



**Sustainable Water
Integrated Management (SWIM) -
Support Mechanism**



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Water is too precious to waste

Review of international experience in M&E systems

**Regional Experts Group Meeting for The Development of A
Comprehensive M&E System For PIM/IMT, Athens 2-4 September
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Summary of presentation

- Presentation focuses on the practices recommended by selected international organisations with regards to the process of designing, implementing, and using Monitoring and Evaluation (M&E) system in development projects.

The main references used for this review:

- WB “Toolkit for Monitoring and Evaluation of Agricultural Water Management Projects “
- UNPFA “Programme Manager’s Planning Monitoring & Evaluation Toolkit”
- FAO and WB “Tracking results in agriculture and rural development in less-than-ideal conditions “

What is Monitoring and Evaluation (M&E)?

- **Monitoring** is the continuous collection of data on specified indicators to assess for a development intervention (project, programme or policy) its implementation in relation to activity schedules and expenditure of allocated funds, and its progress and achievements in relation to its objectives.
- **Evaluation** is the periodic assessment of the design, implementation, outcomes and impact of a development intervention. It should assess the relevance and achievement of objectives, implementation performance in terms of effectiveness and efficiency, and the nature, distribution and sustainability of impacts

Source: OECD, 2002; Casley & Kumar, 1987

M&E has evolved from being a set of project management tools to becoming a core element of national strategies and policies

Who are the users?

- Donors and governments who have a financial or management interest in the project
- Beneficiaries
- The media,
- Civil society at large and their representatives (parliament).

As the programme or project grows and the number of beneficiaries increases, so does interest in the M&E data.

Why there is resistance to apply M&E systems?

- Lack of understanding of M&E and what it can provide;
- M&E system requires the compilation of considerable information – costly
- Managers see M&E systems as a tool aimed at evaluating their own performance
- Lack of ownership of the system
- Instituting M&E systems that will highlight outcomes—both successes and failures—and provide greater transparency and accountability may be especially challenging to countries known for heavy centralisation of power and authority.



Successful M&E requires cultivating demand through strong advocacy programme to inform potential user groups about its benefits

Integrating Planning and M&E

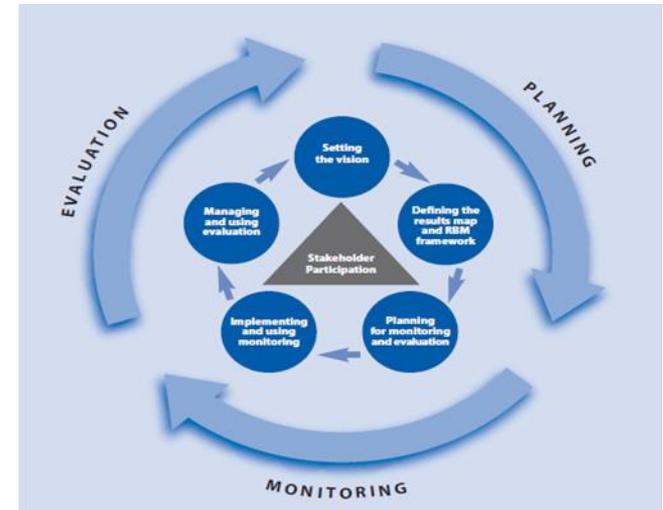
- Purpose of M&E in the project cycle:

M&E is an integral part of the life cycle of a project/program; **starting from identification through evaluation.**

- It provides regular information on progress and help answering:

“are we on track?”

- “Did we achieve what we wanted to achieve?”
- Through regular reporting, it alerts management of favourable or negative variances and allows adjusting operations accordingly, formulate budgetary requests and justify any needed increase in expenditure.
- M&E helps strengthening project design and implementation and stimulate partnerships with stakeholders



Integrating Planning and M&E

- The logical framework analysis (LFA)

- LFA is an analytical process which enables the design of the project to be considered in a systematic and structured way.
- LFA establishes the causal relations between the five levels of the project design hierarchy; **input, activities, outputs, and outcomes** all of which should contribute to the achievement of the **project development objective (PDOs)**.
- **LFA** was adopted by several development agencies to improve project planning, and M&E and to address previous weaknesses related to:
 - poor planning lack of clear objectives and specification of desired project outcomes;
 - inadequate specification of M&E processes and indicators;
 - failure to consider external factors and take account of risks affecting project results.
- LFA was previously used in project design and M&E

