HOW COMPLEX M&E SYSTEMS WORK

There is no agreed or accepted framework for conceptualising a complex monitoring and evaluation (M&E) system. However, complex M&E systems run by CSOs tend to contain up to four distinct components. The best systems combine all four components effectively, and ensure that the interactions between them are constantly balanced and adjusted over time.

There is no agreed or accepted framework for conceptualising a complex M&E system. However, most complex M&E systems run by CSOs appear to contain up to four distinct components:

- the systematic, continuous selection, collection, analysis and use of information across an organisation or complex programme;
- planned, periodic studies, designed to assess specific interventions in greater depth;
- ad-hoc, periodic exercises, designed and implemented in reaction to M&E findings or changes in the external environment; and
- decentralised M&E work, carried out to meet different purposes at different levels of an organisation or complex programme.

Systematic, continuous M&E

Virtually all complex M&E systems involve the systematic, continuous selection, collection, analysis and use of information. Information is regularly collected at different levels of an organisation or complex programme, and is then analysed and used, both at the level it was collected and often at other levels as well. For example, information collected in multiple projects may be brought together and analysed at programme, country or sector level, as well as within the projects themselves. Ideally, this allows information and analyses to flow between the different levels of an organisation, not only upwards within a hierarchy but also back down again, and horizontally across projects, programmes, sectors, countries and regions.

Systematic, continuous M&E is usually designed to enable comprehensive coverage across a whole organisation or complex programme. For example, all projects in a programme may have to report in the same way, or collect some common indicators; all programmes may have to summarise information from project reports and pass those summaries on to country level; and so on. CSOs that work in multiple sectors or regions might have particular approaches that only apply within those sectors or regions. For example, a CSO might require all relevant health projects to adopt a specific, industry-standard methodology to assess change. But by and large the intention is to implement an M&E system that covers the whole organisation (or complex programme).

In practice, this means that M&E processes need to be formally connected across different levels. There are many ways of doing this (see box on following page, based on Simister 2009). Some CSOs link multiple M&E elements at the same time. For example, a CSO might require all projects and programmes to develop objectives derived from overall strategic objectives; it might expect all relevant projects and programmes to use the same indicators; it might compel all projects to use the same reporting templates; and it might insist that all projects enter data onto the same database. Other CSOs are more flexible, and only require different M&E elements to be linked in one or two ways. This is a difficult balancing act. If M&E elements are linked in too many areas an M&E system might become inflexible and bureaucratic. Too few, and the overall M&E system becomes incoherent.

CSOs often choose to develop one or more key highlights or concepts which can be used to tie a complex M&E system together, whilst leaving more flexibility in other areas. For example:

- Self Help Africa asks relevant projects to implement Household Economic Analysis (HEA) surveys;
- An integral part of World Vision's LEAP (Learning through Evaluation with Accountability and Planning) approach is a menu of common Transformational Development Indicators (TDIs), which all projects and programmes are encouraged to use;
- Save the Children UK in the 2000s operated a Global Impact Monitoring (GIM) system, designed around a set of five dimensions of change;
- The Civil Society Support Programme (CSSP) in Ethiopia based a large part of its M&E system around a set of organisational capacity scorecards; and
- ActionAid in the 1990s and 2000s based its ALPS (Accountability, Learning and Planning System) around a clear ethos – that of downwards accountability to communities.

Each of these organisations and programmes links (or linked) M&E processes in multiple ways, but have (or had) one or two key highlights or concepts which were central to their M&E system.

Common ways of linking M&E elements in complex M&E systems

Many CSOs develop ***principles*** in areas such as the participation of beneficiaries in M&E, the gender focus of M&E, or the downwards accountability of organisations to partners and communities. All levels of an organisation are then expected to adhere to those principles, thereby helping ensure consistent M&E approaches.

Some CSOs expect different levels to establish ***theories of change*** that contextualise broader, organisational or programme-wide theories of change. Theories of change may have to be developed in a consistent manner, or using the same template.

