DEVELOPING A COMPLEX M&E SYSTEM

Every complex monitoring and evaluation (M&E) system is different, and so needs to be designed individually. Some generic steps are common to the design of most systems. Complex M&E systems need to change and evolve over time. Therefore, even once implementation has started there still needs to be a degree of ongoing design and adaptation, as well as routine support and administration.

Every organisation and complex programme is different, and therefore every complex monitoring and evaluation (M&E) system also needs to be different. Each complex M&E system needs to be designed independently, to suit the needs of the organisation or programme concerned. Complex M&E system designers usually have their own preferred design methods. This paper describes one approach that can be used to develop a complex M&E system.

Designing a complex M&E system

A 9-step process for designing a complex M&E system is shown in the diagram opposite. The steps are not linear, and may be carried out in a different order or at different times according to the circumstances. There may be a large degree of iteration as well, with aspects of the system constantly being tested and piloted, and results fed back into the design process.

A crucial issue, however, is the starting point for design. In some complex programmes a designer starts with a blank sheet of paper. If nothing has gone before then all options are on the table. In other complex programmes, and almost always when dealing with systems at organisational level, some M&E policies, practices and processes will already be in place. In these cases, M&E system designers need to build on what already exists.
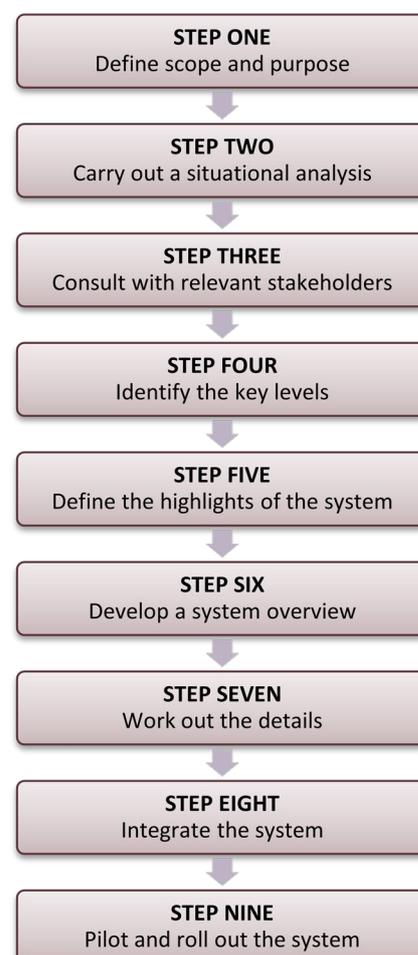
If a complex M&E system already exists it may be effective and coherent, with clearly defined purposes. But it may not. And it may have redundant features that were introduced to serve a purpose, or set of defined purposes, that are no longer relevant. This will have a major influence on the early stages of the design process.

STEP ONE

Define scope and purpose: The first task should be to clarify the scope and purpose of the complex M&E system. In some complex M&E systems, M&E sits on its own. In others it is formally integrated with planning systems (PME) or with learning systems (MEL). It may or may not cover areas such as knowledge management or research. So the first design task is to thoroughly understand what a complex M&E system does (or should) cover and what it does not.

Equally, understanding the primary purposes(s) of a complex M&E system is always important. Most complex M&E system design is done either because: a) nothing at all is in place (mainly in the case of new complex programmes); or b) what is currently in place is deemed insufficient. If the latter, a key question to ask is *'why is it insufficient?'* It may be because the current M&E system does not deliver in areas such as organisational management or accountability to key donors. It may be that senior management feel it does not contribute enough to decision-making. Or there may be other reasons.