Main elements of the Logical framework Matrix

Project Logic	Indicators	Sources of verification	Assumptions & risks
<p>Higher Development goals</p> <hr/> <p>PDOs</p> <hr/> <p>Project components outcomes/ results</p>	<p>LFA allows monitoring of results</p>		
<p>Outputs</p> <hr/> <p>Activities</p> <hr/> <p>Inputs</p>	<p>LFA allows monitoring of performance</p>		

Integrating Planning and M&E

Stages in logical framework analysis:

- identification of target groups and its needs
- setting objectives and outcomes
- identifying the outputs
- defining the activities
- identifying the inputs
- Assessing assumptions and risks

Integrating Planning and M&E

- Linking project design to monitoring and evaluation

There are two types of monitoring:

- **Results monitoring** which monitors:
 - The impact of the project i.e., the extent to which the project contributes to its objectives is (there may also be unintended impacts, both positive and negative).
 - The achievement of project outcomes measured in terms of results, which are the extent to which the observable outcomes are as planned.
- **Implementation monitoring or performance monitoring:** assesses the operation and performance of the project in terms of the effectiveness and efficiency of the processes through which **inputs** are utilised in **processes** to produce the planned **outputs**.
- **Implementation or performance monitoring and evaluation is a core project management function**, and is done through an MIS tracking the day-to-day implementation of the project..

Logical structure for project M&E

Logical project design	Type of Indicators	Focus of M&E	Characteristics of Indicators
Higher Development goals	Impact Indicators	Results Monitoring	Long-Term wide spread improvement in society
Project development objectives (PDO)	Outcome Indicators		Intermediate effects for beneficiaries
Project components outcomes/results			
Outputs	Output Indicators	performance / implementation Monitoring	Capital goods, products and services produced
Activities	Process Indicators		Tasks undertaken to transform input to output
Inputs	Input Indicators		Human and material resources

Linking project design and evaluation criteria

Project logic	Types of indicator	Evaluation criteria	
Objectives	Impact Indicator	1) <u>relevance</u> : The effect of the project on its wider environment, and its contribution to the wider policy, sector or Country Assistance Strategy development objectives 2) <u>impact</u> : The appropriateness of project objectives to the problems intended to be addressed, and to the physical and policy environment within which the project operates	5) <u>Sustainability</u> : The likelihood that benefits produced by the project continue to flow after external funding has ended.
PDO and Outcomes	Outcomes Indicators		
Outputs	Output Indicators	1) <u>Effectiveness</u> : How well the outputs contributed to the achievement of project component outcomes/ results and the overall Project Development Objective(s), and how well assumed external conditions contributed to project achievements 2) <u>efficiency</u> : Whether project outputs have been achieved at reasonable cost, i.e. how well inputs have been used in activities and converted into outputs	
Activities	Process Indicators		
Inputs	Input Indicators		

Integrating Planning and M&E

- Result based M&E

- Increasing demands for accountability and results, transparency, greater effectiveness of development assistance and delivery of tangible results have culminated in the adoption of the **results-based framework** and enhanced **results-based monitoring and evaluation** of policies, programs and projects;
- The results-based M&E is a simplified version of the LFA; which focuses on results monitoring:
 - The PDO and its outcome
 - Intermediate outcomes/results - expected from implementing each individual project component, each of which contributes to the achievement of the PDO
 - Indicators for the project development objective (Outcome Indicators) and for each project component outcome (results indicators)
 - How the outcome information and results monitoring should be used.
- Result based M&E involves a continuous process of collecting and analysing information to compare how well a project, program, or policy is being implemented against expected results.
- An effective management information system (MIS) that performs these functions is an essential part of good management practices.

Although LFA is not required by the development agencies, it remains the best way to establish the causal sequences from inputs to outputs to outcomes, and therefore is generally the mechanism by which the elements for the Results Framework are generated.

