C.B. Mapitsa & C. Churchill (eds.). Monitoring Systems in Africa. Stellenbosch: African Sun Media

MONITORING SYSTEMS IN AFRICA

Caitlin Blaser Mapitsa & Catherine Churchill

10.52779/9781991260154/06

C.B. Mapitsa & C. Churchill (eds.). Monitoring Systems in Africa. Stellenbosch: African Sun Media

Chapter 6: A Systemic Lens to Indicator Development and Analysis

Jamie Robertsen

Introduction

Indicators are central to the development and implementation of monitoring systems. Depending on how the indicators themselves are developed and tracked, indicators can provide helpful information within a monitoring system. Equally, indicators can add a layer of cumbersome compliance to already overloaded monitoring and evaluation (M&E) teams.[22] Due to top-down approaches to selecting indicators, using indicators that are not fit-for-purpose, the expense associated with indicator tracking, low levels of use, and not accounting for complexity, indicators have become a controversial component of monitoring systems.

Box 1: What are indicators?

"Indicators are the quantitative and qualitative variables that provide a simple and reliable means to measure achievement, to reflect the changes connected to an intervention, or to help assess the performance of an organisation against the stated outcome" (Kusek and Rist 2004:65). Indicators:

1. Provide a simple and reliable way to measure achievement;
2. Reflect the changes connected to the intervention; and
3. Help assess performance against an objective.

In the field of M&E, indicators are often assessed on the extent to which they are Specific, Measurable, Attainable, Relevant, and Time-bound (SMART); Clear, Relevant, Economic, Adequate, Monitorable (CREAM); or Subjective, Participatory, Interpreted, Cross-checked, Empowering, or Disaggregated (SPICED). While there are other measures, these are the most common (World Bank, 2007). SMART and CREAM tell us what the indicators should look like, while SPICED gives us additional information on how the indicators should be used and developed (Lennie, Tacchi, Koirala, Willmore and Skuse 2011).

22 While this chapter focuses on monitoring specifically, where staff (practitioners), teams, or systems are referenced, the chapter notes these as M&E teams / M&E practitioners / M&E systems. This is because these functions are rarely separated in organisational structures or staffing.

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Indicators provide managers and decision-makers with key information on the achievements, changes, and performance of their interventions (Kusek and Rist 2004). When this information is received timeously, decision-makers and managers can adapt and course-correct where needed. In the context of monitoring systems, indicators provide a framework for the monitoring system and guide the type and frequency of data collected.

Monitoring does not take place in a vacuum but a system. Interventions are complex and take place in different contexts characterised by multiple stakeholders with different interrelationships, levels of power, and contrasting views. Better understanding the systems in which monitoring occurs improves the practicality and depth of the approach to indicator development, analysis, and use.

With this in mind, this chapter uses a critical systems thinking lens to view indicator development, analysis, and use. Furthermore, this chapter aims to provide evidence and insight on indicators for African M&E practitioners. The chapter begins by outlining the challenges that practitioners face in the context of indicators, drawing on the experiences of African countries (Section 2). With a clear understanding of the challenges that M&E practitioners face, the chapter then grounds the discussion on indicator development and analysis, particularly the importance of meaningful measurement and use, in systems thinking (Section 3). Within a systems thinking perspective, the chapter focuses specifically on indicators in the context of complexity, boundaries, interrelationships, and contrasting perspectives (Section 3.4). The chapter concludes by looking at what a systems lens means for indicator use and influence (Section 4).

Challenges in the Development and Analysis of Indicators

Indicators are challenging and become a controversial piece of monitoring systems when: (i) they are developed in a way that does not take context and complexity into account, (ii) they are not useful, (iii) they are not developed in the context of the existing capacity or resources of a team or organisation, and (iv) they are seen as an external or top-down compliance measure. Focusing specifically on developing countries, a criticism of monitoring is that it emerged as a practice from countries with greater institutional capacity and more resources (Blaser-Mapitsa and Khumalo 2018).

Indicators can reduce reality to numbers, while reality is complex and nuanced (De Kool and van Buuren 2004). Furthermore, when indicators are not developed with the context in mind, they tend not to provide useful or needed information (UNAIDS). The following sentiment best sums this up: "It is important to keep indicators to the minimum and not to indulge in 'data greed', but once people are collecting the information, they should use it and act on it" (Silitonga et al. 2013:43).

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In 2015, the International Labour Organisation (ILO) commissioned a meta-study to draw lessons from the evaluations and M&E systems that the organisation had developed and completed. Overall, the study found that there was inadequate measurement across the full results chain of the interventions, which minimised the extent to which the indicators could reflect a complete picture of the interventions (Lahey 2015). Similarly, in a study of the national M&E systems of Benin, South Africa, and Uganda, it was found that 45% - 52% of monitoring focuses only on activities and outputs, limiting the full view and potential impact of an intervention (Goldman, Olaleye, Ntakumba, Makgaba, and Waller 2021).