The answer to the question will obviously have a big influence on the design process. This is because a new or amended complex M&E system is likely to be judged in the

STEP ONE
Define scope and purpose

STEP TWO
Carry out a situational analysis

STEP THREE
Consult with relevant stakeholders

STEP FOUR
Identify the key levels

STEP FIVE
Define the highlights of the system

STEP SIX
Develop a system overview

STEP SEVEN
Work out the details

STEP EIGHT
Integrate the system

STEP NINE
Pilot and roll out the system

short-term according to how well it performs against the stated, primary purposes. It is also important to know at this stage whether there are any parts of the existing M&E system that need to remain constant, or cannot easily be altered, because they serve the needs of external agencies, such as governments or donors. This could restrict the range of design options available.

STEP TWO

Carry out a situational analysis: The next step is to clearly understand what (if anything) is already in place, and how staff at different levels of the organisation (or complex programme) use the existing M&E system. Whether the intention is to design a new system, or amend an existing one, it is important to fully understand the consequences. In many cases a high-level overview will not be sufficient, and designers may need to burrow down into the details of plans, budgets, tools, indicators, templates, reports and databases at multiple levels of the organisation or complex programme. It might also be necessary to investigate associated areas such as financial, administrative or human resource systems, especially if they are likely to be influenced by any changes to the M&E system.

Common methods used to perform a situational analysis include literature reviews covering existing policies and processes; individual interviews with key internal and external stakeholders; group interviews with stakeholders at different levels of an organisation (including partners and/or beneficiaries if appropriate); site visits to see how M&E works in practice; surveys or questionnaires administered to groups of stakeholders; and workshops where stakeholders can properly discuss the current system and future needs. During this step, the intention should be to acquire as much knowledge as possible about the current M&E system in order to understand what changes are feasible and desirable, and the potential consequences of amending or removing any existing features.

STEP THREE

Consult with relevant stakeholders: Consultation is important for buy-in. If people have not been consulted about changes to an M&E system they are less likely to approve those changes or work to make them effective. Consultation focusing on people's needs at different levels of an organisation can take place alongside the situational analysis described in step two, or afterwards.

Consultations have three main purposes: a) to enable people to input into the decisions that will affect them; b) to ensure buy-in to the new system; and c) to enhance the quality of the change process by ensuring that it is based on a solid understanding of the needs of different stakeholders. Consultation will also help ensure that the complex M&E system does not focus too much on the needs of central staff and departments to the exclusion of

staff and partners at lower levels of an organisation or complex programme. Many groups could potentially be consulted, depending on the type of organisation or complex programme. These could include:

- staff at different levels who will be expected to maintain or use the new M&E system;
- key partner organisations, especially those responsible for implementing projects and programmes;
- senior managers whose support will be required;
- board members or trustees;
- sister organisations carrying out similar work in similar environments;
- representatives of major donors; and
- beneficiaries or representatives of communities, if feasible.

Support and buy-in from senior management is possibly the single most important consideration that will influence the success or failure of a complex M&E system. Wherever possible, senior managers should be consulted and kept informed throughout the whole design process.

STEP FOUR

Identify the key levels: Within a complex M&E system, plans are usually made and/or information collected, analysed, summarised and used at multiple levels, with information and analysis flowing between those levels. A large International NGO (INGO), for example, will typically work at global, regional, country, sector, programme and project levels. Some organisations also include a 'partner' level to denote changes in partner capacity resulting from capacity development work. Others include levels reflecting cross-cutting or mainstreaming work, internal organisational work, or added-value work. A complex programme operating in just one country may have fewer levels – perhaps just the programme, project and partner levels – but it is still important to define them.

It is important that staff designing a complex M&E system ensure that the system is focused on the areas of work that are most important to an organisation (or complex programme) and the levels where they hope to contribute the greatest change. This might seem obvious, but it does not always happen. For example, some INGOs are proud of their added-value work, but make little or no attempt to assess its impact. And many CSOs claim to prioritise capacity development work, but have few, if any, systems for assessing their efficacy in this area.

STEP FIVE

Define the highlights of the system: Rather than trying to design a complex M&E system in its entirety all at once, it is often worth first identifying a few key highlights or features. These can then be used to tie a complex M&E system together, whilst leaving more flexibility in other areas. A key highlight or feature may be a particular approach to

planning, a core set of indicators, a particular tool or methodology, a specific learning mechanism, a database system, or a set of principles governing the ethos of the M&E system. Many CSOs identify more than one key highlight.