Hierarchy of the Results Framework terminologies

Level 1	PDO		Outcome Indicators1	Use of Outcome Information
	Objective 1 Objective 2		Outcome Indicators	
Level 2	Intermediate Results or Outcomes (1 per component)		Results Indicators for Each Component	Use of Results Monitoring
	Component 1	Result s	Results Indicators	
	Component 2	Results	Results Indicators	
	Component 3	Results	Results Indicators	
	Component 4	Results	Results Indicators	

Participatory and conventional M&E

Participatory M&E (PME) is a process of collaborative problem-solving through the generation and use of knowledge that leads to corrective action by involving all levels of stakeholders in shared decision making. →

Project stakeholders are fully **involved in initiating, defining the parameters for, & conducting the M&E including collecting, analysing, compiling and sharing the information.**

PME key principles are:

- Local people are active participants—not just sources of information.
- Stakeholders evaluate, while outsiders facilitate.
- Focuses on building stakeholder capacity for analysis and problem-solving.
- Builds commitment to implementing recommended corrective actions.

Conventional M&E is driven by senior managers, and external experts who plan and manage the M&E process →

Role of the primary stakeholders is limited to the provision of information.

Conventional M&E is suitable when:

- There is a need for independent outside judgment
- Specialized information is needed that only technical experts can provide.
- key stakeholders don't have time to participate,
- There is serious lack of agreement among stakeholders that a collaborative approach is likely to fail

Participatory and conventional M&E

When and how to use PME :

- PME is best initiated at the beginning of the project to mainstream PME in the project cycle.
- The constraints in resources availability warrants **prioritizing** when to use PME, to **ensure that is used when it is more likely to be useful** . (Ex: **during the planning process, or later when questions arise**)
- The project (with the beneficiaries and implementers) **decides the timing of specific PME activities**.
- There is a **need to continuously assess the need for an affordable** degree of participation by the possible stakeholder groups.

Participatory evaluations are particularly **useful when**

- there are questions about implementation difficulties or the effects of the programme on different stakeholders; or
- information is wanted on stakeholders' knowledge of programme goals or their view of progress.

Participatory and conventional M&E

Who to involve in the PME:

The following questions can guide the decision-making in deciding who to involve in PME

- Who has a perspective or knowledge that is essential?
- What skills does the monitoring/evaluation analysis require? Whose capacity should be strengthened to ensure sustainability of development efforts?
The more difficult the analysis → caution is recommended in encouraging broad participation unless it is clear who it will benefit and how.
- Whose absence will jeopardize the efforts?
- To what extent will participants change over time?
- What does each of the participating groups expect from the monitoring process? It will help to clarify to what extent each group is willing and able to participate in different tasks.
- Is the process of organising and calculating the information important, or only the final information?
- Who is going to use the final evaluation? Those who are to use it should understand what the data is based upon and how it was collected and analysed

Indicators

Indicators are quantitative & qualitative variables that provide means to:

- measure change over time
- assess project performance against planned targets,
- demonstrate that observed change is the result of the project

Types of and the structure of indicators for project M&E

<p>Impact indicators: measures of medium or long term physical, financial, institutional, social, environmental or other developmental change that the project is expected to contribute to.</p>	<p>Leading (early outcome) indicators: advance measures of whether an expected change will occur for outcomes & impacts.</p>	<p>Cross-cutting indicators: measures of crosscutting concerns at all levels.</p>	<p>Exogenous (external) Indicators: measures of necessary external conditions that support achievement at each level.</p>
<p>Outcome indicators: measures of short-term change in performance, behaviour or status of resources for target beneficiaries and other affected groups.</p>		<p>Example: gender-disaggregated differences;</p>	
<p>Output indicators: measures of the goods & services produced and delivered by the project.</p>		<p>capacity building.</p>	
<p>Process indicators: measures of the progress and completion of project activities within planned work schedules.</p>			
<p>Input indicators: measures of the resources used by the project.</p>			

Indicators

Criteria for selecting the indicators:

- **Relevant** to the project implementation aspects & intended outcomes & impacts
- **Clearly defined** in the project context in a manner that is understood and agreed by all stakeholders
- **Specific** with respect to **intended changes, timeframe, location, targets** and **stakeholder** groups
- **Measurable** either in **quantitative** or **qualitative** terms (ex: by doing assessments); & within the capacity of the monitoring organisation
- **Consistent** values over time when collected using the same methods (i.e. values of indicators should be reliable and comparable over time).
- **Sensitive** to the expected changes (especially applicable for leading indicators).
- **Attributable** (i.e.) indicator is based on an established relationship expected to cause the intended change

