Introduction to Innovation Policy for Developing Countries

Module 5 - Part 1

Monitoring and Evaluation (M&E) Systems

World Bank Institute

Presentation Script

Modules: High-level Overview

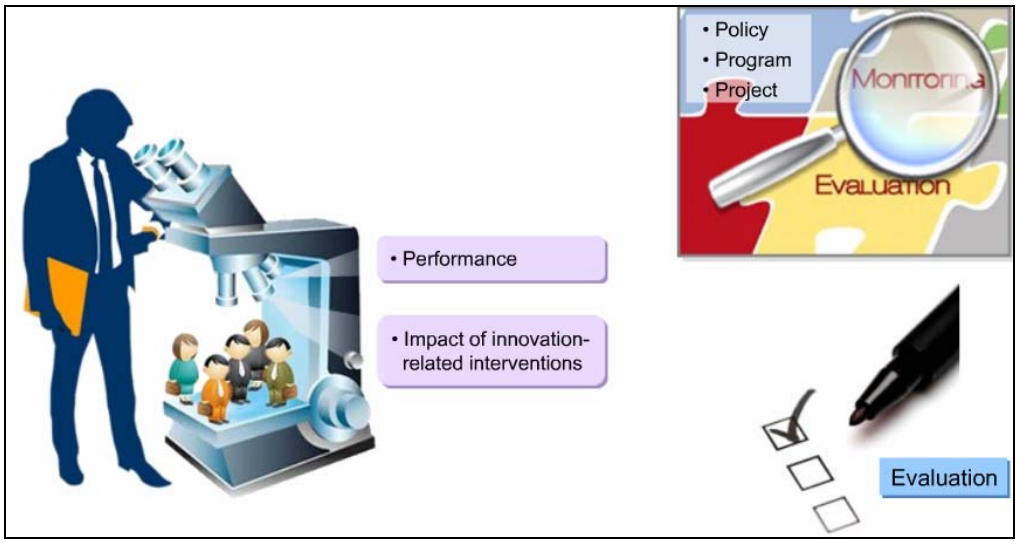
In Module 5 we are going to cover the last part – Monitoring and Evaluation (M&E) of the innovation system, encompassing four pillars that we've studied in the previous two modules.

Module Topics

We will start this module with the first topic "Components & Functions of modern approach to Monitoring and Evaluation (M&E) system"

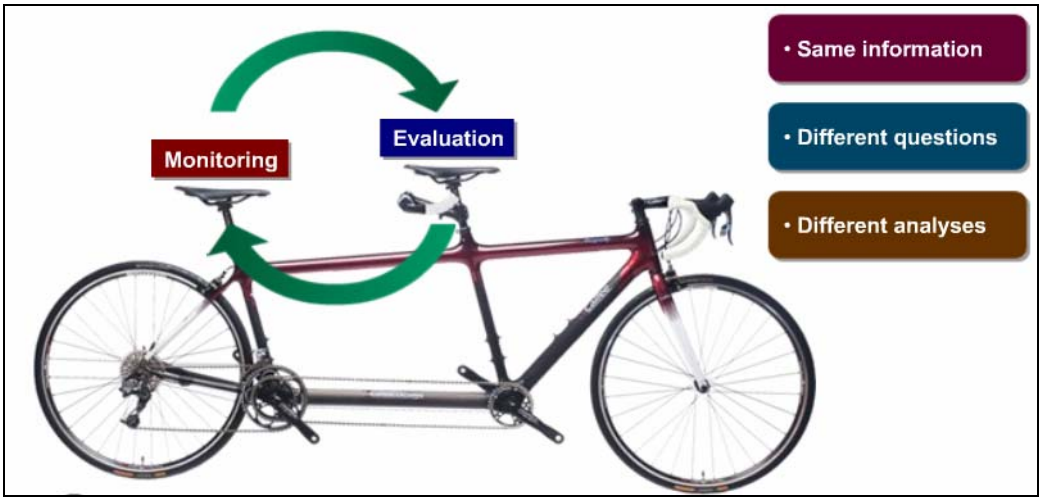
What is Monitoring and Evaluation (M&E)

First and foremost, what are monitoring and evaluation systems? Monitoring and evaluation (M&E) is a powerful public management tool that can be used to help policymakers and decision makers track performance and demonstrate the impact of innovation-related interventions. Monitoring provides information on where a policy, program, or project is at any given time compared to some baseline or objective and is largely descriptive. Evaluation gives evidence of why outcomes are or is not being achieved and attempts to provide a causal account.



Monitoring and Evaluation (M&E) Information

Monitoring and evaluation work in tandem. Monitoring information can raise interesting questions that evaluation can then attempt to answer – while evaluation can uncover new areas for which monitoring can be carried out. Similarly, both monitoring and evaluation can draw on the same information, albeit to ask different questions and undertake different analyses.