A challenge that is frequently brought up in the literature, but does not relate to indicators specifically, is low levels of monitoring capacity (Dipela and Mohapi 2021), which is particularly true for smaller organisations and under-staffed M&E units. Holvoet, Gildemyn, and Inberg (2012) assessed the M&E systems of 20 aid-dependent countries in sub-Saharan Africa. Coordination and oversight were categorised as satisfactory in 25% of the countries studied, and partially satisfactory in 75%. Of the same twenty countries, 15% had excellent capacity building plans, 5% had satisfactory plans, 60% had partially satisfactory plans, and 15% had weak plans. These findings point to considerable capacity and management constraints. Goldman et al. (2021) mirror these findings by highlighting that in Benin's M&E system, a high turnover of staff, low levels of institutional memory, and limited resources contribute to capacity constraints in the system; while in Uganda, the government's M&E system is understaffed and the M&E capacity levels are low.

The 2015 study commissioned by the ILO also noted that indicators often served an administrative purpose, were used to report on activities, and were used to reach milestones that would result in a release of funds (Lahey 2015). This aligns with a commonly held view that indicators are tools of compliance and accountability (Dipela and Mohapi 2021) and are a means for funders to exert power (De Kool & van Buuren, 2004). When indicators are used as an external donor or internal top-down compliance tool, low stakeholder engagement and participation levels often result in indicators not wholly owned by an organisation (Kusek and Rist 2004). Low levels of buy-in negatively impact the extent to which indicators are meaningful and can be measured and used. In Benin and Uganda, for example, donors play a prominent role in funding government-level monitoring. In both countries, monitoring is seen as compliance-driven, staff have reporting fatigue, and managers only use 50% of the monitoring data collected (Goldman, Olaleye, Ntakumba, Makgaba, and Waller 2021). In the study mentioned above on the M&E systems of 20 countries in sub-Saharan Africa, 45% showed partially satisfactory use of monitoring data, and 55% showed weak use of monitoring data (Holvoet, Gildemyn and Inberg 2012).

While these challenges are numerous, there are several strategies to mitigate the extent to which they affect the development of meaningful and useful indicators. An

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important starting point to mitigate these challenges is the adoption of a systems thinking lens to indicator development, analysis, and use. A systems thinking approach grounds indicator development in what a system is in reality rather than an idealised version. Once a system's complexities, boundaries, and interrelationships are understood, practical approaches to indicator development can be adopted.

Systems Thinking as a Lens to Improve Meaningful Measurability

The systems in which M&E practitioners operate are inherently complex in that interventions, and the systems in which they operate, have attributes that are difficult to understand and conceptualise; there are often multiple perspectives and interests. The intervention within the system is non-linear, and there are high levels of uncertainty.

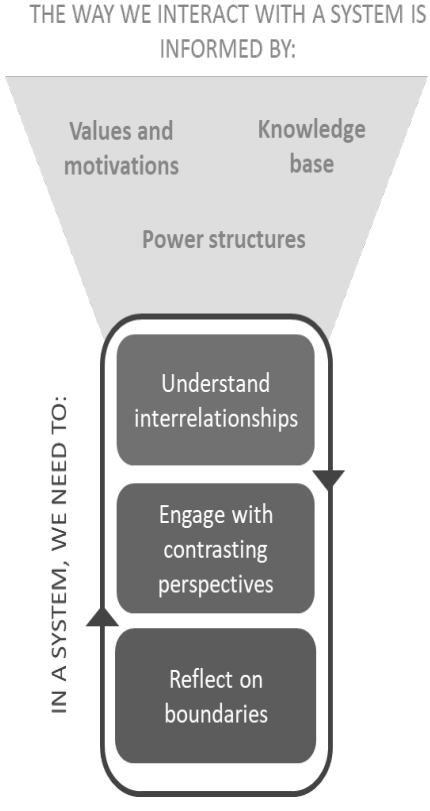

Figure 6.1: Critical systems thinking

Source: (Reynolds, 2014)

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There are three critical elements to understanding and conceptualising a system, as shown Figure 1: (i) reflecting on the boundaries in which you are working, (ii) understanding the interrelationships within a system, and (iii) engaging with contrasting perspectives. Furthermore, values and motivations, a knowledge base, and power structures inform how stakeholders interact with a system (Reynolds, 2014).

The work done by Reynolds (2014) on the use of critical systems thinking in evaluations is adapted and used as the framework through which this chapter applies a systems lens to indicator development and analysis. Table 1 shows the stakeholders, stakes, and stakeholding issues that should be considered when assessing a monitoring system for who gets what, who owns what, and who does what.

This framework provides a way to understand the boundaries and stakeholders (and their interests) within a monitoring system.