Many CSOs stipulate the need for ***plans*** at different levels, including strategic plans, operational plans and action plans. Often the plans are designed to feed into one another. Sometimes different levels of an organisation or complex programme are expected to develop their plans using the same or similar approaches, such as political economy analysis, stakeholder analysis or gender analysis. Commonly, consistent planning templates are required. This means that staff and partners at the same level of an organisation all have to produce their plans according to the same format. Planning tools, such as the logical framework, may be prescribed throughout an organisation.

CSOs often set broad strategic ***objectives*** at organisational or complex programme level, and then expect lower levels to identify their own objectives that feed into them. Common templates may be developed, and objectives may need to correspond to fixed standards, such as applying SMART rules. Some CSOs adopt broad dimensions or domains of change, and then expect all programmes to set objectives specific to the local context that fit within those domains.

Indicators are often linked between different parts of an organisation or complex programme. Quantitative indicators can be aggregated across different levels, whilst qualitative indicators can be captured and summarised using broad framing or basket indicators. Sometimes, different parts of an organisation or complex programme are required to use standard indicators, or to choose from menus of indicators. CSOs may also develop protocols for who should be involved in defining and collecting indicators and how. Many organisations require mainstreaming or cross-cutting indicators to be set in areas such as gender or disability.

Increasingly, CSOs are establishing common learning or evaluation ***questions***. These questions are used in areas where change cannot easily be captured through indicators, or where it is hard to predict exactly what the change might look like. Some organisations and complex programmes define broad learning themes and ask different levels to develop more specific questions under those themes.

Often, different parts of an organisation or complex programme are expected to use specific ***tools*** or ***methodologies***, such as process tracing, quasi-experimental trials or knowledge attitude and practice (KAP) surveys. This allows for a higher degree of summarisation and comparison across interventions. A less prescriptive way of doing this is to develop optional toolkits. Occasionally, complex programmes use methodologies such as Outcome Mapping or Most Significant Change (MSC) as the basis for their entire M&E system.

CSOs often require ***baselines*** to be developed at different levels, but frequently leave the details down to local decision-making. If common methodologies are used then it can be appropriate to insist on common ways to develop baseline surveys (e.g. through HEA studies). Organisations or complex programmes using experimental or quasi-experimental trials may expect standard baselines to be implemented alongside ***control or comparison groups***.

If common methodologies are applied (e.g. process tracing, randomised control trials, qualitative comparative analysis (QCA)) then quantitative or qualitative ***analysis*** may need to be conducted in a consistent way.

Common processes to support ***learning*** are often developed. These include databases or IT systems that share learning horizontally across an organisation. Common learning mechanisms such as reviews, workshops, peer-review visits or webinars may be used throughout a CSO. Learning reviews are a key aspect of many complex M&E systems. Common action logs or similar vehicles to help translate learning into decision-making can also be useful.

Many organisations and complex programmes develop reporting schedules that specify which ***reports*** need to be completed, for whom, and when. Often, these have to be completed according to prescribed templates. It is very common for reports to be transmitted throughout an organisation or complex programme to enable successive levels to reduce and summarise reports from lower levels. Some CSOs that work through operational partners expect them to fill in the same reports in the same way at the same time – others show more flexibility. CSOs often have prescribed processes for feeding information back to those producing reports.

Source: Simister (2009)

The systematic, continuous selection, collection, analysis and use of data within a complex M&E system is usually designed to achieve spread rather than depth of information. It is designed to make sure that the work of an entire organisation (or complex programme) is covered by M&E, rather than to focus in on specific initiatives. That is more often the province of in-depth studies, sometimes known as deep-dives.