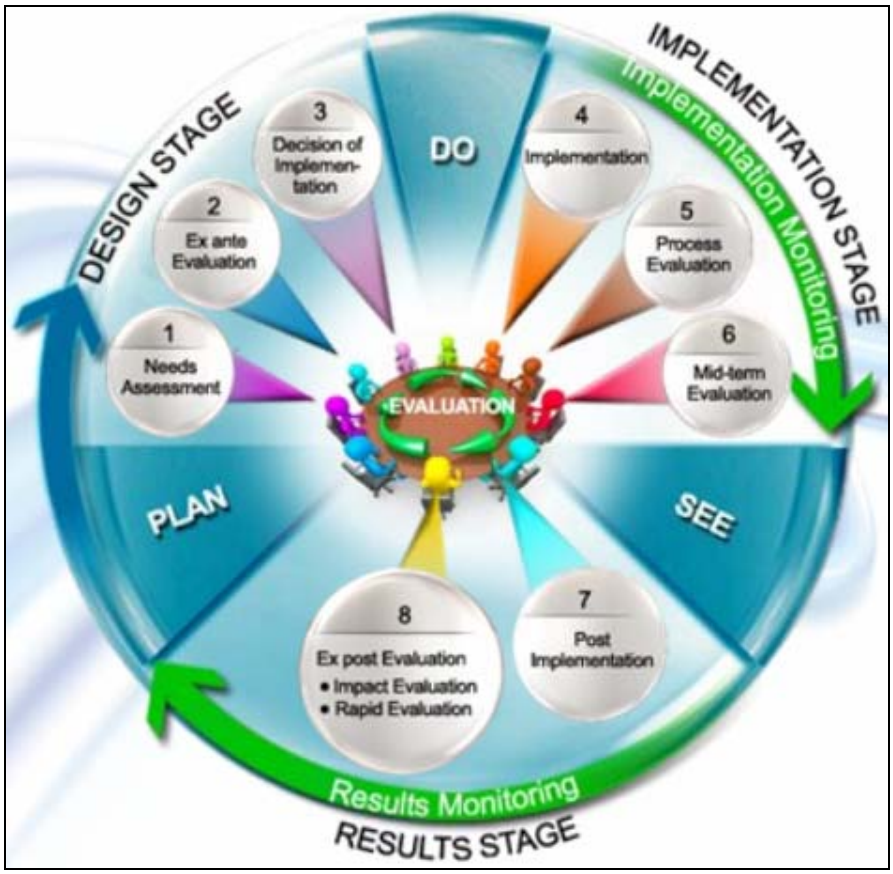
Results-based M&E in the Program Operating Cycle

M&E is relevant to all phases of a program cycle (referring to the diagram). The process starts during a Design Stage and continues going clock-wise, emerges onto the Implementation stage of both development intervention and M&E framework, and followed by the Results stage for completion.

M&E is relevant at the design stage when policymakers want to assess the feasibility and sustainability of a development intervention usually called “Needs Assessment”. It’s necessary to undertake this procedure even before a decision on funding is made; it is relevant to improving the performance or efficiency of a program while it is being carried out and it is relevant upon an intervention’s completion when policymakers want to see or evaluate its impact. Also “Ex ante” (or before the fact) evaluation takes place that includes assessments, scenario studies, summaries of existing research to provide the empirical support for a suggested Monitoring and Evaluation framework of a development intervention. And only after all necessary studies and assessments are undertaken, the decision is made about whether to go forward with policy intervention and implementation of results-based M&E program. Design stage also serves as a foundation for other stages, since it shapes further path of an intervention by defining Outcomes and Goals, Choosing Indicators, and Performance Baselines and Targets – the three important steps for M&E design, which we’ll examine later.

Hence, after a decision is made to go forward, the process moves to the Implementation Stage of both - development intervention and M&E framework. While the evaluation is happening during the entire operating cycle, there is a type of evaluation that specifically pertains to the Implementation stage and is called “process evaluation” with a mid-term benchmark. Also the Implementation Monitoring is performed during this stage. We’ll focus on some areas in more detail later.

Once the intended intervention is completed, the process merges into the Results stage - that’s when we observe the outcomes and longer-term impact of the policy intervention. During this stage the Post Implementation is done to complete the intervention and Ex post (or after the fact) evaluation takes place in order to determine whether the intended results, outcomes and impacts are achieved. Respectively, the Results Monitoring is aligned during this stage soliciting the necessary data and reporting for evaluation.



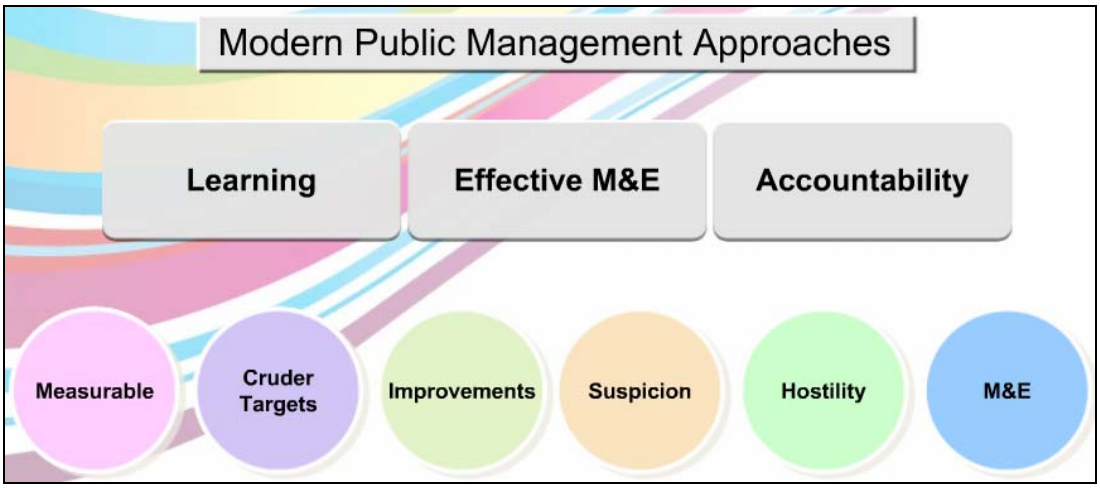
Functions of M&E

There are many and growing applications for M&E. Most commonly, M&E is used for accountability purposes. The reasoning is simple: if success cannot be identified, failure may be rewarded –as a result, scarce resources may be misallocated and tax payers may be not getting value-for-money. Evidence from the private sector suggests that effective use of M&E can result in 10-20 per cent better performance against investment.

