

# AGGREGATION AND SUMMARISATION



CSOs sometimes need to summarise or aggregate information across multiple interventions. This can be a difficult and challenging task, especially for large non-governmental organisations (NGOs) working in many different countries and/or sectors. Summarisation and aggregation can be achieved through a variety of methods. However, all come with associated costs.

CSOs sometimes need to generate and present information on activities or results across their entire organisation, or large parts of it. This task may involve summarising or aggregating information across multiple interventions. It can be a difficult and challenging task, especially for large non-governmental organisations (NGOs) working in many different countries and/or sectors.

A CSO might want to aggregate or summarise across multiple interventions for many reasons. These include (see Levine et. al. 2016):

- to meet donor requirements, if the presentation of results at organisational or complex programme level is a condition of funding;
- to provide internal management with the information needed to support strategic decision-making;
- to respond to the perceived needs of boards, trustees or senior leaders;
- to support marketing or fundraising work, or to support the production of bids or proposals;
- to communicate overall results to rating agencies and/or public supporters;
- to demonstrate transparency and accountability to partners and supported communities; and
- to enable internal staff to better understand how different projects and programmes fit together to contribute to wider goals, particularly within international federations, confederations or coalitions.

A number of different approaches to summarisation are explored in this paper. They are not mutually exclusive, and multiple different approaches may be pursued at the same time within an organisation or complex programme. The approaches have been divided into seven areas:

- direct indicators
- aggregated indicators
- framing or basket indicators
- questions
- narratives
- graphic presentations
- strategic assessments

## Direct indicators

*(Please note that within this paper the word **portfolio** is used to denote the entire work of an organisation or complex programme, or significant parts of it.)*

It is sometimes possible to develop indicators that allow organisations to assess portfolio change directly. This happens when organisations or complex programmes set direct indicators at portfolio level, and collect them using either their own central-level resources or secondary sources. This means that the indicators do not rely on information collected at other levels of the organisation or complex programme. This is likely to be achievable in three circumstances.

- Firstly, if a CSO is big enough or important enough in a field of work then it may be able to directly measure change in this field, and demonstrate a contribution to that change. For example, a CSO set up primarily to encourage countries to adopt and implement a specific UN resolution might choose to record how many countries are doing so, and then attempt to identify its own particular contribution to any positive movement. This means it needs to be able to show that any movement in the change being measured is at least partly down to its own efforts.
- Secondly, CSOs may develop indicators to directly assess their centrally-led efforts to support a moderate number of partners, policies, events, or other unit of analysis. For example, an International NGO could carry out a survey with all its partners in order to assess the extent to which its partnership (or capacity development approach) is valued, and then develop some simple indicators derived from that survey. Or it could focus indicators on one or two key policies or events at global level it is trying to influence.
- Thirdly, if a CSO is able to use secondary sources to identify changes in different sectors and countries, it might then work backwards to assess its own contribution. For example, a CSO could identify progress in one or two Sustainable Development Goals (SDGs) in different countries, and then provide a rationale for how it has influenced any changes observed. There are many different indicators and indexes that can be used for this purpose, such as the Corruption Perceptions Index, the Ibrahim Index of

African Governance, the State Fragility Index, etc. (OECD 2014).

Where feasible, direct indicators are often the best kind of indicators for measuring portfolio change. Unfortunately, however, there are only a few circumstances in which they are appropriate. The alternative is to develop portfolio-level indicators, and then to link them to indicators at lower levels of an organisation or complex programme. The next three approaches all do this in one way or another.