Planned, periodic M&E

Whilst systematic, continuous M&E is designed to enable comprehensive coverage, planned, periodic M&E is used to investigate specific interventions in greater depth. This is normally implemented through discrete exercises such as reviews, evaluations, impact assessments or research studies. These exercises may provide more reliable information than systematic, continuous M&E because they are usually carried out by dedicated teams working over relatively short time-periods, and are often well resourced, which means that more rigorous methods of data collection and analysis can be used. However, usually only a limited number of these exercises can be carried out in any given period because of the high expense.

In a complex M&E system it is important that these planned, periodic exercises are properly integrated with systematic, continuous M&E processes, and with each other. This in turn means that resources have to be

employed strategically to ensure that an organisation or complex programme reaps the maximum possible benefit from the exercises. This has not always been done well. Preskill and Mack (2013, p5) argue that in many organisations the *"meaningfulness and usability of evaluation information has been limited because of its disconnection from strategic and organisational-level decision making – evaluative thinking and practice are [often] loosely aligned, fragmented, and siloed."* They further argue that: a) most evaluations focus on project or programme questions only, and are not designed to answer important strategic questions; and b) what gets evaluated often reflects the needs of particular individuals or departments rather than an organisation as a whole.

Some of this cannot be helped. Decisions over what to evaluate are often made by the donors who fund the evaluations, and an organisation or complex programme may have little control in this area. Nonetheless, there are ways to take a more strategic approach.

- CSOs can develop structures and processes to determine the timing, focus and purpose of the different exercises that are conducted with their own resources (ibid). This helps to ensure the exercises are selected and designed to answer the questions an organisation or complex programme most needs to answer (and that cannot be answered through systematic, continuous M&E).
- Some CSOs operate sampling strategies to ensure that findings from multiple exercises can be used to infer wider conclusions. This is usually done via different kinds of qualitative (purposeful) sampling methods, or by using random sampling to build up statistically significant findings over time. For example, Oxfam GB evaluates the impact of its work by reviewing a sample of randomly selected projects under thematic areas, using standard methodologies appropriate to those thematic areas (Oxfam undated).
- Many organisations and complex programmes develop common evaluation or learning questions (or themes) that can be explored across multiple evaluations, reviews, impact assessments or research studies. This means that an evaluation, for instance, could focus in-depth on an individual project, programme or approach, whilst still addressing generic questions, designed to contribute to organisation-wide learning.

It is not always easy to draw a firm line between continuous and periodic M&E. In complex M&E systems a rule of thumb might be that systematic, continuous M&E describes work carried out in weekly, monthly, quarterly or annual cycles, whereas planned, periodic M&E is usually carried out over longer timescales. But the difference between continuous and periodic M&E work may not always be clear (see case study opposite).

Reactive M&E

Whether continuous or periodic, the two components of a complex M&E system described so far have one thing in common. They are both planned in advance. Thus, a complex M&E system may comprise the regular and continuous collection, analysis and use of information throughout an organisation, and also planned, in-depth assessments at different points. Sometimes, this generates findings which can immediately be used at organisational or complex programme level to make strategic decisions – for example, adjusting working approaches, changing strategy or even fundamentally questioning vision and mission. But M&E findings arrived at through planned M&E do not always provide information that can be acted on immediately.

This is largely due to the difficulty of getting accurate and consistent information from across an organisation or complex programme. This is especially true if much of the information is qualitative, or is a mixture of qualitative and quantitative information. Within social development there is a huge body of literature on qualitative analysis. However, most of this is based on best practice qualitative research. It assumes that people are undertaking large qualitative research studies or evaluations, properly resourced, and with sufficient time for people to analyse information, regularly going back and forth between data collection and analysis at field level.

In reality, however, M&E findings at organisational or complex programme level often provide an indication that something interesting is happening – for example, something good that needs to be replicated, a risk or threat that needs to be addressed, or an indication that an organisation's theory of change many not be correct – but may not provide all the information needed for management to make a firm decision. Indeed, at this level most systematic M&E findings come with at least some degree of uncertainty.