A second approach emphasises the learning aspects of M&E: information about outputs and outcomes can be used to adjust programs if needed. The strength of M&E lies in its capacity to provide feedback and insight. On this account, even failure can contain lessons – M&E should offer these lessons rather than simply highlighting or penalizing shortcomings.

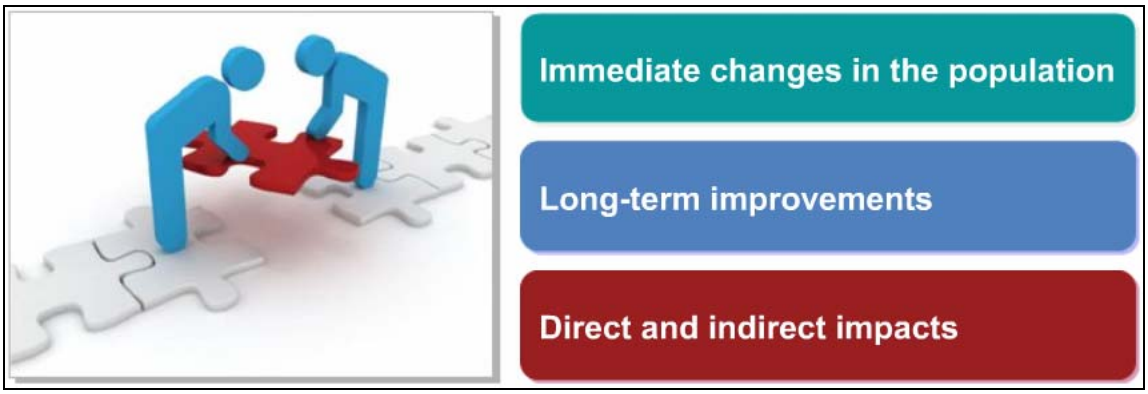
Third M&E is motivated by the desire to build legitimacy and credibility: evidence is an extremely powerful tool for convincing potential funders, the public and other stakeholders of the importance of an intervention.

Modern public management approaches highlight the need for effective M&E largely from the perspective of accountability rather than of learning. While this approach is understandable, it may encourage behaviours that are excessively risk-averse. Actors may focus on satisfying measurable, and often cruder targets and pay too little attention to overall improvements. It is also likely to create suspicion and hostility towards M&E, militating against the kind of candid and constructive conversations between stakeholders necessary for policy learning.



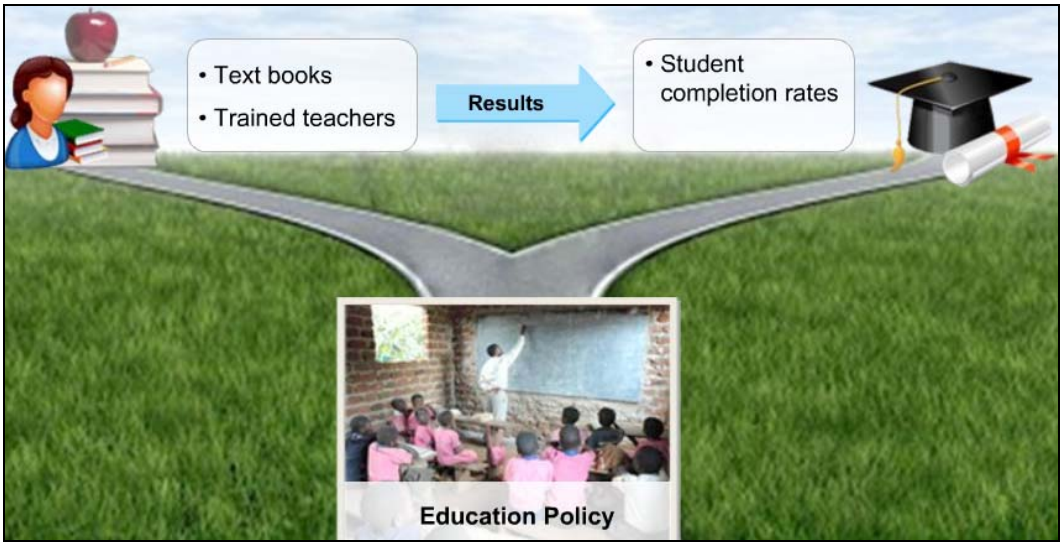
M&E system: Modern Approach

Modern M&E systems focus on the results obtained from interventions. It is not sufficient that activities have taken place –for instance, that roads have been paved, or the workforce has been trained. Rather, it is important to establish the results of carrying out these activities - both the immediate changes in the population and the long-term improvements in society as well as the direct and indirect impacts.