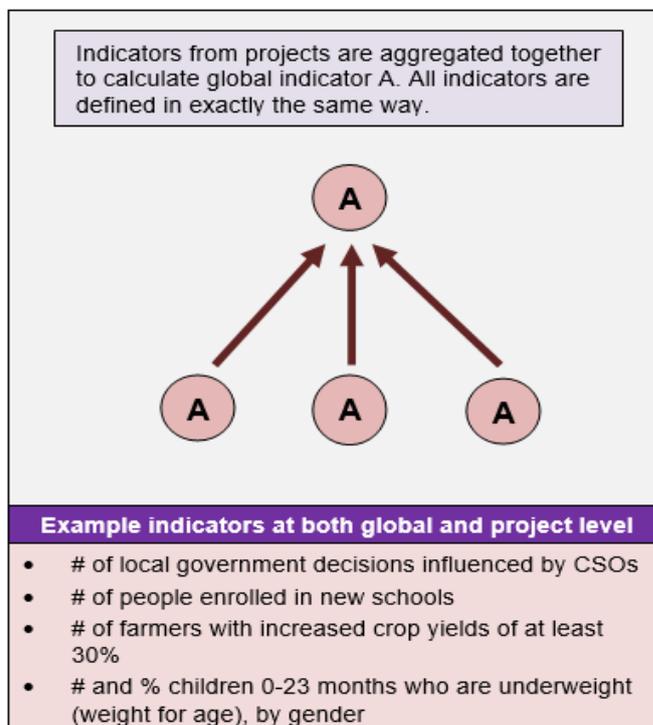
## Aggregated indicators

One solution is to aggregate quantitative indicators from multiple projects to form an aggregated indicator at portfolio level (see diagram opposite). This sounds easier than it is. For such a system to work, organisations need to ensure that all projects are collecting the indicator in exactly the same way. Specifically:

- the same indicator definitions need to be used;
- all relevant projects or programmes need to collect the information;
- results need to be assessed over similar timescales;
- the same (or similar) tools and methods need to be used to collect the information;
- the quality of information collection needs to be consistent; and
- contributions to change should be broadly similar.

The risk otherwise is that different numbers are added together to form a meaningless aggregated number. For instance, there is no point developing an aggregated indicator such as ‘# of government decisions influenced by CSOs’ if there is no common agreement on what constitutes a government decision, or what level of influence meets the threshold, or which CSOs should be covered under the indicator.

Aggregation is more commonly used at activity or output levels – for example counting the numbers of schools built, credit groups supported, or beneficiaries reached across a portfolio. It is less commonly used at outcome level, and is used mainly in situations where there are industry standard indicators, and when the time gap between outputs and outcomes is relatively short (such as survival rates for operations or weight increase in nutrition programmes). As outcomes become more complex and intangible, the difficulties grow. Consequently, aggregation is rarely applied in complex sectors of work such as governance, conflict resolution or the mobilisation of civil society, where outcomes tend to be more context specific.



A major implication of using aggregated indicators is that all relevant projects and partners need to adopt the standardised indicators, whether or not those indicators are of any use to them in their own work. At best this can result in unnecessary administrative burdens; at worst it might mean projects and/or partners spend little effort ensuring the information is collected accurately, which may make it unreliable.

A common alternative is to use core indicators. As with aggregated indicators, these are standardised. However, they are usually provided as a menu for projects and partners to choose from, rather than being compulsory. They are then used to demonstrate change in multiple places so that changes can be contrasted and compared. Core indicators still need to be defined in a consistent way, and the same tools and methods for collection may need to be used. But there is less need to ensure that contribution levels are the same, or that change is collected over the same timescales.

For example, a CSO could capture information on improvements in child nutrition in 20 projects using the same indicator, but not necessarily attempting to aggregate them. This allows for summarisation across different timescales, as in the table below. Core indicators can allow a measure of summarisation if presented appropriately. Some level of aggregation might still be possible on a

Indicator: % of boys and girls, aged 6 – 59 months, stunted			
Project	Baseline	Timeframe	Current
Project 1	50%	2012-	30%
Project 2	30%	2015-	-
Project 3	25%	2009-2014	5%

sample of projects (those with common timeframes), but the information may be richer and more informative when differences can be seen as well as similarities.

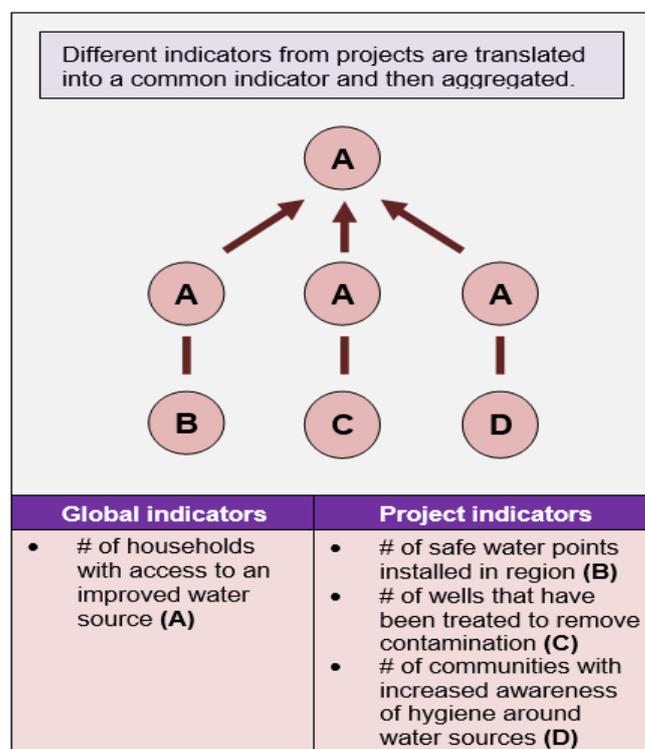
Another way of avoiding imposing indicators on projects or partners against their will, while allowing for some level of aggregation, is to use translated indicators. In this approach, projects are allowed to report on different indicators, and then those indicators are translated into a common indicator. This can either be done early in the process by the project staff themselves, or more commonly later on by central M&E staff. The common indicator can then be treated as an aggregated or core indicator.