If M&E findings suggest a change that is relatively unimportant then a decision can often be made based on imperfect or incomplete information. But if the change is likely to have profound – even life or death – consequences then it is sometimes necessary to carry out further reactive M&E work to confirm (or reject) earlier, tentative findings. This might involve facilitating sense-making activities with

Case study: Project Impact Reviews in CDKN

The Climate and Development Knowledge Network (CDKN) was a complex programme that supported over six hundred projects, working at the intersection of climate change and development. To assess medium- to long-term sustainable change, CDKN developed a system of carrying out project impact reviews at a time somewhere between the end of a project and two years afterwards, depending on the type of project.

The project impact reviews were each individual exercises with a clear evaluative function (assessing medium- to long-term results and sustainability). Yet they were also carried out as part of a wider M&E system. They were mostly conducted by internal staff, but occasionally by external stakeholders where necessary. Each review could therefore be viewed as an evaluation of an individual project, but also as part of a systematic, continuous M&E process, designed to feed into regular organisational reporting and decision-making.

staff or partners; introducing new tools or templates into systematic, continuous M&E; carrying out a new evaluation or impact assessment; engaging in action research; or even planning and executing a large, formal research project. In essence, the role of systematic M&E work within a complex M&E system is often to identify emerging patterns of change (or learning) which then become the focus for further M&E and research. Ultimately, this should happen when: a) there is a clear need for the new information; b) there is a clear plan for how to use any findings; and c) a CSO judges that the costs of carrying out the work are matched or outweighed by the potential benefits.

Unfortunately, many CSOs carry out little or no reactive M&E. Sometimes, this is because project and programme planning and implementation processes are not flexible enough to warrant reactive M&E; or because there is no conducive culture of interrogative learning within an organisation; or because the unreliability of systematic M&E is not recognised or understood. Sometimes it is because fixed budgets for M&E need to be planned and agreed well in advance, or it may simply be that reactive M&E is not seen as an important ingredient in a complex M&E system. Whatever the case, the truth is that reactive M&E is often vastly underused within complex M&E systems.

Decentralised M&E

Whatever the requirements of central staff, M&E (and especially monitoring) are primarily management tools that are vital to ensure the appropriate implementation of projects and programmes on an ongoing basis. CSO staff or partners working at project or programme level routinely spend a vast amount of their time monitoring activities, deliverables, budgets, finances, procurements, contracts, compliance, relationships, logistics, equipment, personnel, risks and actions, as well as the external environment. They may also carry out M&E designed to assess change and generate learning, sometimes for internal needs and sometimes to report to local stakeholders, such as beneficiaries, local government agencies or local donors and supporters.

Much of this work is (and should be) under the radar of staff running a complex M&E system. It is carried out at local levels for local purposes, and there is no need for central staff to know the details. A conservative estimate is that over 80% of the M&E carried out within a large INGO is carried out for local-level purposes and is not integrated into the wider system. However, it is important that staff responsible for designing and implementing a complex M&E system are very clear about what is compulsory and what is not, and communicate this to the rest of the organisation or complex programme. Staff and partners at different levels of an organisation or complex programme need to know what they all have to do in the same (or a similar) way in order to meet the wider needs of the organisation, and where they are free to develop their own solutions in response to their own needs.

There is often a spectrum of choices. At one end of the spectrum, different levels of an organisation or complex programme can be required to carry out certain M&E tasks in exactly the same way. At the other end of the spectrum, different levels may have complete autonomy to develop M&E policies, processes and practices in some areas of M&E in response to their own needs. And there are different levels of autonomy within this spectrum (see diagram below).

