 reports at www.gsdrc.org/go/research-helpdesk. Contact: helpdesk@gsdrc.org.