At this stage of the design process there is less need to involve multiple stakeholders, and the design task can be delegated to an individual or small group. This is because a complex M&E system needs to act as a coordinated system, and the involvement of too many people can result in it becoming somewhat chaotic. There may be tensions at this stage that need to be managed. On the one hand, it is essential to know how people use existing M&E systems, to thoroughly understand their needs and requirements, and to ensure there is buy-in to a new or updated system. On the other hand, a complex M&E system ultimately needs to be designed as an integrated system. Otherwise it runs the risk of losing coherence in trying to be all things to all people.

STEP SIX

Develop a system overview: Once the main highlights or features have been decided, an overview of the complex M&E system can be developed (or adapted). Different people have different ways of doing this. The author's preference has always been to map out the entire system on a grid, and then to consider which parts are satisfactory, which are not, and where changes are required. Once these changes have been identified the grid can then be updated accordingly.

A partial example of a grid produced by Self-Help Africa (2011) is shown on the following page. The left-most column of the grid contains some of the common elements of a project M&E system. On the top row are the key levels of the organisation. The different cells of the table contain the policies, processes or practices that are considered essential at that particular level and in that particular area of M&E. The blank spaces denote levels and areas of M&E where no actions are necessary, or where processes are completely decentralised, and different levels have complete autonomy to develop their own solutions. A fuller explanation of the M&E grid system, and more complete instructions on how to use it, can be found in Simister (2009).

A grid is only one of many ways to conceptualise a complex M&E system. For example, many organisations choose to use flow diagrams to show how information moves between interested parts of an organisation. These diagrams are better for showing the flow of data, but do not show how information is generated, or how objectives or indicators are linked between different levels.

In the end, the choice of method for conceptualising a complex M&E system is down to individual preference. What is important at this stage is for a designer to have a complete overview of how the complex M&E system will work, the key highlights, and how information should be

connected across and between the different levels of the organisation or complex programme.

STEP SEVEN

Work out the details: Once the overall design has been finalised, the next task is to work out the details, especially around the key highlights of the system, or areas where M&E processes are linked between different levels of an organisation. This might involve developing planning templates, designing or adapting information collection and analysis tools, developing organisational indicators, creating protocols or methodologies for beneficiary participation, designing report templates, developing protocols for when and how evaluations and impact assessments are carried out, developing learning mechanisms or designing databases, as well as many other potential tasks.

This can be the most difficult and time-consuming part of the design process. Sometimes the work can be done by a central M&E department on its own. Sometimes other departments may need to be involved. The detailed design work may have to be started from scratch, but there may be examples of best practice within an organisation that could be replicated more widely. Often, some pilot testing will be needed to ensure that newly developed processes, procedures, tools, templates or protocols are fit for purpose.

STEP EIGHT

Integrate the system: A complex M&E system usually needs to be integrated horizontally (with other organisational systems and processes) and vertically (with the systems and processes of other agencies). This may not be a discrete step in itself, and may occur in parallel with other steps. However, it is sometimes better for designers to concentrate on an organisation's own M&E systems first and then engage with different internal or external requirements as necessary, rather than seeking to build a system according to the rapidly changing and sometimes conflicting demands of different stakeholders.

Integration horizontally ensures that the M&E system is properly aligned with other organisational (or programmatic) systems such as financial, administrative, logistical, fundraising or human resources systems. This might be a trivial process, or it might be quite complicated. Particular care needs to be taken when adapting planning, reporting or data storage systems, as these are used by a variety of functions or departments within an organisation or complex programme.