Most complex M&E systems, whether explicitly or implicitly, enable different degrees of autonomy for different levels of an organisation or complex programme across different areas of M&E. So, for example, all projects within an organisation or complex programme may have to produce a logical framework at the start, collect a set of

Degrees of flexibility in different areas of M&E

Complete Autonomy

Common Procedures and Practices

- Different levels of an organisation or complex programme have complete autonomy to develop their own M&E policies, processes and practices in response to their own local needs
- Advice and support are provided by central M&E staff as and when requested. This can lead to some limited standardisation of processes and practices.
- Best practices are promoted from within (or outside) an organisation or complex programme. A level of standardisation comes from the replication of these best practices.
- Central policies or principles are developed, covering different areas of M&E. All levels of an organisation are then expected to adhere to these policies or principles where relevant.
- Minimum standards or expectations are specified. Different levels of an organisation or complex programme can have freedom to pursue their own M&E processes and practices in discrete areas of M&E provided the minimum standards are met.
- Different levels of an organisation or complex programme are expected to conform to defined processes and practices in discrete areas of M&E. However, there is flexibility in the way that these processes and practices can be applied.
- Different levels of an organisation or complex programme are expected to carry out specific M&E tasks in exactly the same way throughout the organisation.

core indicators, and write quarterly and annual reports. But they may be free to develop wider indicators for their own use, choose their own methods of data collection and analysis, design their own review or learning processes, etc. Or at country level, CSOs might be required to hold annual sense-making reviews, produce annual reports, or evaluate a set number of projects annually. But they might be free to pursue their own independent M&E solutions in other areas. The combination of possibilities is endless.

Sometimes there are nuances within different degrees of flexibility. For example, a project might have to produce quarterly reports, but be allowed some degree of control over the format of the report, rather than having to fill in a fixed template. Or a country programme may be expected to implement regular learning mechanisms, but have the freedom to decide on the precise nature of those mechanisms according to local culture and needs. Sometimes, staff designing complex M&E systems opt to look for coherence in non-prescriptive ways, such as promoting different ideas from within an organisation, developing best practice manuals, or developing policies and principles for conducting different elements of M&E.

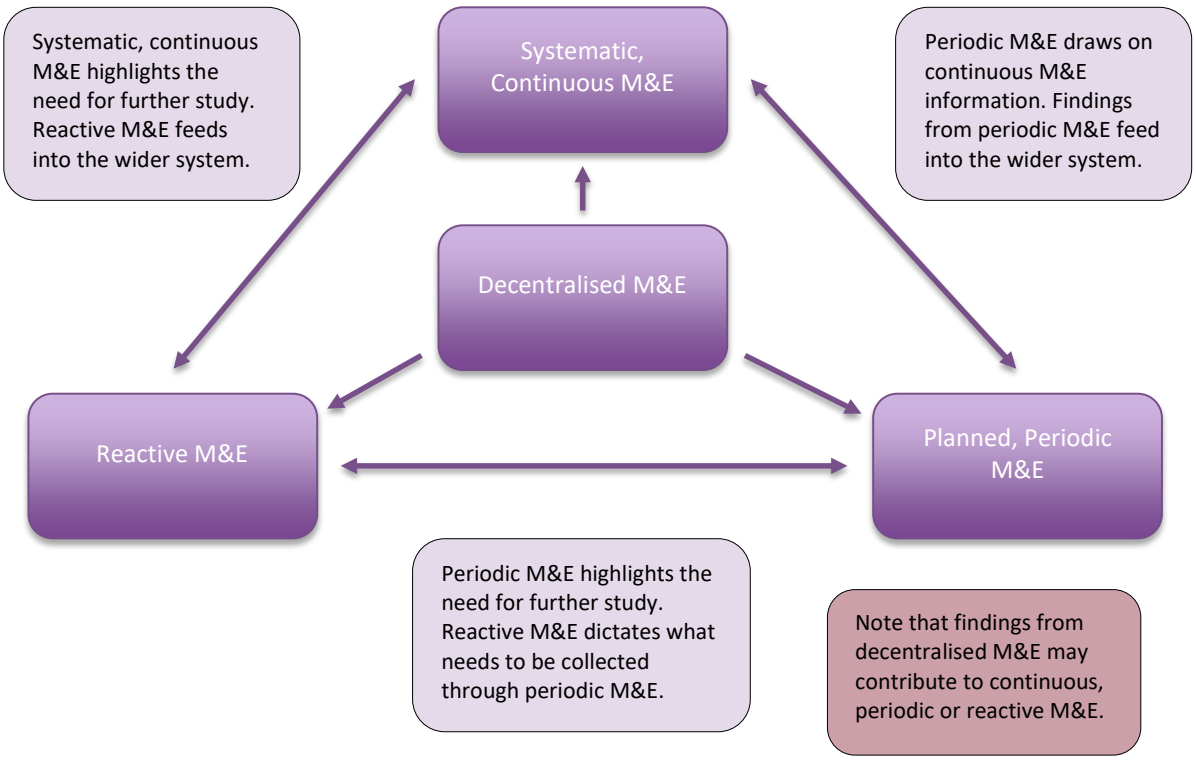
Ultimately, a complex M&E system should comprise a very clear set of rules that govern how M&E is conducted throughout an organisation or complex programme, enabling both coherence and flexibility. This will allow the organisation or complex programme to maintain a crucial balance between using M&E to serve its central needs on the one hand, and serving the needs of staff at local levels on the other.