For example, in the diagram opposite three different project indicators are all converted into a common portfolio indicator before being aggregated. It should be possible to measure or estimate the number of households with access to newly installed water points (indicator B). It should also be possible to measure or estimate the number of households being served by wells treated for contamination (indicator C). It might be much harder to estimate the number of households with increased access to an improved water source as a result of increased awareness of hygiene around water sources (indicator D), but it would still be possible. After translation, the three numbers could then be aggregated under the common portfolio indicator ‘# of households with access to an improved water source’ (A).

There are many examples of these kinds of indicators being used within planning and M&E work. For example, in cost-benefit analysis, different kinds of social benefits are routinely translated into monetary values to enable comparison of costs and benefits; whilst health programmes often convert different indicators collected within projects into DALYs (disability-adjusted life years) – understood as the number of years of healthy life.

Another way of enabling translation is to use rating or scalar tools to translate qualitative concepts into rating indicators that can be handled via quantitative methods. Many tools and methodologies of data collection and analysis result in ratings being produced. Rating tools are widely used within areas of work such as policy influencing, capacity development, partnership and community mobilisation, where results are often contested or intangible. Rating indicators are a form of translated indicator, but are more likely to be coded at an earlier stage in the process. For instance, a supported partner may rate its own capacity over time, rather than passing data upwards to be rated at a higher level.

Ratings such as RAG (red, amber, green) are commonly used when assessing internal organisational performance. For example, projects may be asked to rate themselves according to how well they are progressing, how far they are successfully engaging beneficiaries in M&E, or any other conceivable criteria. A clear benefit of using rating indicators is that they allow aggregation of change across a portfolio, even when the changes are different and inherently qualitative.