Vertical integration might also be a trivial process, but can sometimes present difficulties. For example, if an organisation has one major donor requiring an annual report then it makes sense to ensure that internal reporting schedules are designed to feed into that report. But if there is more than one donor then a variety of needs will have to be considered. There is also an increasing tendency for

international NGOs and networks to work within broad alliances or federations, in which case the M&E systems of other alliance, federation, confederation or network members will need to be factored in.

M&E Grid: Summary Self-Help Africa (SHA) Monitoring System

	Global	Country	Programme	Project	Partners / capacity building
Planning Systems	A global strategic plan is developed every 4-5 years, based on a theory of change	Country strategic plans have to be developed according to standard guidelines	Programme logframes are required. An advocacy strategy has to be drafted	All project plans must be summarised according to a fixed template Project logframes are required	
Setting objectives	Global aims and strategic objectives are developed during the global strategic plan	Country objectives are expected to contribute to global objectives	Programme objectives are expected to contribute to country and global objectives	Project objectives are expected to contribute to country/programme objectives	Objectives for partnership/capacity building work are specified in country programme plans
Indicators	A core set of impact/outcome indicators are linked to the global theory of change	A core set of impact/outcome indicators are linked to the global theory of change	Programme indicators are mapped onto SHA's global indicators	Project indicators are mapped onto country/programme indicators	
Baseline Info				Household surveys Community needs assessment Secondary data	Summary of partner capacity and track record
Tools				Reporting against logframes Production records Case studies Participatory impact assessment Household Economy Approach (HEA) / Individual Household Method (IHM) modelling	Partner workshops Keystone partner survey
Participation	Major donors are involved in planning at global level	Country staff and partner staff (in some cases) are involved in planning and M&E		Project staff and partners involved in planning and PME. SHA principles suggest that we should engage un- or under-served people in PME processes wherever possible.	Project staff and partners.
Evaluations, Impact Assessment and Research		Country Programme Evaluations are expected	Thematic research is undertaken	End of Project evaluations; ex-post evaluations	
Use and Analysis of Data		Basic analysis for reviews and reporting		Basic analysis for reviews and reporting	
Reports	An annual report is produced A quarterly summary performance report is produced for SMT and the Board	Annual and quarterly reports are produced, with simple assessments of the likelihood of projects achieving objectives		Annual and quarterly reports	Projects/Countries are expected to report on progress against partnership objectives within each report
Learning Mechanisms	Mid-term review	Country office meetings/workshops Cross-visits	Communities of practice	Annual/quarterly project planning and review workshops Cross-visits	Partner workshops
Data Storage		Salesforce	Salesforce	Salesforce EfD database	

STEP NINE

Pilot and roll out the system: The final step is to roll out the new or revised complex M&E system. It is not necessary for staff at all levels of an organisation or complex programme to have a detailed knowledge of how the M&E system works. However, organisational and partner staff should at least have a minimal understanding of three things.

- Firstly, people should be aware of the main overall purpose(s) of the M&E system.
- Secondly, they should have a broad overview of the M&E system, and what the key requirements are. Specifically, they need to know in which areas they are free to develop their own solutions and in which areas they have to comply with mandatory organisational requirements.
- And thirdly, they require detailed information, support and guidance in the areas of the system where everyone is expected to do the same thing or carry out work consistently.

The ultimate aim is not to develop a complex M&E system that will supply all of an organisation's needs, as these needs will in any case be constantly shifting and evolving. Instead, it is to develop a system that will ensure consistency within M&E work across an organisation or complex programme. Different parts of an organisation (or complex programme) can then carry out additional, decentralised M&E work designed to respond to their own individual needs, and also those of the other stakeholders with whom they interact.

Implementing a complex M&E system

The steps described above can be used to design or adapt a complex M&E system. However, although in project contexts it may be possible to design an M&E system that effectively runs itself, complex M&E systems need to change and evolve over time. Therefore, even once implementation has started there still needs to be a degree of ongoing design and adaptation, as well as routine support and administration.

Complex M&E systems differ so greatly in their scope and nature that it is not possible to provide more than a few basic pointers highlighting some of the tasks that need to be considered during implementation.