The different components combined

If a complex M&E system is to work effectively for all levels of an organisation or complex programme then the four components described in this paper need to work together coherently (see diagram below). So:

- systematic, continuous M&E may draw on the findings of periodic, reactive or decentralised M&E (for example, annual M&E reports produced by projects may draw on evaluation findings, special studies, or ongoing, informal data collection designed to serve the needs of project staff);
- reactive M&E is often carried out in response to findings generated through continuous or periodic M&E;
- planned, periodic M&E exercises, such as evaluations, impact assessments or major reviews, may draw on the findings of systematic, continuous M&E, as well as generating their own new findings and analyses;
- the findings from planned, periodic M&E exercises may help to dictate the type of information that is routinely collected and analysed through systematic, continuous M&E; and
- findings from both planned, periodic and reactive M&E should be integrated into the wider system so that lessons are not lost over time.

The precise balance between these components changes from organisation to organisation (or from complex programme to complex programme). This is one of the reasons why it is so hard to draw up a blueprint for a complex M&E system. Every organisation (or complex programme) is different, and so every organisation needs a different balance. Some, especially those working within a rights-based paradigm or with a heavy emphasis on beneficiary participation, need much more decentralisation than others, and are most keen to ensure M&E works for partners and beneficiaries. On the other hand, CSOs working in complex or uncertain environments may require



more reactive M&E than organisations working in areas where there are tried and trusted solutions. And organisations or complex programmes heavily funded by institutional donors may need to carry out more planned, periodic M&E in the form of evaluations and impact assessments, whilst those with their own independent sources of money may choose to invest in building the capacity of internal staff to carry out effective systematic, continuous M&E.

In the opinion of the author, based on more than twenty years of engagement with complex M&E systems, the best complex M&E systems combine all four components effectively, and ensure that the interactions between them are constantly balanced and adjusted over time.

Further reading and resources

This short paper is based on a much longer paper produced for INTRAC, called *"Complex M&E Systems: Raising standards, lowering the bar"*, by Nigel Simister. It is available from the INTRAC website at https://www.intrac.org/wpcms/wp-content/uploads/2019/03/Praxis-Series-6.-Complex-ME-Systems.pdf.

The next paper in this section of the M&E Universe looks at some of the main functions of a complex M&E system. The previous paper examined some of the differences between complex and project M&E systems.

Another paper by Simister (2009), referenced below, is also available from the INTRAC website, and goes into much more detail about the systematic, continuous side of a complex M&E system.

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INTRAC is a specialist capacity building institution for organisations involved in international relief and development. Since 1992, INTRAC has contributed significantly to the body of knowledge on monitoring and evaluation. Our approach to M&E is practical and founded on core principles. We encourage appropriate M&E, based on understanding what works in different contexts, and we work with people to develop their own M&E approaches and tools, based on their needs.