Indicators

Good Practices and problems in Identifying Indicators

- **Ownership**; by involving key stakeholders in the selection of the indicators;
- **Start with programme design** (implications for data collection need to be fully integrated in the programme design and budget)
- Where change is being assessed, **obtain baseline information** at the start of the programmes, and, if possible, data on past trends;
- **Use existing data sources** and reporting systems **where possible**.
- If data is not available, cost-effective and rapid assessment methodologies should be considered for supplementary data collection;
- **Establish Partnerships with key stakeholders** to collect the data so as to reduce costs;
- Plan how the flow of information relating to the indicators will be managed, stored and retrieved in a user-friendly data base.

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Indicators

Common problems in identifying indicators:

- Indicators *do not correspond to the project level*.
- Indicators *do not include an objective standard* against which achievement can be assessed (ex: using a broad indicator such as ‘ a system is developed’ for what?). The standard needs to be defined explicitly.
- Indicator targets *without reference to a baseline*.
- *Too many indicators* with little consideration of the time, human resources and cost required to collect the indicator data.
- Indicators that seem *unrealistic* due to lack of data to construct the specified indicator and/or because the indicator is very difficult to measure.
- *Inconsistency between the universe of the output /outcome and the indicators (Ex: output indicator for the country when it should be for a sample area)*.
- *Copying of indicators* without consideration of their relevance to the specific programme context.
- *Infrequent* use of *gender sensitive indicators*.

Indicators

General considerations in selecting indicators

- The ideal number of indicators for any one outcome or objective is the minimum that answers the questions: “has the objective been satisfactorily achieved and can this achievement be attributed to the project?”
- keep the number of indicators at the minimum necessary to meet key management and reporting needs and to keep data collection within a manageable scope.
- The set of indicators for the project as a whole should be the **minimum to enable a reliable assessment of the five core evaluation criteria**.
- There should be clarity and **agreement** on the rationale for each indicator **with the stakeholders**.
- **Avoid frequent changes** in indicators so as to maintain the continuity and consistency of data collection, but the selection made needs to be reviewed and updated as a project evolves.
- If the information being provided by an indicator **is not being used then** it should be **dropped or changed** (with details of the change being documented), unless a time series of data is being compiled for later use (in the final impact evaluation).
- If the ability to take management decisions is weakened by gaps in information then **additional indicators** should be identified to fill the gaps.

Evaluation

Evaluation should be based on the logical framework, using the **5 criteria** used in the evaluation of development projects, and of sector and policy level interventions

- There are several kinds of evaluations, ranging from programme reviews, interviews with key stakeholders, etc. (not requiring much of additional data) to full scale impact evaluation.
- In the early phases of implementation, evaluation may be no more than annual review of inputs and outputs to adjust next year's budget.
- As one progresses up the results chain, evaluation becomes more challenging requiring more data
- **The role of evaluation is:**
 - Analyses why intended results were or were not achieved
 - Assesses specific causal contributions of activities to results
 - Examines implementation process
 - Explores unintended results
 - Provides lessons, highlights significant accomplishment or program potential, and offers recommendations for improvement

Evaluation

Objectives of programme evaluation

- **inform decisions on operations, policy, or strategy** related to on-going or future programme interventions;
- **demonstrate accountability** to decision-makers; leading to better results and more efficient use of resources.
- enable **corporate learning** on what works & what does not & why;
- **verify/improve** programme **quality** and **management**;
- **identify successful strategies** for extension/expansion/replication;
- **modify unsuccessful strategies**;
- **measure effects/benefits** of programme and project interventions;
- **give stakeholders the opportunity to have a say** in programme output and quality;
- **justify/validate** programs to donors, partners & other constituencies.

The data framework

Data is needed to meet the needs for the different indicators at all project levels

Source of data:

- primary data (collected directly by the party/agency concerned)
- secondary data (collected by other organizations for purposes not specific to the project .

Potential problems with secondary data:

- incomplete coverage of the specific project area;
- inability to disaggregate the data to match project boundaries or affected population;
- inconsistencies in data collection in surveys implemented in different project areas,
- inaccuracies due to:
 - inappropriate choice of measurement and collection methods,
 - inadequate training
 - Inadequate supervision of data collection staff.