Examples of Modern M&E: Education Policy

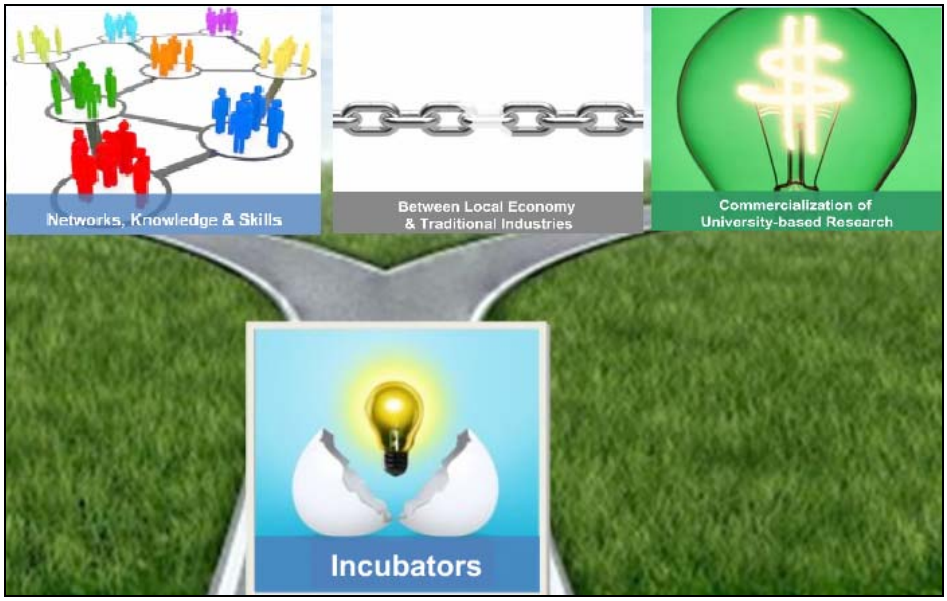
For instance, in education policy, resources may be committed to producing outputs, such as state-of-the-art textbooks or trained teachers; however, these are not ends in themselves and changes that governments and citizens care about. Rather, we are more interested in whether these activities lead to higher student completion rates or more ambitiously increase literacy rates.



Examples of Modern M&E: Innovation Policy – Incubators

Innovation policy is no different: as we saw in the last module, incubators are one of the most widely used instruments to provide services to business –and justified by a number of hypotheses and causal chains about how the world works, how to improve the organization and productivity of firms and what services the market can and cannot provide without government intervention. M&E modern approach

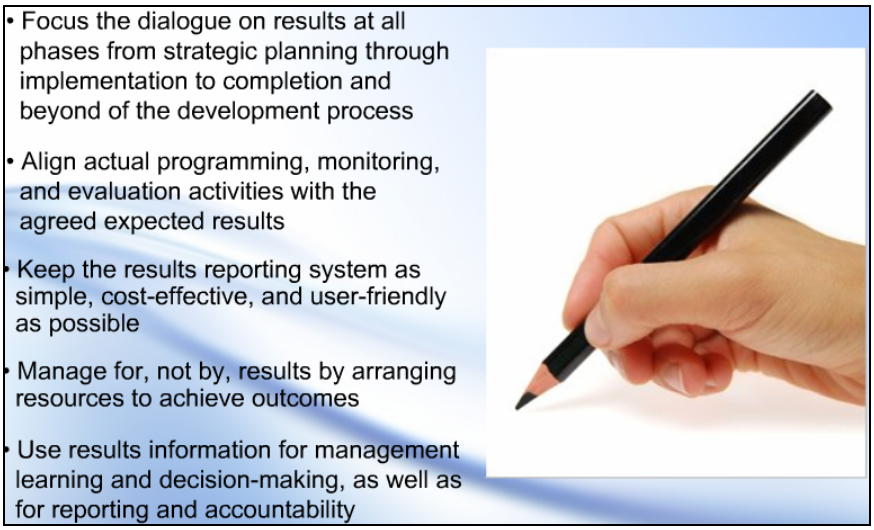
should indicate whether incubators have achieved their desired outcome: whether in the short-term, they have improved networks or knowledge or skills or entrepreneurial aspirations or have had higher level long-term impacts such as reducing dependence of the local economy on traditional industries or enabling graduates to commercialize university-based research.



Robust M&E system: Principles and Properties

To this end, a robust, results-based M&E system will embody a number of principles and properties. These include:

- Focus the dialogue on results at all phases—from strategic planning through implementation to completion and beyond—of the development process;
- Align actual programming, monitoring, and evaluation activities with the agreed expected results;
- Keep the results reporting system as simple, cost-effective, and user-friendly as possible;
- Manage for, not by, results by arranging resources to achieve outcomes;
- Use results information for management learning and decision-making, as well as for reporting and accountability.