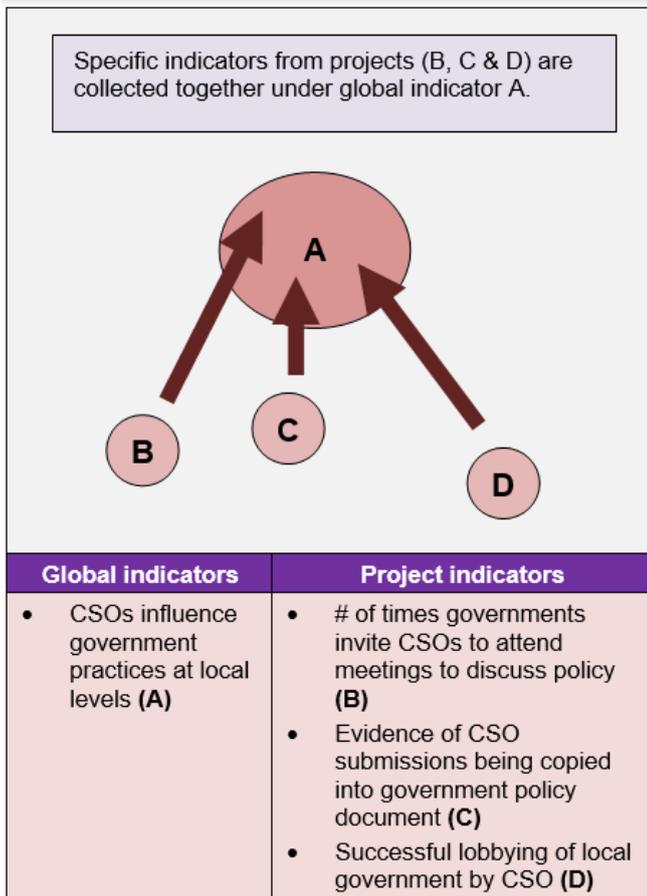


## Framing or basket indicators

Framing indicators, sometimes known as basket indicators, are not specific, and cannot be collected directly. Instead they are used to identify broad areas or domains of change at portfolio level, such as ‘changes in the way that CSOs influence government’, ‘improvements in policy and practice regarding bullying in schools’, or ‘improvements in relationships between different communities’. More specific indicators at programme or project level are then captured and summarised under the framing indicators. Framing indicators are often cascaded downwards; they are very broad at portfolio level, and become successively narrower and more focused at lower levels, such as country, programme and project levels. The information collected at lower levels can then be collected together and summarised at higher levels. This type of indicator is essentially a mechanism for collecting together and summarising a number of specific changes under a common theme.

For example, in the diagram on the following page, the portfolio indicator ‘CSOs influence government practices at local levels’ cannot be collected directly. Instead it relies on tangible information being collected at lower levels. Thus the three tangible pieces of information labelled as B, C and D in the diagram can be collected under the one indicator at portfolio level to illustrate ways in which civil society is influencing local government across different regions, countries, programmes and projects.

In the example, the project indicators may be quantitative or qualitative, or a mixture of both. Indeed, they need not necessarily be indicators at all, and information on unexpected or negative changes can be mapped onto the portfolio indicator as well. One big advantage of using



their own. They may give some idea of scale, but deeper information is required. For example, there is a big difference between being invited to add to the wording of a policy that is about to be implemented by a sympathetic government, and generating genuine support for a policy that has never before been on a government's agenda. Mixed indicators are a way of enabling a degree of quantification of change around a common theme, whilst recognising that there may be significant differences between those changes. As with framing and translated indicators, they do not rely on standardised indicators being specified at project level.

## Questions

Questions are viable alternatives (or supplements) to indicators. They are routinely developed and used in evaluations and research studies, but are less commonly used within M&E systems. Two types of questions can be developed at portfolio level: questions focusing on change, used to summarise results; and learning questions, used to synthesise and summarise lessons across a portfolio. Questions are often used instead of indicators in situations where change cannot easily be predicted beforehand, or where an organisation is interested not just in whether something has happened, but how and why it happened. For example, a question such as *'what are the best ways of changing teaching practice within schools?'* could not easily be turned into a qualitative indicator.

framing indicators is that lower levels such as programmes and projects can collect indicators and produce reports which are useful to them and reflect their own needs without referring to the portfolio indicator. Indeed there is no technical reason why a project should know about the portfolio indicator at all.

A variant of this type of indicator is a mixed indicator. Mixed indicators are usually expressed as *'# and description of cases where ...'* followed by whatever change an organisation wishes to capture. They are used for two main reasons. One is to add a sense of scale to qualitative indicators. For example, if a CSO wishes to capture examples of how its pilot studies have been replicated it might set a framing indicator such as *'extent to which pilot studies have been replicated'*. But if the NGO needs to place this indicator within a logical framework for accountability purposes it will find it hard to set milestones or targets. Developing a mixed indicator (such as *'# and description of cases where pilot studies have been replicated'*) allows milestones and targets to be defined in quantitative terms whilst still providing qualitative reporting. It also provides some sense of the ambition or scale of change.

The second reason is to ensure there is a qualitative element to quantitative indicators. Indicators such as *'lowered maternal mortality rates'* or *'increased education enrolment'* may be clearly understood if used in isolation. But other kinds of numeric indicators need to be supplemented by qualitative information if they are to make any sense. For example, indicators such as *'number of policy changes'*, *'uptake of pilot studies'*, or *'number of organisations with increased capacity'*, make no sense on

Questions can be quite general in nature, but they can also be formed as testable hypotheses. A hypothesis is a statement which often includes a prediction, such as *'supporting communities through capacity development will empower them to engage more with local governments'* or *'providing clean water to villagers will result in improved hygiene around water sources'*. These statements (or questions) can then be examined to test their validity by collecting and analysing evidence that reinforces or rejects the hypotheses.

There are many possible ways of using portfolio-level questions within a complex M&E system. One obvious solution is to include questions within results frameworks at different levels of an organisation or complex programme. This has not always been common practice because the logical framework approach, with its focus on specific objectives and indicators, has dominated donor thinking, and does not allow for evaluation questions or specific learning questions. However, more and more CSOs are introducing evaluation and/or learning questions into their results frameworks, and this kind of approach may soon become mainstream.