Review and adjustment of the overall system: Once a new or adapted complex M&E system has been designed it is useful to build in regular reviews to make sure it remains fit-for-purpose. Many complex M&E systems are developed partly through experimentation, trial and error, innovation and piloting. Consequently, at any one time there are likely to be parts of the system that are stable, and other parts

that are being tested. The results of these tests then need to be fed back into the design process.

Even when all parts of a complex M&E system are relatively stable, it is still likely that changes in the working environment may require some level of re-design. For example, it is common for the designated purposes of a complex M&E system to change over time, which may require revisions to different parts of the system. This is partly why it is important for a complex M&E system to be flexible enough to cope with constant change, and designed with potential shifting priorities in mind.

Reviews of the system could concentrate on a few basic questions.

- Is the system still working for stakeholders at different levels of the organisation?
- If not, why not, and what can be done about it?
- Is the balance between coherence and flexibility across the system still being maintained?
- Is there still an appropriate balance between the needs of Head Office staff and staff or partners at other levels?
- Is the system still serving core organisational needs, such as enabling accountability to major donors, or enabling marketing and fundraising efforts?
- If considered important, is the system providing sufficient opportunities to learn and improve strategically?
- And is the M&E system still integrated properly with the work of other departments such as finance, administration, fundraising or human resources?

Where changes are needed, care needs to be taken to ensure that adaptation and flexibility (widely considered as positive things) do not turn into tinkering. There is a fine line between the two. For example, regularly changing the questions asked through a report template may be a useful way of teasing out different responses from field staff or partners. But constantly changing the timing and nature of reporting requirements will quickly lead to irritation and frustration. Staff and partners engaged in M&E at different levels of an organisation or complex programme need stability – they need to know what they are expected to do, when and how; and do not want to spend too much time constantly learning new processes and procedures.

Adjustments between different components of the system: An earlier paper in this part of the M&E Universe ('*How complex M&E systems work*') stated that most complex M&E systems run by CSOs contain up to four distinct components: systematic, continuous M&E; planned, periodic M&E; reactive M&E; and decentralised M&E, with the best systems combining all four components effectively, and ensuring that the interactions between them are constantly balanced and adjusted over time. This means M&E staff need to work to identify and enact a

constant readjustment of the different components, based on their interactions. For example:

- The findings from planned, periodic M&E, or reactive M&E exercises may be used to adjust the information that is routinely collected and analysed through systematic, continuous M&E. For example, an evaluation, impact assessment or research study may highlight the need to focus on a particular issue, or raise questions that can best be answered through regular reporting or via ongoing learning reviews.

- If consistent findings arise out of systematic, continuous M&E processes, an organisation may need to adjust or re-define its planned, periodic M&E processes. This might mean adopting new, common evaluation questions, or adapting existing ones. In some circumstances it might also mean altering the timing and/or focus of planned evaluations or impact assessments.

- Findings from either systematic, continuous M&E or planned, periodic M&E often highlight the need for further investigation. In these cases, new studies may be needed to generate actionable information around a topic or set of topics.

Sometimes, the required adjustments might be relatively minor affairs. At other times they might mean radically changing theories of change, results frameworks or M&E plans at organisational (or complex programme) level.

Capacity development for different stakeholders:
Throughout implementation it is important to ensure that stakeholders using a complex M&E system have sufficient capacity to carry out required tasks. Capacity development with field and partner staff can be accomplished through many mechanisms, such as training, mentoring, help-desk support, or peer-to-peer support. In addition, M&E staff in charge of complex M&E systems commonly spend a large amount of time producing and refining different guidelines and toolkits, although not all stakeholders learn best through written materials.

Capacity development can also be provided through hands-on, real-time support. This has the advantage of supporting learning whilst at the same time ensuring that necessary tasks are completed. For example, different parts of an organisation can be supported to develop proposals and plans that are conducive for M&E, to develop results frameworks and M&E plans, to develop baselines, and to collect and analyse information on an ongoing basis.