Table 6.1: Reynolds, *Boundary judgements for informing a monitoring system*, 2014

Sources of influence in a monitoring system	Boundary judgements informing a system of interest for an intervention (policy, programme, project)			
	Stakeholders	Stakes (specific interests)	Stakeholding issues (key problems)	
Who gets what? *Sources of motivation*	1. Primary users *Who will receive the data from the indicators collected and analysed?*	2. Purpose *What do the primary users need the data for? How will they use it?*	3. Measure of success *What do good, meaningful, practical indicators look like in this context?*	
Who owns what? *Sources of control*	4. Decision-makers *Who has the resources and influence to develop, collect and analyse the indicators for the monitoring system?*	5. Resources *What resources are available for indicator development, data collection, and analysis? What can practically be done with these resources?*	6. Decision environment (accountability) *Who is ultimately responsible (and accountable) for using indicator data?*	*The involved*
Who does what? *Sources of knowledge*	7. Experts *Who will be responsible for developing indicators, collecting data and analysing the collected data? Who will manage this process?*	8. Expertise *How much capacity is available in the organisation or unit outside the direct management and team? What can practically be done with this capacity?*	9. Guarantor *Who will provide additional advocacy and leadership support to the indicator development, analysis, and use process? Will the work feed directly into decision-making structures?*	

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In answering these questions, the M&E practitioner will know:

- The users of their data and the needs of these users to develop a practical, meaningful set of indicators.
- The key decision-makers with the resources to develop and analyse indicators, and what resources are available for this undertaking. This allows the M&E practitioner to develop a monitoring system and indicators within the resource parameters of their team or organisation.
- Who is responsible for developing and analysing the indicators, and how much additional capacity and support is available for this endeavour? This allows the M&E practitioner to develop a monitoring system and indicators within the capacity constraints of their team or organisation.

Once the bounds of the system are understood, it is possible to make indicator decisions that are meaningful and fit-for-purpose. The first of these decisions is whether the approach to developing the indicators will be results-based or informed by a logic model, or whether the approach will include standardised indicators (see Box 2).

Box 2: The pros and cons of using standardised indicators

Various standardised indicators are available – ranging across multiple sectors and multiple levels of government – from national to regional and multilateral. These include, for example, (i) sets of indicators aligned with country-level national development and poverty alleviation plans, (ii) indicators linked to the Sustainable Development Goals (SDG), (iii) bilateral donor indicators such as USAID's standard indicators, and (iv) the indicators in the World Bank's Rural Development Handbook (World Bank 2007).

The pros of using standardised indicators are that the effects of projects, programmes, and policies can be aggregated and compared; the cost of building unique measurement systems is reduced; and there can be harmonisation across donor requirements (Kusek and Rist 2004). Primarily, the pros tend to favour donors and governments in that standardised indicators enable them to aggregate the impacts of their interventions.

The cons of standardised indicators typically relate to the interventions (projects, programmes, policies) themselves. The use of standardised indicators amplifies the feeling of a top-down or imposed approach to indicators and monitoring; there is less participation and ownership; and if an organisation has multiple funders, it can lead to too many, sometimes competing, indicators (Kusek and Rist 2004; Moreno Pires, Magee and Holden 2017).

Indicators Within a Results-Based Management System that is Grounded in the Practicalities of Stakeholders, Resources, and Capacity

The most promoted approach to monitoring is results-based management because it focuses on monitoring as part of a broader decision-making toolkit. It focuses on both the process and implementation aspects of an intervention and its results (Lamhauge, Lanzi and Agrawala 2013). A results-based management approach to

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monitoring and indicator development typically begins with articulation of the logic of an intervention, either in the form of a logical framework, results chain, or theory of change.

Articulation of the logic of the intervention and its intended outcomes allows common understanding of the processes to be undertaken and affords a view of what success would look like. This is shown in Table 2, which summarises the steps for establishing an M&E system (Kusek and Rist 2004), and the steps to monitoring a programme, as set out by the Donor Committee on Enterprise Development (DCED) (Sen, Kessler and Loveridge 2018). Once this has been articulated, indicators are developed to align with the logic of the intervention, user and decision-maker needs, and resources and capacity available in the system.

Table 6.2: Indicators in the context of monitoring systems and monitoring programmes

Ten steps to a results-based M&E system			Steps to monitoring a programme	
1	*Conduct a readiness assessment*		*1*	*Articulate the results chain (theory of change)*
2	*Agree on outcomes to monitor and evaluate*		*2*	*Define indicators of change, other information needs*
3	*Select key performance indicators to monitor outcomes*		*3*	*Measure attributable change*
4	*Set baselines and gather data on indicators*		*4*	*Capture wider changes in the system*
5	*Plan for improvement – selecting results targets*		*5*	*Track costs and impact*
6	*Monitoring for results*		*6*	*Report costs and results*
7	*The "E" in M&E – Use evaluation information to support a results-based management system*		*7*	*Manage the system for results measurement*
8	*Report the findings*		*(Sen, Kessler and Loveridge 2018)*	
9	*Use the findings*			
10	*Sustain the M&E system within the organisation*			