## Narratives

Narratives (e.g. stories of change, case studies, testimonials) are valid ways of reporting activities, changes and learning. Most larger CSOs invest heavily in narratives. However, they have not always been used well within CSOs, and some donors mistrust them because they are perceived to be anecdotal, or designed primarily for

marketing and fundraising purposes. Yet narratives are also one of the most powerful ways to communicate change and learning within a complex M&E system.

Two major issues need to be addressed when using narratives for summarisation purposes. Firstly, the narratives need to be properly developed, validated and communicated. Secondly, if a range of narratives is used for summarisation purposes CSOs need to be candid about what each one represents (i.e. why it has been selected rather than other potential narratives) and how it has been developed. If the rationale and method of production of narratives is transparent and systematic, this reduces the risk of them being dismissed as anecdotal or misleading.

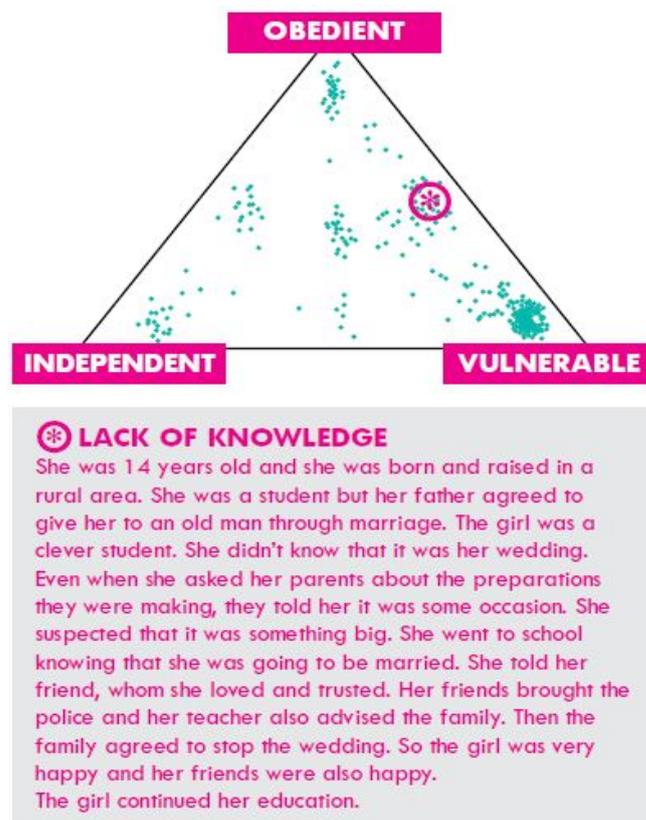
A credible process for summarising multiple narratives can be developed in two major ways. The first is to use an appropriate and approved qualitative sampling strategy, as would be done in a formal research study. The second is to use an approved M&E methodology for handling multiple cases, such as the Most Significant Change technique (MSC), Qualitative Comparative Analysis (QCA), outcome harvesting, or some forms of longitudinal (tracer) studies.

## Graphic presentations

Summarisation and aggregation may be expressed through numbers and narratives. But there are also endless opportunities for using more creative ways to visualise change. Advancements in Information Technology should allow much more scope in the future for developing innovative and interactive ways of summarising change across broad portfolios of work. The more advanced expressions of this are beyond the scope of this paper. However, many organisations have already shown the potential for using a combination of narratives (stories) and either numeric indicators or ratings in order to demonstrate a range of changes.

One example comes from Girl Hub (2014) in Rwanda. Girl Hub used SenseMaker® software to generate girl-centred evidence. Girls were asked to share a true story about an experience in their lives, and were asked to rate the story against different dimensions: the extent to which they were obedient, independent or vulnerable; the extent to which they were conforming to or confronting tradition; and the extent to which they wanted/didn't want to do something, and then did/didn't do it.

Software was then used to produce graphs and diagrams to help make sense of all the multiple stories. The diagram opposite shows how the stories in Rwanda were distributed in terms of the obedience, independence and vulnerability of the girls. The diagram shows one particular story being highlighted from the range of potential stories. The method provides the ability to summarise by locating a narrative within a broader context. Although used as a research tool in this case, it is easy to see how the method could be adapted to summarise change across an organisation or complex programme.