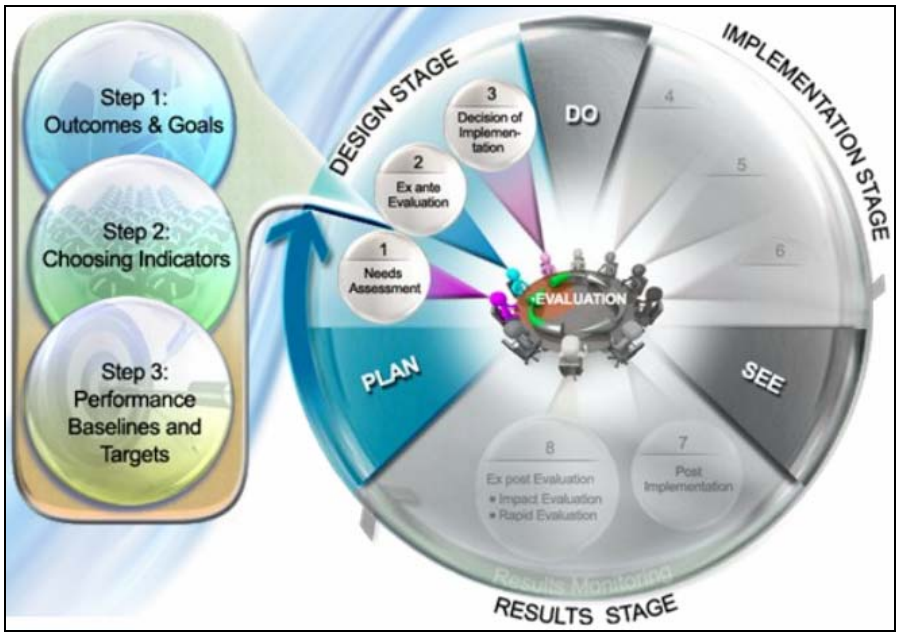


Module: Topics

Now we'll proceed to our next topic "Results-based M&E Strategic Design: 3 important steps"

Results-based M&E Strategic Design: 3 important steps

After the needs assessment has taken place, a crucial endeavor is to establish a design of a results-based framework. This is necessary for defining, assessing and supporting the direction of intervention during the next stages; it serves as a foundation for the results-based M&E framework. It includes three (3) important steps: 1) Setting Outcomes and Goals, 2) Choosing Indicators, and 3) Performance Baselines and Targets.



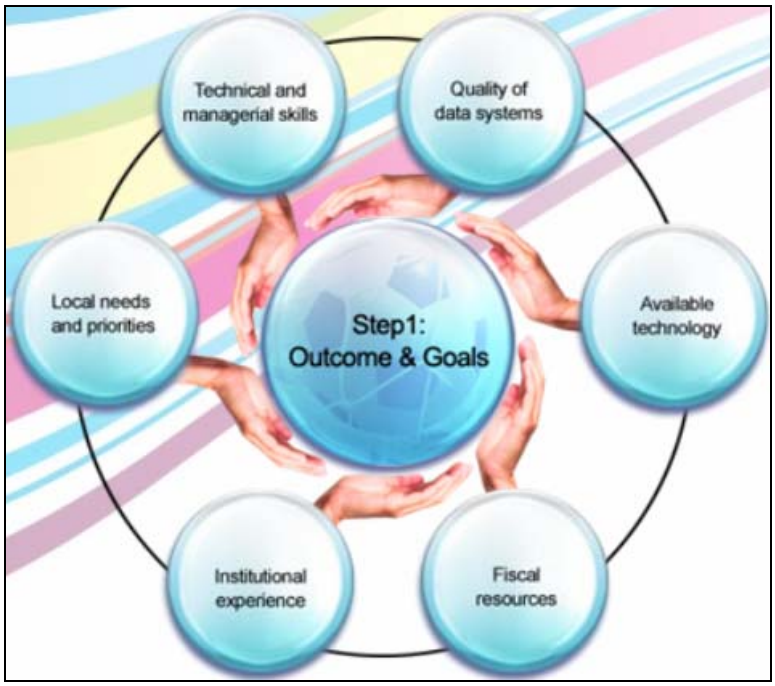
M&E Strategic Design: Step 1 – Outcomes & Goals

We now turn to the specific sequence of steps in designing a results-based framework for the M&E system.

The first step is to define and set the Outcomes and Goals, which show the path toward the Results-based M&E. Like other areas of the pragmatic innovation agenda, this process must be consultative and collaborative so that stakeholders feel ownership over it and that the right development priorities are identified.

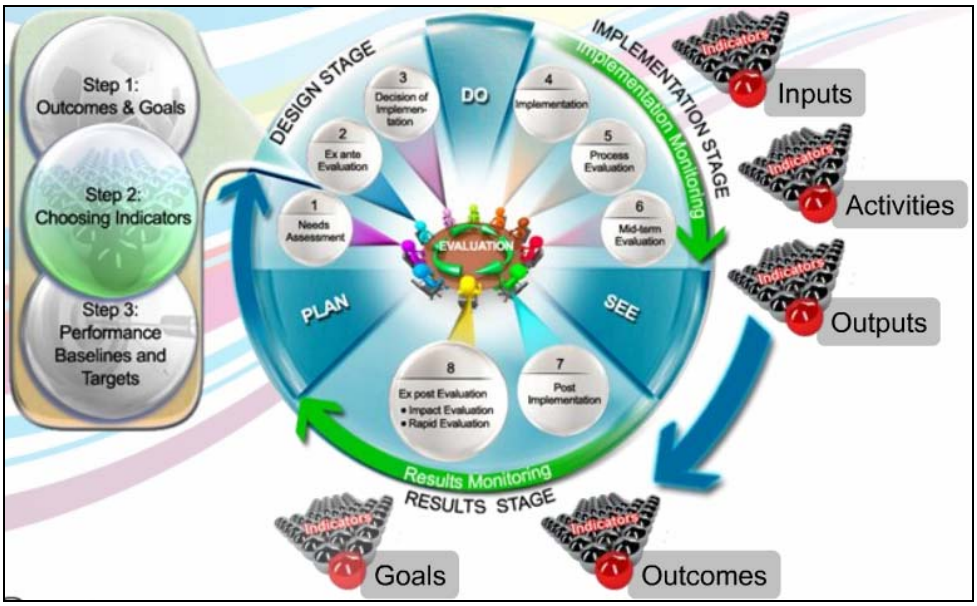
Goals are generally long-term from which shorter range outcomes can be derided. However defined, both play the same fundamental role: they illustrate how success looks like and tell decision makers and stakeholders what path they need to take.