(Kusek and Rist 2004)

Kusek and Rist (2004:65) argue that "indicators should be developed for all levels of the results-based M&E system, meaning that indicators are needed to monitor progress with respect to inputs, activities, outputs, outcomes, and goals. Progress needs to be monitored at all levels of the system to provide feedback on areas of success and areas in which improvement may be required". Within this approach, input indicators measure the resources needed for the intervention, process indicators measure the implementation of the activities of the intervention, output

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indicators measure the effectiveness of implementation, and outcome indicators measure the extent to which an intervention met its objectives (Huovila, Bosch and Airaksinen 2019).

Using a results-based management approach addresses several indicator-related challenges. It provides implementers and decision-makers with a fuller picture of the intervention, and the developed indicators are aligned to the objectives of the intervention. However, it is important to note that the indicators developed from a logical framework or theory of change should still be bound to the practical feasibility of their collection, analysis, and use. Prioritisation is central to developing indicators that will be tracked. In a study conducted by Holvoet and Renard (2007), it was found that nine of the 20 countries' M&E systems in sub-Saharan Africa had long lists of indicators, with Ethiopia being the highest at more than five hundred. In a later study, Holvoet, Gildemyn, and Inberg (2012) found that of the same twenty countries, 40% were considered weak in indicator priority setting, 40% were considered partially satisfactory, and 20% were considered satisfactory.

Box 3 highlights the importance of indicator prioritisation.

Box 3: Lessons learned from an assessment of the M&E systems of social interventions in Ghana, Kenya, Moldova, and Mozambique

Background

A 2014 study commissioned by Oxford Policy Management (OPM) looked at monitoring systems and developed key lessons on Social Safety Net (SSN) interventions in Ghana, Kenya, Moldova, and Mozambique. The interventions were: i) the Livelihood Empowerment Against Poverty (LEAP) cash transfer programme in Ghana; ii) the National Safety Net Programme (NSNP) in Kenya, which brings together five existing cash transfer programmes; iii) the Ajutor Social programme in Moldova, which provides cash benefits to applicants who fall below a certain income threshold; and iv) four different SSNs in Mozambique, including the country's largest cash benefit intervention, Programa de Subsidio Basico (PSSB).

The study used a supply-and-demand model as a framework for analysis. Based on this, the key conclusion on M&E systems is that when effective, they address both supply-side and demand-side factors. On the supply side, these systems provide reliable information, and on the demand side, these systems create the demand for and use data to support the SSN interventions.

Findings

Two key lessons were apparent, looking specifically at indicators in the SSN interventions in these four countries. The first was that indicators should be defined based on the information needs of the SSN intervention. The second was that arriving at both useful and feasible indicators required a process of prioritising, refining, and organising as an iterative process.

Indicators should be defined based on the information needs of the intervention

Based on a review of SSN interventions in the countries mentioned above, it is clear that indicators are useful and are used when they are demand driven. Information needs were found to depend mainly on i) the intervention's objectives, its theory of change, or results framework, and ii) the needs of different actors and stakeholders.

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Indicators are developed through an iterative process of prioritising, refining, and organising

All four interventions undertook a process of extensive mapping of information needs and indicators. In Ghana, this initial consultation process resulted in more than one hundred indicators, and in Mozambique, the number was closer to two thousand. This initial process of consultation was central to building buy-in.

Once this long list of indicators was developed, more consultations and workshops were held with the system's main users to prioritise indicators. Key considerations in this prioritisation process were the accessibility of data for the indicators and identifying data sources.

In refining the indicators, the key criterion was the extent to which the proposed indicators were Clear, Relevant, Economic, Adequate, and Monitorable (CREAM).

Finally, the prioritised and refined indicators were organised based on their use. For example, in Ghana and Moldova, the indicators were organised into indicators for programme operations and management and indicators for results (Attah et al. 2014).

One of the first steps towards developing meaningful indicators is to ensure that the indicators are useful and fit-for-purpose. Meaningful indicators reflect the objectives of the intervention, are precise enough to reflect the change, and are practical and cost-effective (Kusek and Rist 2004). The development of meaningful indicators provides a complete view of an intervention and ensures that the indicators developed are practically feasible to implement and can be measured.

Indicators that Take Stakeholder Consultation, Management, and Contrasting Perspectives into Account

Participatory indicator development and analysis mitigates several of the challenges related to indicators and is firmly grounded in a systems lens that advocates for understanding stakeholders, their interests and influence, and for the consideration of contrasting perspectives for a more realistic view of the system. Increased participation can elicit unique insights that provide contextual information about interventions and bring the voices of beneficiaries to the fore.