The periodicity, extent of coverage and accuracy needs vary according to the indicators' level.

- Input indicators -> are produced frequently and regularly to inform short-term decision-making.
- Output indicators, involving longer reporting period can be produced once in a year.
- Moving further up the results chain:
 - data collection becomes more complicated,
 - the tools less reliable,
 - the results more questionable

→ Advisable to use information from different sources and to use different methods to arrive at a reasonable estimate of the project outcome under review

The data framework

Any data collection system used for a project M&E should be assessed in terms:

- **Reliability:** the extent to which the data collection system is stable and consistent across time and space
- **Validity:** implying that indicators measure as directly and accurately as possible the changes of relevance to project management
- **Timeliness:** measured with regards to:
 - Regularity of data collection;
 - Currency (how recently data have been collected)
 - Availability (provision of information at the right time to support management decisions).

A plan for the project M&E system should be based on a clear and detailed assessment of the following:

- What are the data to be collected and for what purpose
- from which sources?
- in what form?
- What is the degree of aggregation of the data?
- When (how frequent is data collection and reporting)?
- Who are the responsible persons, their responsibilities and capacities
- How will **data be collected, checked, validated and stored, analysed, reported, and used**
- Where is the data location and processed, and the destinations for reported information.

The data framework

key considerations in data collection and storage:

- All data collection should be managed in a systematic fashion. Data should be regularly collected for the frequency and period specified. The data collection process should therefore be carefully monitored.
- Where there is a significant and diverse amount of data to be collected, use a checklist to monitor which data have been collected
- Plan and prepare standard data collection forms and database formats so that the data are recorded and stored in a manner that is systematic and easy to process
- Establish a standard system for labelling data files and routine for regular safe storage of data backups.
- Use computer assisted data collection whenever possible

In order to ensure the quality of the M&E, it is important to:

- Ensure training and supervision of field staff and stakeholders involved in data collection.
- Check and validate all data coming from the field prior to final data entry, storage and analysis.
- Field data needs to be checked for coverage, completeness and for obvious sources of error, bias and inaccuracy prior to computer entry.
- Develop and apply consistency checks to test the internal validity of the data collected.
- Computerised records should also be checked against the original survey forms used.

The data framework

Reporting M&E findings entails:

- comparing actual outcomes to targets
- showing the indicator trend with regard to its target value as a function of time and space

A communication strategy needs to be developed at the beginning of the project that includes:

- who will receive what information, in what format, and when.
- who will prepare, deliver and report the M&E findings.

M&E information should be used for:

- adaptive management involving refining the project approach and adapt to changing circumstances.
- improving operational resource allocation decisions
- identifying and planning for additional needs and resources requirements, especially by monitoring disbursements flows and outputs.
- building ownership by the communities involved and awareness.

Setting up a project M&E system

This involves 9 steps that need to be considered in the planning stage and throughout project implementation

- Assess the existing readiness and capacity within the organisation and its partners responsible for project implementation for monitoring and evaluation
- Establish the purpose and scope of the M&E system
- Identify and agree with main stakeholders on the project's outcomes and development objective(s).
- Select key indicators (for all levels of project logic) and evaluation framework including the methods to be used to identify whether change observed through monitoring indicators can be attributed to the project interventions.
- Set baselines which establish the pre-project condition against which change can be tracked and evaluated and plan data collection and analysis.
- Select results targets
- Plan monitoring, data analysis, communication and reporting
- Plan the form and timing of critical reflection and interim evaluations
- Plan for the necessary conditions and capacities to set up and implement M&E including planning with stakeholders and partners the organisational structure for M&E, and whether an M&E unit is needed.

Main Components of a good M&E system

- Clear statements of measurable objectives for the project and its components.
- A structured set of indicators covering: inputs, process, outputs, outcomes, impact, exogenous factors and cross-cutting factors.
- Data collection mechanisms capable of
 - recording progress over time, including baselines
 - comparing progress and achievements against targets.
- Building on data collection with an evaluation framework and methodology capable of establishing causation (attribution).
- Clear mechanisms for reporting and use of M&E results in decision making.
- Sustainable organizational arrangements for data collection, management, analysis and reporting

Thanks for your attention

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