Agreeing on goals and objectives to monitor and evaluate will differ from setting to setting as countries and organizations have unique local needs and priorities. Countries and organizations will also vary in terms of the technical skills; managerial skills; existence and quality of data systems; available technology; available fiscal resources; and institutional experience which will all impact on the ability to sustain an effective M&E system. For developing countries with weak capacity, these questions assume particular importance and should inform the sequencing and staggering of efforts to build a M&E system.



M&E Strategic Design: Step 2 Indicators

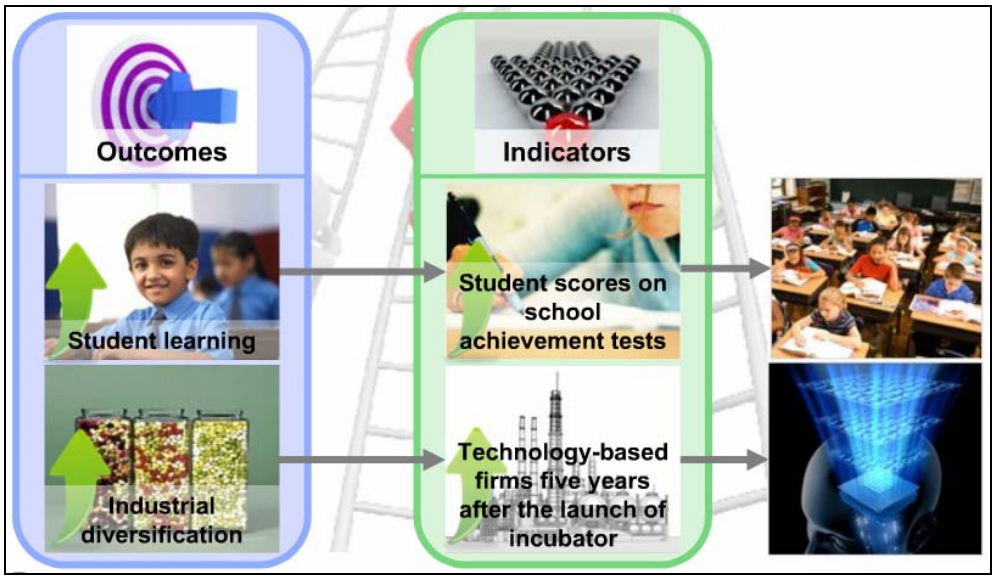
Therefore how do policymakers know when they have achieved desired outcomes and goals? This leads to the next step: the task of choosing indicators for all levels of Implementation and Results of M&E system – simple, reliable means to measure the degree to which inputs, activities and outputs are delivering the intended or promised outcomes and goals.



M&E Strategic Design: Step 2 (cont.) Examples of Indicators

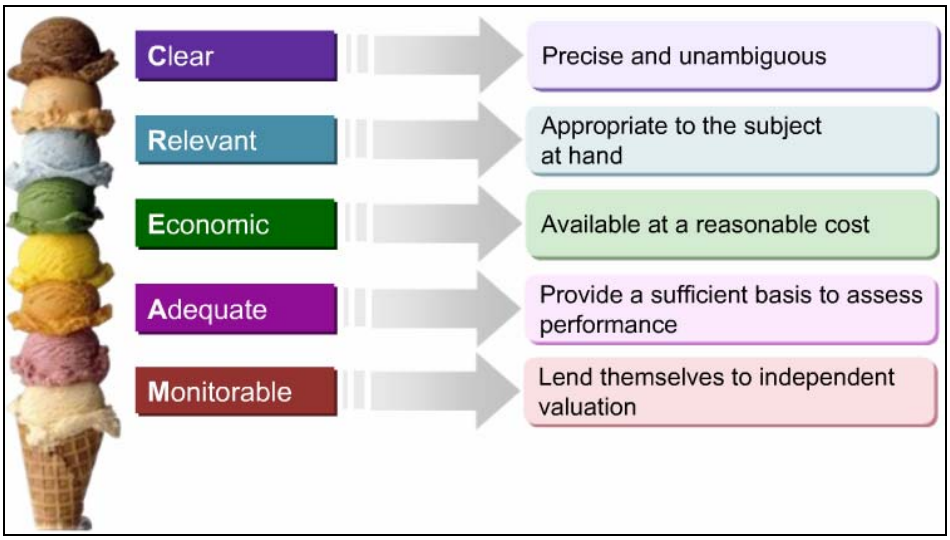
For example, in the case of the outcome to improve student learning, an outcome indicator regarding students might be the change in student scores on school achievement tests. If students are continually improving scores on achievement tests, it is assumed that their overall learning outcomes have also improved.

In a similar vein, efforts to promote industrial diversification and upgrading through incubators might be underpinned by an indicator that measures technology-based firms operating in the region or community five years after the launch of incubator. The assumption is that if new firms are being created and innovations are being developed, these benefits will spread throughout the economy and multiply options for industrial diversification.