Increased participation means that indicators provide a fuller picture of an intervention, that the development of indicators is bounded in practical feasibility, and that indicators are not seen to be imposed. These all contribute to a sense of ownership for the implementers of the intervention, its stakeholders, and its beneficiaries. In addition to a greater sense of ownership, a participatory approach can improve the quality of indicators produced and the quality of data collected (Kusek and Rist 2004). An example of the benefits of participatory indicator development is provided in Box 4.

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Box 4: Participatory indicator development in the Kalahari, Botswana

Background

To develop meaningful environmental sustainability indicators that organisations, funders, decision-makers, and communities (in this case, pastoralists) could use, a team of researchers sought to develop a set of indicators for land degradation in the Kalahari in Botswana. Land management is central to environmental sustainability, and this work was undertaken because conservation work relies heavily on standardised indicators that are not necessarily useful to pastoralists.

The researchers undertook a four-step process: i) develop methods that can effectively integrate local and scientific knowledge on environmental sustainability indicators; ii) identify environmental sustainability indicators from pastoralists and available literature on the region; iii) evaluate this indicator knowledge qualitatively in community-level focus groups, and quantitatively using ecological and soil-based sampling; and iv) test the assumption that it is not possible to have both meaningful participation and scientific rigour. The researchers selected three sites where land degradation is a problem and where there were differences in biophysical and cultural settings.

Indicator Development

Through interviews, pastoralists were asked to identify signs on the land that would indicate land degradation over the long term. The pastoralists were asked to discuss which signs would appear first and might serve as an early warning. They were also asked to assess potential indicators based on how accurate they would be and how easy they would be to monitor and use. The researchers also used oral histories to understand historical environmental changes better.

Once a list of indicators was developed, these were monitored through ecological sampling and discussed in focus groups in the communities. A sample of these indicators is shown in the table below.

Results

Not all the indicators developed by the pastoralists were statistically significant. However, the researchers found the pastoralists to be a rich source of environmental sustainability and land degradation data. What the researchers found particularly useful was that the indicators were very localised and therefore more useful to the pastoralists than more standard environmental indicators. The researchers were also able to extend their indicator base beyond soil and vegetation. The pastoralists highlighted other important indicators of land degradation not traditionally used: (i) livestock spending more time eating bushes and foraging further from water points, and (ii) increased expenditure on goods typically sourced from the land.

Overall, local knowledge was more holistic in its development of indicators. The pastoralists were involved in developing these indicators and chose them based on accuracy and ease of use. The pastoralists, therefore, have some sense of ownership of the indicators and can continue monitoring their land.

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Indicators considered accurate to and easy to use by pastoralists, showing evidence from literature and empirical testing

Indicator	Supported by literature?	Site 1	Site 2	Site 3
Decreased grass cover	Yes	Significant	Significant	Significant
Increased abundance of grass unpalatable to cattle	Yes	Significant	Significant	Significant
Decreased abundance of grass palatable to cattle	Yes	Significant	Significant	Significant
Decreased availability of thatching grass	No literature	N/A for this site	Not significant	Significant
Decreased abundance in medicinal plans	No literature	Insufficient data	Insufficient data	Insufficient data
Decreased abundance of trees	No	Not significant	Not significant	Not significant
Stunting of trees and bushes	No	Not significant	Not significant	Not significant
Tree canopy die-off	No literature	Significant	N/A for this site	N/A for this site
Increased abundance of *boscia albitrunca*	No literature	Significant	N/A for this site	N/A for this site
Decreased abundance of *grewia flava*	Yes	Not significant	Insufficient data	Insufficient data
Increased abundance of *acacia mellifera*	Yes	Significant	N/A for this site	Significant
Decreased vegetation cover / increased bare ground	Yes	Significant	Significant	Significant
Decreased soil organic matter content	Yes	N/A for this site	Significant	Significant
Increased soil looseness	No	Not significant	Not significant	Significant
Increased density of cattle tracks	No literature	Not significant	Not significant	N/A for this site

(Reed, Dougill and Baker 2008).

In addition to the value of participatory development of indicators, indicators can also be assessed from the perspectives of a range of different groups, which can provide a more nuanced view of the intervention, as shown in Box 5.

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Box 5: The importance of disaggregating indicators

Background

The United States Agency for International Development (USAID) Resilient Waters Programme is a five-year programme that focuses on building communities' socioecological resilience in the Limpopo and Okavango River basins. The Programme aims to achieve this objective by working with transboundary river basin organisations and transfrontier conservation areas, improving access to water, sanitation, and hygiene, improving livelihoods, and supporting biodiversity and conservation.

The Programme's Monitoring, Evaluation, and Learning (MEL) team developed a composite indicator to measure resilience in the region. In doing so, Resilient Waters focused on the four capacities of resilience:

- Absorptive capacity: The ability of households to respond to shocks. Central to this is whom communities can turn to when there has been a shock or stressor – individuals, communities, and institutions.
- Anticipatory and adaptive capacity: The ability of a household to plan to prevent the negative results of future shocks.
- Transformation capacity: This capacity is concerned with existing power relations and building new social dynamics that shift resilience and reduce vulnerability to shocks.