## Strategic assessments

Many CSOs are expected to aggregate results on the assumption that overall effectiveness is always the sum of work carried out at different levels. When engaged in service delivery, capacity development or partnership work this assumption may to some extent hold true. But there are changes resulting from some CSOs' work that should not be summarised through a broad assessment of a portfolio, but more through in-depth assessment of change at strategic points. These might include:

- pilot projects that are mainstreamed or scaled-up by other agencies;
- transformational changes that alter the way other agencies do business;
- key lessons learned and disseminated that are then used by other agencies to bring about change; or
- innovative projects that diverge from business-as-usual approaches, with rigorous assessments of strengths and weaknesses.

All these examples could lead to impacts that go far beyond those that would traditionally be captured in a results framework. Reporting strategically in this way recognises the fact that – for some CSOs at least – the bulk of their impact comes through a small percentage of their work.

## The challenges of summarisation

The approaches described above, used in combination, provide plenty of options for summarising performance

across a portfolio of work. But whilst all are theoretically manageable, they are not without cost. There are many considerations that make such work practically or politically difficult.

- To start with, there are physical costs. CSOs need to decide how much they are prepared to invest in summarisation. Most of the approaches involve collecting and validating information from multiple points within an organisation or complex programme. Even when these costs are borne at partner or project level there may still be cost implications associated with validating or interrogating particular cases, or carrying out quality assurance checks.
- Another challenge is the time required to design, introduce and implement a system for aggregation and summarisation. A recent study completed by Levine et al. (2016, p2) suggests that *“almost without exception, NGOs underestimate the time and resources required to develop and deliver a well-functioning ALM [agency-level management] system. A comprehensive ALM system with a custom-designed data management platform may take close to two years to develop and another three years to produce quality data. Executives must either accept this timeframe, allocate adequate resources, and communicate widely to the organisation, or choose to start simple and small and build toward an ALM system by piloting, iterating, and adapting.”*
- The same report also raises the issue of capacity. For effective summarisation, staff in different places throughout an organisation need to have the capacity to collect and present information to a reliable standard. This is a particular challenge if staff are being asked to collect information that is of little or no use in their own work. Organisations or complex programmes also require the central capacity to analyse, synthesise and present different reports and visualisations that make the data useful.

- A more political problem is negotiating and agreeing a summarisation system within a decentralised organisation such as a confederation or an INGO that has devolved significant power to country offices (ibid). Reaching agreement on the purpose of a summarisation or aggregation system, potentially requiring standardised definitions and processes, may not be easy.

## Summary

Not all CSOs have to summarise or aggregate information across their portfolios. But some do, and it is one of the hardest things to do within a complex M&E system. Many methods can be used for summarisation and aggregation, but all come with associated costs. It is up to each CSO to decide whether or not it is worth it. Summarisation and aggregation approaches can help central M&E departments within CSOs to manage, be accountable to different stakeholders, and perform other functions such as marketing and fundraising. But not all CSOs can do this. Some organisations and complex programmes are simply not set up to measure or assess change at portfolio level.

Pursuing efforts to summarise performance across a portfolio within a complex M&E system involves trade-offs. There are trade-offs between the resources required to carry out M&E work, and the value this brings to an organisation or complex programme. There are trade-offs between getting field offices or partners to present information in a way that allows for easy aggregation or summarisation, and allowing them more freedom to collect and present information that serves their own purposes. And there are trade-offs between pursuing M&E processes that suit the internal purposes of a CSO, and meeting the needs of external stakeholders such as donors. These trade-offs need to be constantly managed and reassessed.

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## Further reading and resources

This short paper is based on a much longer paper produced for INTRAC, called *“Summarising portfolio change: results frameworks at organisational level”*, by Nigel Simister. It is available from the INTRAC website at <https://www.intrac.org/wpcms/wp-content/uploads/2016/09/Summarising-portfolio-change-results-frameworks-at-organisational-level.pdf>.

The next paper in this section of the M&E Universe addresses how to use M&E information to contribute to strategic decision-making and adaptation at organisational (or complex programme) level. Another paper in the *‘Planning and M&E’* section of the M&E Universe provides a bit more information on how to develop and use programme indicators. The paper on *‘Impact grids’* in the *‘Data Analysis’* section of the M&E Universe covers further examples of how to combine narratives with ratings to graphically present changes across a portfolio. Narratives are covered further in the paper on *‘case studies and stories of change’*. These papers can be accessed by clicking on the links below.



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