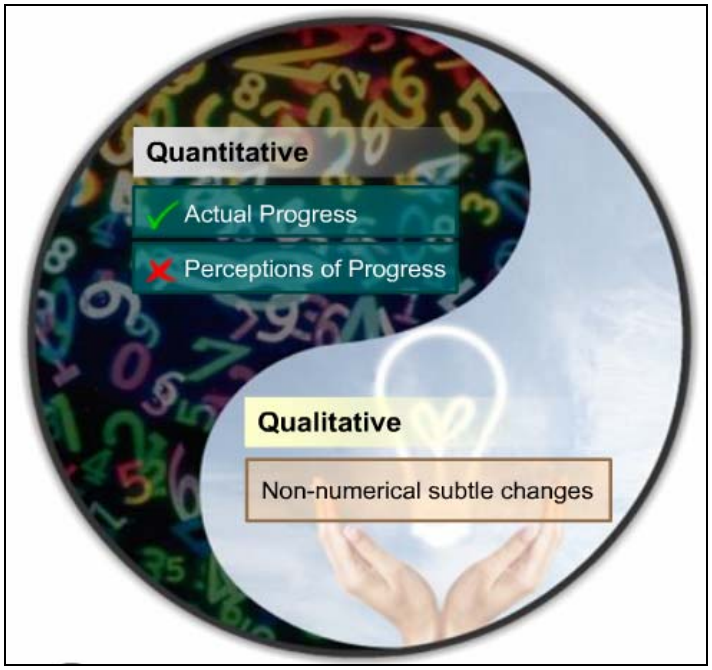
M&E Strategic Design: Step 2 (cont.) CREAM indicators

High quality indicators should satisfy five criteria (CREAM): they should be Clear – that is, they should be precise and unambiguous; they should be Relevant –that is, they should be appropriate to the subject at hand; they should be Economic –that is, they should be available at a reasonable cost; they should be Adequate –that is, they should provide a sufficient basis to assess performance and should not be too indirect or too much of a proxy; and finally that they should be Monitorable –that is, they should lend themselves to independent valuation. The more precise and coherent indicators are, the better focused the measurement strategies will be. By contrast, if any one of these five criteria are not satisfied, performance indicators will suffer and be less helpful.



M&E Strategic Design: Step 2 (cont.) Qualitative & Quantitative Indicators

Indicators may be qualitative or quantitative. The attraction of quantitative indicators is that they obtain objective information on actual progress rather than document perceptions of progress. The benefit of qualitative indicators is that they can capture more granular and subtle changes which elude simple measurement; however this also means that they are time consuming to collect, measure, and distil, especially in the early stages and are potentially harder to verify. A balanced approach that combines both qualitative and quantitative indicators is the most appropriate strategy.

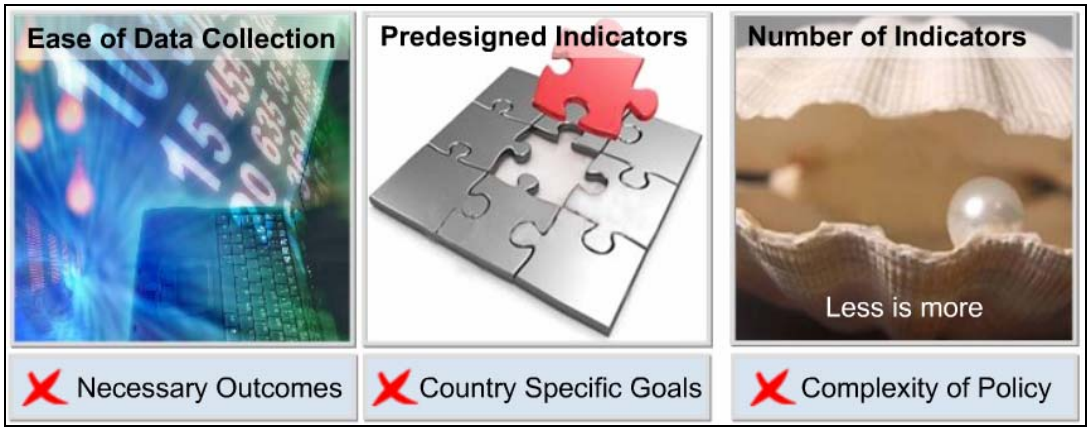


M&E Strategic Design: Step 2 (cont.) Risks of Indicator Selection

Care should also be exercised in setting indicators according to the ease with which data can be collected. There is always a risk that policy makers opt for indicators simply because data are readily available and not necessarily because they measure the outcomes that are being sought.