The Importance of Disaggregating Data for Planning

In collecting data for this composite indicator, and to better understand absorptive capacity (who people turn to in times of crisis), the MEL team investigated the role of institutions in supporting communities. The baseline survey found that 56% of respondents reported that they know at least one organisation that they can turn to for help if their household is adversely affected by a shock or stressor that they cannot manage themselves.

When disaggregating the data, a more nuanced picture emerged:

- While 60% of males reported having at least one organisation to turn to, 53% of females reported having at least one. This highlights different levels of access to and trust in organisations across genders. From a planning perspective, Resilient Waters needed to develop a consistent and far-reaching approach to gender equity and social inclusion.
- Turning to youth (younger than 35) and non-youth (older than 35), there was no significant difference in whether people have an organisation to turn to for help. There was, however, a difference in outlook on whether these organisations could help. Youth tended to be more optimistic that these organisations could help (an average rating of 3.4 out of 5) compared to non-youth (an average rating of 2.8 out of 5). From a planning and programming perspective, this finding highlighted that youth are an effective, more trustful entry point for organisations working in these basins.

(USAID Resilient Waters 2019).

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Indicators that Shed Light on Multiple Levels and Scales of an Intervention

Meaningful indicators should, (i) allow their users to understand implementation better (process indicators), (ii) serve as an early warning system for any potential challenges, and (iii) improve their users understanding of the results of an intervention (outcome indicators) (Kusek and Rist 2004). Process indicators are concerned with inputs, activities, and outputs. Outcome indicators are concerned with outcomes and impacts. Including both sets of indicators provides a fuller picture of an intervention.

Process indicators are more easily measured and, therefore, more commonly used and requested by funders. These indicators are helpful because they reflect what happened, but they do not provide information regarding the extent to which what has happened has led to any tangible results (Lamhauge, Lanzi and Agrawala 2013). For example, a process indicator would tell us how many schools have been built (output level), but not how many children are attending the school, or in fact, receiving quality education from the schools (outcomes levels) (Lamhauge, Lanzi and Agrawala 2013). There are key benefits to developing meaningful indicators at both levels, as highlighted in the example provided in Box 6 below.

Box 6: Developing outcome indicators to understand better the effects of sports-based HIV/AIDS interventions in South Africa

Background

Sports programmes are a common intervention for building awareness and responding to HIV/AIDS. These programmes tend to be aimed at young people and specifically focus on developing confidence and supporting health and healthy behaviours in the context of HIV/AIDS. Sports-related HIV/AIDS interventions in South Africa have traditionally focused on output level indicators as a source of monitoring which tends to limit the understanding of the effectiveness of these programmes. With this premise in mind, Maleka (2017) sought to develop standardised outcome indicators that could be used to understand the results of sports-related HIV/AIDS programmes better.

Results

Based on consultations with key stakeholders and organisations, a list of 51 outcome indicators was developed, categorised by the type of results sought. In this context, one of the purposes of developing generic outcome indicators was to lower the time burden on local organisations to develop these indicators. The indicators reflect the realities of these interventions, and local organisations are therefore able to select the indicators that are most applicable to them.

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One of the categories of outcome indicators developed focused on stigma and discrimination. The table below outlines a set of generic outcome indicators that would show reduced stigma and discrimination towards people living with HIV/AIDS (PLWHA) (Maleka 2017:16). Output or process indicators for stigma and discrimination would typically focus on the activities associated with the intervention. For example, sports-related programmes could use education to reduce stigma and discrimination towards PLWHA. The process indicators would then focus on the extent to which the education took place and what participants learned from the activities. Outcome indicators would then build on this by providing insight into changes in participants' behaviours when it comes to stigma and discrimination.

Generic anticipated outcomes	Generic outcome indicators
Reduced HIV stigma and discriminatory attitude towards PLWHA.	Percentage of participants who report an accepting attitude towards PLWHA. Percentage of participants who are willing to talk, care for, and identify with someone who has HIV/AIDS.
Positive intention to communicate about HIV/ AIDS with peers and family.	Percentage of participants reported intention to communicate with someone outside of a programme about HIV/AIDS.
Increased percentage of HIV positive participants who report that they are comfortable disclosing their HIV status.	Percentage of HIV positive participants who express a positive ability to feel comfortable to disclose their HIV status to their sexual partners or any person they trust.

If used, the outcome indicators developed will provide a fuller picture of the effectiveness of sports-related HIV/AIDS programmes in South Africa. However, the author does highlight that reporting on these indicators would require more time and planning. Therefore, the indicators developed should be adapted to fit within the resource constraints of the implementing organisations.