Capacity development should not only be directed towards staff and partners at lower levels. At times, it may also be important to work with senior management, boards, trustees or representatives of donor agencies. This often involves helping them to understand the potentials and limitations of a complex M&E system, and supporting them with their immediate practical needs. This is especially important in helping to create a culture within a CSO that is conducive to high-quality M&E and learning.

Routine maintenance and administration of the system:
The extent of work needed in this area is highly dependent on the type of complex M&E system. In some systems, most of the work is delegated down to different levels, and central staff have relatively little routine work to do, except to compile information centrally and to supervise reports at regular intervals. This is more often the case where staff and partners are expected to present information in a form that is suitable for immediate processing at central level. In other systems, more freedom is provided to staff and partners to report in a way that suits them best, and correspondingly more of the onus for compiling and sorting information sits with central M&E staff.

Central M&E staff may also spend a lot of their time engaged in basic record-keeping, and ensuring that databases are properly populated with required information. And a reasonable amount of administrative work is often required to ensure that different levels of an organisation are carrying out required tasks in the right way, at the right time, and to suitable standards.

In some complex M&E systems, central M&E staff are merely responsible for supervising the production and compilation of M&E information at organisational or complex programme level, and then making sure it is sent to different parts of an organisation to be used appropriately. But in some organisations, central M&E staff play a more active role in supporting management decision-making. This might involve attending regular management meetings, providing policy or learning briefs, contributing bespoke summary reports, liaising with donor or government agencies, or providing specific information to boards or trustees. The regularity with which central M&E staff are engaged in these processes, and the extent to which they influence management decisions, are often good proxy indicators for how much an organisation or complex programme values its M&E function.

The organisation or facilitation of special studies:
Frequently, information arising out of monitoring, review, evaluation or impact assessment processes highlights the need to look further into an issue, but does not necessarily provide all the information needed to take management decisions. In such cases, further work may be required to provide more robust information. This often takes place through special studies, such as one-off evaluations, research studies, impact assessments, major reviews or sense-making events.

There may also be times when an organisation wants to carry out a study that is not dictated by evolving findings. For example, an organisation might decide to launch a major, cross-programme impact assessment because it believes enough time has elapsed for the impact of a specific working approach to be assessed. Or there might be existential challenges to an organisation or complex programme that require deeper or more robust evidence of change to be produced.

In either event, central M&E staff usually have a major role to play in facilitating these studies. It is arguably the most interesting aspect of work within a complex M&E system. This is because the studies have the potential to provide real insight into what an organisation is, or is not, achieving, and, crucially, what to do about it. Sometimes, central M&E staff can help design and plan a study, but commission others to do the actual work. At other times they may lead on the work themselves. Or they might even leave the entire design, planning and implementation of the study to others. Either way, there must be clear plans for how study findings will be used, and for ensuring that any necessary adjustments to the complex M&E system are followed through afterwards.
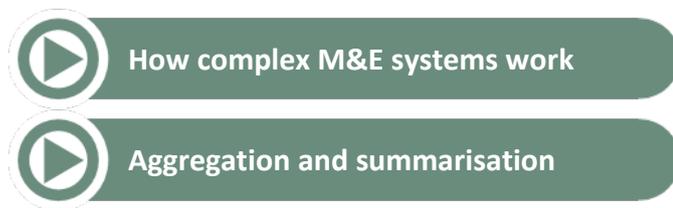
Summary

A complex M&E system cannot just be designed and subsequently left to run itself. There will usually be an initial design stage that may or may not be based on existing systems, processes and practices. After this initial design stage has been conducted, constant work is required both to maintain and support the system, and to review and adjust it to ensure it remains fit-for-purpose.

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.

Earlier papers in this section of the M&E Universe on complex M&E systems can be found by clicking on the links below.

▶ How complex M&E systems work

▶ Functions of a complex M&E system

▶ Aggregation and summarisation

▶ Strategic decision-making

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