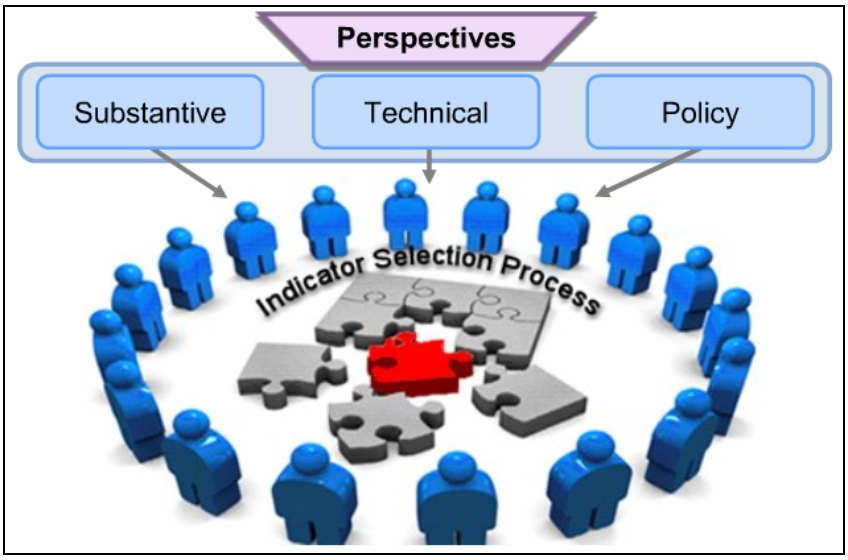
Policymakers should further be careful when using predesigned indicators that are derived from other sources: their strength is that they can be aggregated across similar projects, permit the greater harmonisation of donor requirements and do not require unique and costly measurement systems to be built from scratch. However, the risk is that they often do not address country specific goal and are perceived to be imposed from above without consultation. As we will see later on, this is particularly true of popular innovation indicators such as patent measures which are heavily geared to technology-based activities and do not capture the minor, incremental efforts that contribute to the bulk of productivity growth in developing countries.

Finally, attention should be paid to the number of indicators that are used to measure outcomes: most outcomes are complex, involving different and potentially conflicting dimensions. Many public goods cannot be neatly broken down and reduced to a single indicator.. Again a balance must be struck between capturing the complexity of the changes that a policy or programme is trying to effect while keeping the system workable and manageable. Indeed, insofar as every indicator involves data collection, reporting, and analysis, often more is less and fewer indicators are preferable.



M&E Strategic Design: Step 2 (cont.) Indicator Selection process

To conclude, indicator selection is a complicated process in which the interests of many stakeholders need to be considered and reconciled. All perspectives need to be taken into account — substantive, technical, and policy—when considering indicators to ensure that they are relevant and meaningful.



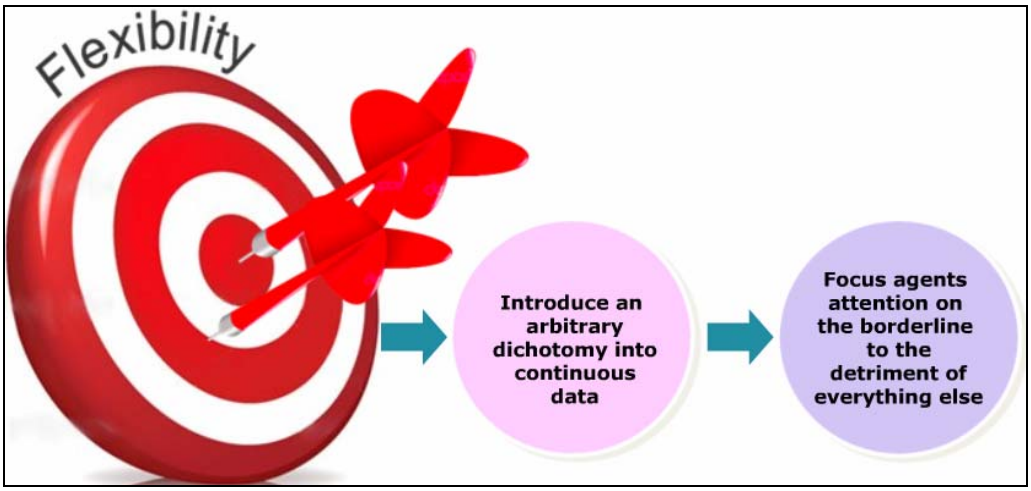
M&E Strategic Design: Step 3 Performance Baselines & Targets

Once indicators for outcomes have been agreed, performance baselines for each indicator should be established. These provide a starting point or guide by which to monitor and evaluate future performance. After gathering baseline data on indicators, the next step is to establish results targets which seek align strategies, means, and inputs to track progress toward objectives and goals over shorter periods of time.

M&E Strategic Design: Step 3 Principles for Target Setting

Flexibility is important in setting targets, especially if the indicator is new and/or programs take time to bear fruit. Under these circumstances, it might be better to use a broad range rather an exact target – or simpler still, to insist that progress has been made over time without detailing the expected amount of change or improvement.

Systems run into trouble when targets become too rigid and mechanical. In particular, strategic behaviour among agents and possible perverse incentives may arise when rigid targets are tied to strong mechanisms of accountability. For instance, a target that demands a certain percentage of students to reach a particular level of attainment in exams might lead schools to concentrate resources on students who are expected just to fall short of the target in the absence additional instruction or support. This may harm able and less-able students and may not be desirable. In the jargon, targets introduce an arbitrary dichotomy into continuous data and will therefore focus agents' attention on the borderline to the detriment of everything else.



Policymakers also need to exhibit flexibility when setting the timeframe by which the target is to be achieved. In theory, targets should be set annually; others could be set for longer periods. However, setting targets more than three to four years forward is not advisable as there are too many unknowns and risks with respect to resources and inputs to try to project target performance beyond this period.

Module: Topics

We shall proceed with the other three topics in the next part of the presentation.

- Components & Functions of Modern Monitoring and Evaluation (M&E)
- Results-based M&E Strategic Design: Three Important Steps
- Types of Monitoring: Implementation and Results
- Evaluation: Methods and Challenges
- Political Economy Dimensions of Monitoring and Evaluation (M&E)