(Maleka 2017).

Like the argument for using both process and outcome indicators, quantitative and qualitative indicators can provide a fuller picture of an intervention. For example, if the intervention is an employment programme, quantitative indicators can measure how many jobs were created. However, this does not indicate the quality of the jobs or what was or was not effective in the intervention. Qualitative indicators give a monitoring system explanatory power. They can shed light on perceptions of the programme among beneficiaries, unexpected changes, and the sustainability of the programme's changes, as shown in Box 7 (Sen, Kessler and Loveridge 2018).

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Box 7: The use of qualitative and quantitative indicators in climate adaptation programmes

Background

Lamhauge, Lanzi, and Agrawala (2013) conducted a study on the use of indicators to measure climate change adaptation. The study assessed M&E frameworks used by development cooperation agencies and looked at the total frameworks of 106 projects.

Findings

Central to developing M&E systems in the context of adaptation is understanding that the context is complex, and that attribution is difficult because there are lags between interventions and outcomes. The authors further note that while quantitative indicators can and should be used, there is also a need for a more subjective, qualitative understanding of an intervention. For example, within the context of adaptation policy and administrative management, a policy being introduced (quantitative indicator) does not mean that it is effectively applied or mainstreamed (qualitative indicators).

Training on climate change adaptation is a popular intervention in adaptation programmes. Quantitative indicators can provide information on how many people were trained or if the training occurred, but qualitative indicators are required to understand the longer-term changes. Examples of qualitative indicators that can be used in conjunction with quantitative measures include the percentage of trained policymakers who applied the information learned, and the proportion of people who feel that they are prepared for natural shocks and stressors due to the training received.

(Lamhauge, Lanzi and Agrawala 2013).

What Does a Systems Lens Mean for Influence and Use?

Using indicators means that they are consistently tracked and reflected on and used to make decisions that relate to the implementation and programme direction. In the absence of use, indicators are rendered meaningless. There has been considerable research on use in the context of evaluation where four key types of use have been identified:

- **Instrumental use**: The direct use of evaluation results to improve programmes and provide information for decision-making.
- **Conceptual use**: The use of evaluation results to bring about improved understanding and new ways of thinking.
- **Symbolic use**: The use of evaluation results to legitimise decisions that have already been taken.
- **Process use**: The indirect use of the process of evaluation to change procedures, behaviours, and organisational culture (Weiss, Murphy-Graham and Birkeland 2005).

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In the context of evaluation, use can be promoted during, (i) the implementation of an evaluation by improving evaluation quality, credibility, relevance, and timeliness; and (ii) in the decision-making setting by ensuring that the evaluation addresses information needs, that there is a favourable political climate in place, and that an organisation is receptive to the evaluation (Weiss, Murphy-Graham and Birkeland 2005). Expanding this view to monitoring and indicators would essentially mean that if indicators are SPICED, they are more likely to be used. While this is true to an extent, this view does not sufficiently take the context of use into account. In their book, *Monitoring and Evaluating Social Programmes in Developing Countries*, Valadez and Bamberger (1994) provide a broader view of use, which considers the decision-making context. The authors note that the following steps are essential in improving monitoring use:

- Making sure that data collection is well-timed and aligned to decision-making;
- Improving the quality of the data;
- Involving stakeholders;
- Building relationships to enhance people's incentives to participate and help;
- Identifying intended users;
- Improving communication and dissemination;
- Institutionalising responses to reporting;
- Building a learning culture within an organisation;
- Defining stakeholders and their information needs;
- Developing a strategy for working with different stakeholders;
- Integrating indicator development and monitoring into the implementation cycle; and
- Communicating clearly and consistently.

Hatry (2008) further highlights that indicator data will be used more if, (i) outcome data is provided in a timely and frequent manner, (ii) data is disaggregated by demographic and service characteristics, (iii) current data is compared to previous data to give it more meaning, (iv) explanations of unexpected findings are provided, (v) the data is effectively summarised, and (vi) reporting is user-friendly.

Many of the steps mentioned here have been addressed in prior sections, particularly in discussing the importance of participatory indicator development, the development of meaningful indicators, and being cognisant of the practical limitations of monitoring indicators.

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Taking a systems approach to indicator use would extend the aforementioned conceptions of use beyond individual and organisational characteristics to a better understanding of the underlying processes and interrelationships that influence the use of any data (Mark and Henry 2004). Influencing indicator use or organisational and system change at any level is difficult because change does not occur in a vacuum and depends on the individual, interpersonal, and collective changes (Appleton-Dyer, Clinton, Carswell and McNeill 2012).

Going back to Reynolds (2014) and Figure 1 of this chapter, taking a system view on what happens to indicators once they are developed, collected, and analysed goes beyond conceptions of use to conceptions of influence. Influence in a system is a factor of values and motivations, power structures, and knowledge bases. Sources of influence in a system are, therefore, (i) motivation (who gets what?), (ii) control (who owns what?), (iii) knowledge (who does what?), and (iv) legitimacy (who is affected by what some people get, and who is potentially marginalised?). Therefore, it is critical to understand sources of influence and the interrelationships within the system of an intervention to influence change of any kind. In this context, they would influence the use of indicators and the information provided by them.

Reynolds' (2014) work on critical systems thinking builds on Mark and Henry (2004), where a framework of influence to consider change processes was developed. The framework was initially developed to influence evaluation use but has been adapted here to influence indicator data use, as shown in Figure 3. This adaptation is possible due to both monitoring indicators and evaluation providing data, and the goal of both is for this data to be used for the improvement of an intervention.

In using this framework, and drawing on Section 3, M&E practitioners need to understand the context in which they are working, the attributes and motivations of influential individuals or groups in their system, the mechanisms of change in their system, and to provide information that is responsive, credible, well-communicated, and timely. With this foundation, the framework highlights that indicator use can be influenced through cognitive mechanisms that provide consistent information, highlight the benefits of indicator use for improved decision-making, appeal to organisational norms, and are clear on how the indicators can be used. Additionally, the framework allows for motivational mechanisms which provide incentives and appeal to personal goals, as well as behavioural mechanisms which build on cognitive and motivational mechanisms to start, stop, or continue with a policy, project, or programme based on the available evidence.

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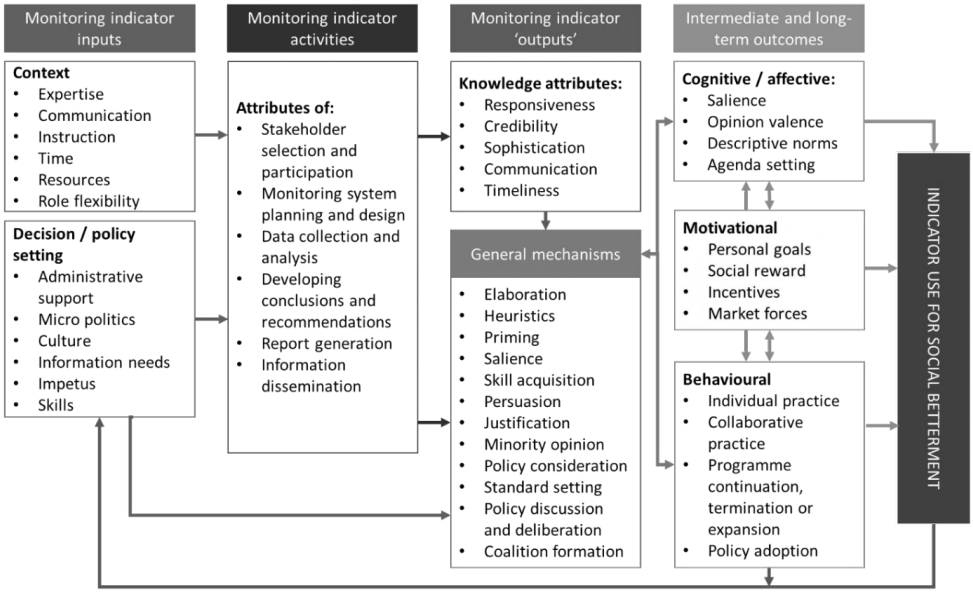

Figure 6.3: Mark and Henry, Schematic theory of indicator data influence, 2004:46

Conclusion

Indicators are central to the development and implementation of monitoring systems and can provide useful information for interventions. When this information is received promptly, it allows decision-makers and managers to adapt and course-correct where needed. However, indicators and the monitoring systems within which they exist do not take place in a vacuum. To address the contextual challenges that indicators can pose, it is vital to take a systems view of indicator development, analysis, and use that is grounded in reality, rather than what should be.

In adopting a systems approach to developing indicators, M&E practitioners can understand the users of their data and their need to develop a practical and meaningful set of indicators. The need for key decision-makers who have the resources to develop and analyse indicators, as well as define the resources available for this undertaking, are made clear. This allows the M&E practitioners to (i) develop a monitoring system and indicators within the resource parameters of their team or organisation; (ii) determine who is responsible for developing and analysing the indicators; and (iii) identify how much additional capacity and support is available for this endeavour. This knowledge allows practitioners to develop indicators that are meaningful and fit-for-purpose.

10.52779/9781991260154/06

This conceptualisation of indicators during indicator development provides a strong foundation for indicator use. The requirements and constraints of the system are understood, and the indicators that are developed should, therefore, be intrinsically designed for use. A systems lens takes this one step further, arguing that developing good indicators is vital for use but is not the only determinant because systems are characterised by underlying processes and interrelationships that influence indicator use. Therefore, indicator use can be influenced through cognitive, motivational, and behavioural mechanisms of change at the individual, interpersonal, and collective levels.

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